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As filed with the Securities and Exchange Commission on September 30, 2014

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

FibroGen, Inc.

(Exact name of registrant as specified in its charter)

Delaware	2834	77-0357827
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

409 Illinois St.
San Francisco, CA 94158
(415) 978-1200
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Thomas B. Neff
Chief Executive Officer
FibroGen, Inc.
409 Illinois Street
San Francisco, CA 94158
(415) 978-1200
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Glen Sato	Michael Lowenstein	John L. Savva
Michael E. Tenta	Vice President, Legal Affairs	Sullivan & Cromwell LLP
Cooley LLP	FibroGen, Inc.	1870 Embarcadero Road
3175 Hanover Street	409 Illinois Street	Palo Alto, CA 94303
Palo Alto, CA 94304	San Francisco, CA 94158	(650) 461-5600
(650) 843-5000	(415) 978-1200	

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒ (Do not check if a smaller reporting company)	Smaller reporting company	☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price (1)(2)	Amount of Registration Fee (3)
Common Stock, $0.01 par value per share	$125,000,000	$16,100

(1) Estimated solely for the purpose of computing the amount of registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.
(2) Includes shares the underwriters have the option to purchase.
(3) Calculated pursuant to Rule 457(o) under the Securities Act of 1933, as amended, based on an estimate of the proposed maximum aggregate offering price.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion. Dated September 30, 2014.

Shares

FIBROGEN

Common Stock

This is an initial public offering of shares of common stock of FibroGen, Inc. All of the shares of common stock are being sold by the company.

Prior to this offering, there has been no public market for the common stock. It is currently estimated that the initial public offering price per share will be between $ and $. We intend to list our common stock on the NASDAQ Global Market under the symbol " ".

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups Act of 2012 and, as such, may elect to comply with certain reduced public company reporting requirements in future reports after the completion of this offering.

See "Risk Factors" on page 16 to read about factors you should consider before buying shares of the common stock.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share	Total
Initial public offering price	$	$
Underwriting discount[1]	$	$
Proceeds, before expenses, to us	$	$

1 See "Underwriting" for a description of the compensation payable to the underwriters.

To the extent that the underwriters sell more than shares of common stock, the underwriters have the option to purchase up to an additional shares from FibroGen at the initial price to public less the underwriting discount.

The underwriters expect to deliver the shares against payment in New York, New York on , 2014.

Goldman, Sachs & Co. **Citigroup** **Leerink Partners**

RBC Capital Markets **Stifel** **William Blair**

Prospectus dated , 2014.

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Prospectus

Through and including , 2014 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

We have not authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses we have prepared. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is current only as of its date.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our consolidated financial statements and the related notes thereto and the information set forth under the sections "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Unless the context otherwise requires, we use the terms "FibroGen," "company," "we," "us" and "our" in this prospectus to refer to FibroGen, Inc. and, where appropriate, our consolidated subsidiaries.

Company Overview

We are a research-based biopharmaceutical company focused on the discovery, development and commercialization of novel therapeutics to treat serious unmet medical needs. We have capitalized on our extensive experience in fibrosis and hypoxia-inducible factor, or HIF, biology to generate multiple programs targeting various therapeutic areas. Our most advanced product candidate, roxadustat, or FG-4592, is an oral small molecule inhibitor of HIF prolyl hydroxylases, or HIF-PHs, in Phase 3 clinical development for the treatment of anemia in chronic kidney disease, or CKD. Our second product candidate, FG-3019, is a monoclonal antibody in Phase 2 clinical development for the treatment of idiopathic pulmonary fibrosis, or IPF, pancreatic cancer and liver fibrosis. We have taken a global approach to the development and future commercialization of our product candidates, and this includes development and commercialization in the People's Republic of China, or China.

Roxadustat, the first HIF-PH inhibitor to enter Phase 3 clinical development, acts by stimulating the body's natural pathway of erythropoiesis, or red blood cell production. Roxadustat represents a new paradigm for the treatment of anemia in CKD patients, and has the potential to offer a safer, more effective, more convenient and more accessible therapy than the current standard of care, injectable erythropoiesis stimulating agents, or ESAs. 1,271 subjects have been enrolled in 22 completed Phase 1 and 2 clinical studies for roxadustat in North America, Europe and Asia. These studies have demonstrated roxadustat's potential for a favorable safety and efficacy profile in anemic CKD patients, both those who are dialysis-dependent, or DD-CKD, and those who are not dialysis-dependent, or NDD-CKD. We, along with our collaboration partners Astellas Pharma Inc., or Astellas, and AstraZeneca AB, or AstraZeneca, have designed a global Phase 3 program to support regulatory approval of roxadustat in both NDD-CKD and DD-CKD patients in multiple geographies. Based on its multiple potential advantages, we believe there is a significant opportunity for roxadustat to address markets currently served by injectable ESAs. According to IMS Health, 2013 global ESA sales in all anemia indications totaled $8.6 billion. Further, roxadustat could expand access to anemia treatment for the growing global CKD population that is not adequately served by ESAs, and over time, address other anemia indications.

FG-3019 is our fully-human monoclonal antibody that inhibits the activity of connective tissue growth factor, or CTGF, a critical common element in the progression of fibrosis and associated serious diseases. In an animal model of lung fibrosis, FG-3019 reversed fibrosis. In Phase 2 IPF clinical studies, FG-3019 demonstrated the potential for stabilization of disease and, for the first time in human studies, reversal of lung fibrosis in some patients. In an open-label Phase 2 pancreatic cancer study of FG-3019 plus gemcitabine and erlotinib, FG-3019 demonstrated a dose-dependent improvement in one year survival rate. In ten Phase 1 and Phase 2 clinical studies of FG-3019 to date involving over 340 subjects, FG-3019 has been well tolerated across a wide range of doses studied, and there have been no dose-limiting toxicities observed to date.

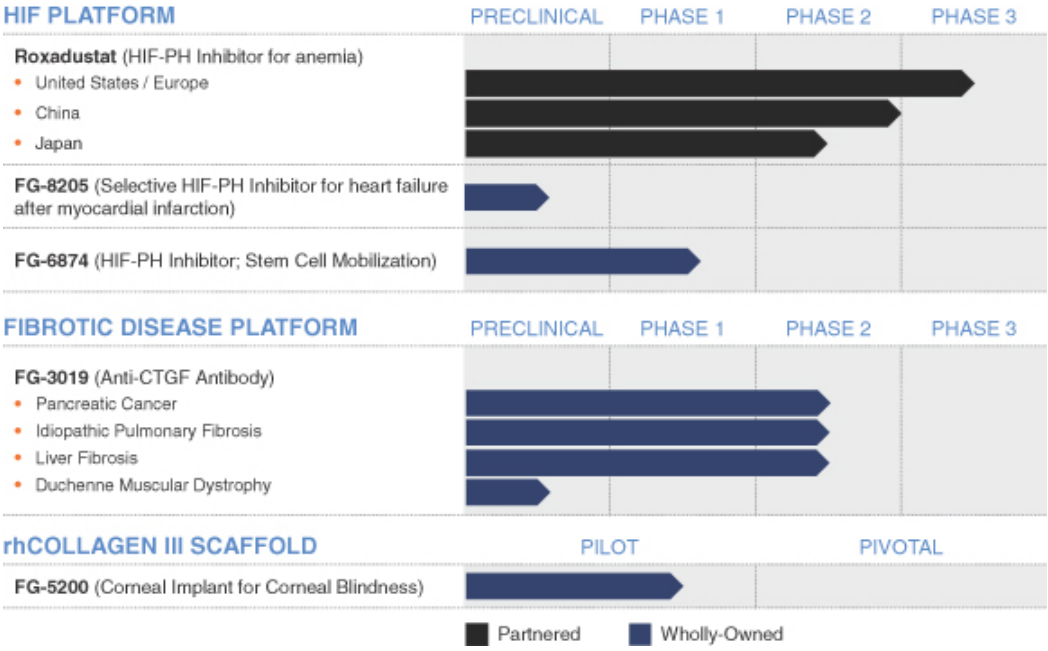
In IPF, average life expectancy at the time of confirmatory diagnosis is estimated to be between 3 to 5 years, with approximately two-thirds of IPF patients dying within five years of diagnosis. Decision Resources Group estimates that there will be approximately $4.6 billion in U.S. and European sales of IPF drugs in 2020. There is one drug that has been approved in Europe, Canada and Japan and resubmitted for approval in the United States, and a second

drug that has been submitted for accelerated approval in the European Union and submitted for approval, and received priority review designation in the United States. However, we believe that FG-3019 could be the first product with disease-modifying activity.

In pancreatic ductal adenocarcinoma, or pancreatic cancer, the fourth leading cause of cancer deaths in the United States, average life expectancy with currently available anti-cancer agents is approximately six to nine months and 94% of patients die within five years of diagnosis. Decision Resources Group estimates that there will be approximately $1.3 billion in sales of pancreatic cancer drugs in 2022.

If FG-3019 can be shown in future clinical studies to safely and effectively address either IPF or pancreatic cancer, we believe that the commercial potential for this product candidate can be significant. To date, we have retained worldwide rights for FG-3019.

The chart below is a summary of our most advanced product candidates:



We are also currently pursuing the use of our proprietary type III recombinant human collagens in our biosynthetic corneal implant product candidate, FG-5200, for treatment of corneal blindness resulting from partial thickness corneal damage in China, and potentially other territories. FG-5200 is designed to serve as a temporary scaffold to allow for regeneration of the native corneal tissue. Our China subsidiary, Beijing FibroGen Medical Technology Co., Ltd., or FibroGen China, has submitted a device classification application to the China Food and Drug Administration, or CFDA, to designate FG-5200 as a Domestic Class III medical device.

Overview of Roxadustat—Treatment of Anemia in CKD

Roxadustat is an orally administered small molecule that corrects anemia by a mechanism of action different from that of ESAs. Roxadustat activates a response that is naturally activated when the body responds to reduced oxygen

levels in the blood, such as when a person adapts to high altitude. The response activated by roxadustat involves the regulation of multiple, complementary processes to promote erythropoiesis and increase the blood's oxygen carrying capacity. This coordinated erythropoietic response includes both the stimulation of red blood cell progenitors by increasing the body's production of erythropoietin, or EPO, and an increase in iron availability for hemoglobin, or Hb, synthesis. Patients taking roxadustat typically have EPO levels within or near the physiologic range naturally experienced by people adapting to hypoxic conditions such as at high altitude, following blood donation or impaired lung function, such as pulmonary edema. By contrast, ESAs act only to stimulate red blood cell progenitors without a corresponding increase in iron availability, and are typically dosed well above the natural physiologic range of EPO. We believe these high ESA doses are a main cause of the significant safety issues that have been attributed to ESAs. Accordingly, the differentiated pharmacologic action of roxadustat has the potential to provide a safer and more effective treatment of anemia in CKD and potentially in other disorders.

Anemia is a serious medical condition in which patients have insufficient red blood cells and low levels of Hb, a protein in red blood cells that carries oxygen to cells throughout the body. Anemia is associated with increased risks of hospitalization, cardiovascular complications, need for blood transfusion, exacerbation of other serious medical conditions and death. In addition, anemia frequently leads to significant fatigue, cognitive dysfunction and decreased quality of life. The more severe the anemia, as measured by lower Hb levels, the greater the health impact on patients. Severe anemia is common in patients with CKD, cancer, myelodysplastic syndrome, or MDS, inflammatory diseases and other serious illnesses. Even when it accompanies these prevalent and serious diseases, anemia is often not effectively treated.

Anemia is particularly prevalent in patients with CKD, which is a critical healthcare problem that affects over 200 million people worldwide, and anemia significantly increases healthcare costs for those patients. CKD is generally a progressive disease characterized by the gradual loss of kidney function that may eventually lead to kidney failure, also known as end stage renal disease, or ESRD. Patients with ESRD require renal replacement therapy – either dialysis treatment or kidney transplantation. More advanced stages of kidney disease are associated with greater rates of anemia and more severe anemia. However, patients typically do not receive treatment for their anemia until they initiate dialysis, and as a result there is a significant need for a safe and effective therapy for patients with anemia in less advanced stages of CKD.

Currently available therapies to treat anemia in CKD include ESAs and blood transfusions. ESAs are currently the standard of care for effectively treating anemia in patients with CKD and must be administered intravenously or subcutaneously. ESAs are all synthetic recombinant versions of human EPO, a hormone that binds to receptors on red blood cell precursors in the bone marrow, thereby stimulating erythropoiesis and increasing Hb levels. Intravenous, or IV, iron is often required to supplement ESAs in dialysis patients in an effort to achieve adequate Hb response and to avoid iron depletion in the course of anemia therapy.

While injectable ESAs have been one of the most commercially successful drug classes, significant safety concerns have emerged from studies published in 2006 to 2009, resulting in several changes to ESA labeling. The package insert for ESAs currently includes a "Black Box" warning, which was mandated by the U.S. Food and Drug Administration, or FDA, and states that ESAs increase the risk of death and major adverse cardiovascular events, such as myocardial infarction, stroke, venous thromboembolism and thrombosis of vascular access. Tumor progression or recurrence in patients with cancer has also been associated with ESAs and is reflected in the Black Box warning. Secondary analyses of these studies suggest that the safety concerns associated with ESAs, particularly the increased cardiovascular risk, may result from the high ESA doses or circulating levels of ESAs, rather than the achieved Hb levels.

Potential Advantages of Roxadustat Over the Current Standard of Care

Cardiovascular Safety Advantages

In addition to being linked to an increased incidence of major adverse cardiovascular events as described above, ESAs are associated with an increased risk for new onset hypertension and exacerbation of pre-existing hypertension, increased platelet counts and thromboembolic events, including stroke, vascular access thrombosis (where the dialysis access shunt is blocked due to clotting) and blood clots in the leg.

Safety analyses of our Phase 2 trials did not reveal any association between the roxadustat dose or the associated rate of Hb rise or Hb level and the rates of cardiovascular events, new onset hypertension, exacerbation of pre-existing hypertension, increased platelet counts or thrombosis. In addition, we observed a reduction in average total cholesterol and an improvement in average HDL / LDL ratio versus baseline.

Correcting Anemia within or near Physiologic EPO Levels

In order to be effective, ESAs typically require doses well above physiologic range. By contrast, our clinical trials to date have shown that roxadustat can treat anemia in CKD by causing an increase of blood EPO levels that are typically within or near the physiologic range observed in people who are adapting to high altitude, following blood donation or impaired lung function, such as pulmonary edema. The ability of roxadustat to treat anemia without causing supraphysiologic blood levels of EPO may provide significant safety benefits over ESAs.

Anemia Correction for Patient Populations That are Hyporesponsive to ESAs

CKD patients receive a wide range of ESA doses. Higher doses, and thus higher circulating levels of ESAs, are typically required for patients within the first four months of initiating dialysis, or incident dialysis, suffering from chronic inflammation, undergoing surgery or with acute illness. These higher doses are not only associated with increased safety risks, but also may not be sufficient to effectively raise Hb levels to target in some patients.

In our Phase 2 studies, doses of roxadustat that corrected anemia in incident dialysis patients and patients with elevated markers for inflammation were similar to doses that corrected anemia in non-incident, or stable, dialysis patients and patients without elevated markers for inflammation. We believe effective doses of roxadustat are likely to be comparable in these CKD patient subsets because roxadustat can overcome the direct suppressive effects of inflammatory cytokines on erythropoiesis, can increase iron availability through an increase in iron absorption from the gastrointestinal, or GI, tract, and can increase the release of iron from intracellular stores and the transport of iron to the bone marrow.

Anemia Correction Without the Need for IV Iron

Our Phase 2 studies have shown roxadustat to correct anemia without the need for concomitant administration of IV iron. We believe this benefit results from roxadustat's effects on iron metabolism described above. In these studies, roxadustat corrected anemia without IV iron in stable and incident dialysis patients and patients with elevated markers for inflammation. In contrast, IV iron supplementation is required to support anemia correction in a majority of U.S. dialysis patients receiving ESAs, and IV iron is associated with a variety of risks, including hypersensitivity (which can be life-threatening), infection, skin problems, hypotension and gastrointestinal symptoms.

Reimbursement and Convenience Advantages

ESAs and oral equivalents of ESAs are included in the bundled payment system in the DD-CKD setting and reimbursed under Medicare Part B in the NDD-CKD setting. Based on roxadustat's differentiated mechanism of action and therapeutic effects, it is not known whether it will be included in or excluded from the bundle in the DD-CKD setting. Agents that have no IV equivalent in the bundle are currently expected to be excluded from the bundle until 2024.

In the NDD-CKD setting, we expect that roxadustat, an oral treatment, should be subject to Medicare Part D, which would allow physicians to prescribe roxadustat without the financial and reimbursement risk associated with purchasing and storing injectable ESAs. We believe that this should encourage significantly greater usage outside of the dialysis setting.

In addition to safety, labeling, reimbursement and efficacy limitations, ESAs must be administered intravenously or subcutaneously, often with IV iron in order to be effective at treating to target Hb levels. Roxadustat, in contrast, is a small molecule administered orally and is therefore more convenient, particularly for the NDD-CKD population, the peritoneal dialysis population and other non-CKD anemia patients who are not already regularly visiting hospitals or dialysis centers.

We also believe that roxadustat's potential pharmacoeconomic advantages over ESAs may include safety (due to a potential decrease in cardiovascular events and lower associated treatment costs), lower administrative cost, and reduction or elimination of the cost of IV iron and potentially other medications. These pharmacoeconomic advantages may help support reimbursement worldwide, including in Europe and China.

Overview of Roxadustat Clinical Studies and Development Strategy

In our completed Phase 2 studies, we accomplished the following critical objectives:

- Identified optimal roxadustat dosing regimens for anemia correction and maintenance of Hb response.
- Demonstrated roxadustat's potential efficacy in the treatment of anemia in both NDD-CKD and DD-CKD patients, including incident dialysis patients, the most unstable and high risk CKD patient population.
- Generated substantial safety data indicating that roxadustat is well tolerated, appears safe and could offer an improved cardiovascular profile relative to ESAs. Including our Phase 1, 2 and 3 studies, 1,385 subjects have been exposed to roxadustat.

In support of our initial efforts for regulatory approval in the United States and Europe, we have initiated with our partners our global Phase 3 clinical program for roxadustat in North America, Europe and Asia Pacific, with plans for expanding to other regions. We currently expect FibroGen China to begin a separate Phase 3 program in China in the first half of 2015, and Astellas is responsible for Phase 3 studies upon completion of Phase 2 studies in Japan. We believe that our ongoing global Phase 3 program, with a combined target enrollment of approximately 7,000 – 8,000 patients, is the largest Phase 3 program ever conducted for an anemia product candidate. Most of the primary and secondary efficacy measures that we plan to evaluate in our Phase 3 studies were evaluated previously in our Phase 2 studies. Our Phase 3 program will study multiple patient populations, including stable dialysis and incident dialysis, and will include multiple NDD-CKD studies comparing roxadustat against placebo. Our Phase 3 program is also designed and sized for, and will incorporate, major adverse cardiac events, or MACE, composite safety endpoints that we believe will be required for approval in the United States for all new anemia therapies. Additionally, our Phase 3 studies will incorporate dosing regimens that were extensively tested in our six Phase 2 studies.

Our Collaboration Partnerships for Roxadustat

We are currently developing and commercializing roxadustat for anemia globally in collaboration with our partners. We have two agreements under which we provided Astellas the right to develop and commercialize roxadustat and other compounds for anemia in Japan, Europe, the Commonwealth of Independent States, or CIS, the Middle East and South Africa.

We also have two agreements under which we provided AstraZeneca the right to develop and commercialize roxadustat for anemia, one for China, and one for the United States and all other countries not previously licensed to Astellas, or the U.S. / RoW. Payments under these agreements include over $500 million in upfront, non-contingent and other payments received or expected to be received prior to the first United States approval, excluding development cost reimbursement.

So long as the collaboration agreements remain in effect, we expect our CKD anemia program to be fully funded through launch of roxadustat through the payment of upfront, non-contingent and milestone payments, and development cost reimbursement. The total payments to us under these agreements are summarized in the following table:

	Astellas	**AstraZeneca**
Territories	Japan, Europe, CIS, Middle East, South Africa	U.S., China, RoW
Upfront and Milestone Payments		
Upfront and other non-contingent payments	$360.1M	$402.2M*
Potential Milestone Payments:		
Development and Regulatory	$542.5M	$571.0M*
Commercial-based	$15.0M	$652.5M
Total	$557.5M	$1,223.5M
Total Potential Upfront, Non-contingent and Milestone Payments	$917.6M	$1,625.7M
Development Cost Reimbursement		
(for territorial approval)	*Japan*: 100% *Europe:* 50%**	*China*: 50% *U.S.:* 50% up to FibroGen cap of $116.5M*** 100% above $116.5M *RoW:* 100%***
Consideration for Product Sales		
Transfer Price Payments	Low 20% of net sales	*U.S. / RoW:* Low-mid single digit % of net sales
Royalty Payments	N/A	*U.S. / RoW:* Low 20% of net sales
Profit Share		*China:* 50/50 profit share
Equity Investment		$20.0M****

* *A $62 million time-based development milestone became non-contingent as of July 30, 2014*
** *Includes 50% of U.S. costs under agreed development plan*
*** *Includes U.S. and Europe costs not borne by Astellas; $116.5 million is less than 50% of the expected CKD anemia development costs*
**** *Either $20 million cash payment or $20 million equity investment*

In addition, Astellas has separately invested a total of $80.5 million in the preferred stock of FibroGen, Inc. to date.

Roxadustat for Treatment of Anemia in China

We believe there is a particularly significant unmet medical need for the treatment of anemia in CKD in China. Anemia is undertreated in the rapidly growing DD-CKD population due in part to the significant safety concerns relating to the high doses of ESAs required to treat some patients to target Hb levels, the lack of IV iron use and

reimbursement limitations. Anemia is largely not treated in the NDD-CKD population, which includes patients who are eligible for dialysis but are not dialyzed, due in part to logistical and financial barriers to treatment with ESAs, as well as the insufficient dialysis infrastructure.

In the context of the rapidly growing Chinese pharmaceutical market, we believe that the demand for anemia therapy will continue to grow as a result of an expanding CKD population, and the central government's mandate to make dialysis, which is still in the early stages of infrastructure development, more available through expansion of government reimbursement and build-out of dialysis facilities. We believe that roxadustat is a particularly promising product candidate for this market.

We plan to seek product approval from the CFDA as a Domestic "Class 1.1" Drug through our China subsidiary, Beijing Fibrogen Medical Technology Development Co., Ltd., or Fibrogen China. We believe the domestic pathway represents the fastest route for bringing roxadustat to market.

We have completed our Phase 1 and Phase 2 clinical trials in China and expect to start our Phase 3 clinical trials in China in the first half of 2015. These Phase 3 trials are expected to continue to be conducted in parallel with, but independently of, the other trials conducted in the global development program, although all available safety data from the global program will be submitted for the China NDA. We plan to perform two Phase 3 trials in China to support approval of roxadustat for the treatment of anemia in DD-CKD and NDD-CKD patients. Based on discussions with the CFDA, the Phase 3 trials are designed to confirm Phase 2 results and have similar trial design and endpoints, except that they are expected to include more patients and longer dosing durations.

Overview of FG-3019

FG-3019 was developed by FibroGen to inhibit the activity of CTGF and its central role in the progression of serious diseases associated with fibrosis. Our data to date indicate that FG-3019 is a promising and highly differentiated product candidate with broad potential to treat a number of fibrotic diseases and cancers. FG-3019 has received orphan drug designation in IPF in the United States.

We are currently conducting an extension study for an open-label Phase 2 trial in IPF, a randomized, double-blind, placebo-controlled Phase 2 trial in IPF, a randomized, open-label Phase 2 trial in pancreatic cancer and a randomized trial in liver fibrosis. We have completed the initial one-year treatment portion of our open-label Phase 2 trial in IPF and an open-label, dose escalation Phase 2 trial in pancreatic cancer. In ten Phase 1 and Phase 2 clinical studies involving FG-3019 to date, including more than 340 patients who were treated with FG-3019 (146 patients dosed for more than 6 months), FG-3019 has been well tolerated across the range of doses studied, and there have been no dose-limiting toxicities seen thus far.

To date, we have retained exclusive worldwide rights for FG-3019. We plan to retain commercial rights to FG-3019 in North America and will also continue to evaluate the opportunities to establish co-development partnerships for FG-3019 as well as commercialization collaborations for territories outside of North America.

Idiopathic Pulmonary Fibrosis

Idiopathic pulmonary fibrosis, or IPF, is a form of progressive pulmonary fibrosis, or abnormal scarring, which destroys the structure and function of the lungs. Current approved therapies are unable to reverse this fibrotic process. Over a period of just a few years, patients with IPF experience debilitating symptoms, including shortness of breath and difficulty performing routine functions, such as walking and talking. Other symptoms include chronic dry, hacking cough, fatigue, weakness, discomfort in the chest, loss of appetite, and rapid weight loss. Average life expectancy at the time of confirmatory diagnosis of IPF is estimated to be between 3 to 5 years, with approximately two-thirds of patients dying within five years of diagnosis. Thus, the survival rates are comparable to some of the most deadly cancers. The United States prevalence and incidence of IPF are estimated to be 44,000 to 135,000 cases

and 21,000 new cases per year, respectively. We believe that with the availability of technology to enable more accurate diagnoses, the number of individuals diagnosed with IPF annually will continue to increase.

There are currently no FDA-approved treatments for IPF. Patients are typically treated with corticosteroids and immunosuppressive agents. However, none of these agents have been clinically proven to improve survival or quality of life. Pirfenidone has been approved in Europe, Canada and Japan and has been resubmitted for approval in the United States. According to the FDA advisory committee submission by its sponsor, pirfenidone has been shown to have a modest effect on slowing down the progression of the disease as measured by forced vital capacity, or FVC, in a minority (less than 15%) of patients. Thus there remains an unmet need for a product like FG-3019 which we believe has the potential to stabilize or reverse lung fibrosis and thus slow or stop the deterioration of, or improve, lung function in patients with IPF.

We have completed one year of dosing in two dose-cohorts in an open-label Phase 2 study of FG-3019 in patients with IPF. In addition to monitoring changes in pulmonary function, we incorporated the use of quantitative high resolution computed tomography, or HRCT, to assess changes in fibrosis over the course of the study. Recent publications based on similar quantitative HRCT methods have identified an association between worsening pulmonary fibrosis (as measured by HRCT) and mortality in IPF. The data from the open-label Phase 2 FG-3019 trial show that fibrosis was reversed or stabilized in a substantial subset of IPF patients (38%) after 48 weeks of treatment. To our knowledge, this is the first demonstration of pulmonary fibrosis reversal in any clinical study of IPF.

We are currently conducting a randomized, double-blind, placebo-controlled Phase 2 study to evaluate the safety and efficacy of FG-3019 in approximately 136 IPF patients with mild to moderate disease. As with our ongoing open-label Phase 2 trial, the primary efficacy endpoint is change in FVC from baseline. Secondary endpoints are extent of pulmonary fibrosis as measured by quantitative HRCT, other pulmonary function assessments and measures of health-related quality of life. The study is currently enrolling.

Pancreatic Cancer

Pancreatic cancer has a historic median survival of approximately six to nine months when treated with currently approved drugs. In desmoplastic, or fibrotic, cancers such as pancreatic cancer, we believe that CTGF expression in tumor-associated fibrous tissue promotes abnormal proliferation of stromal cells and tumor cells, induces extracellular-matrix, or ECM, deposition that provides a substrate for tumor cell adherence, promotes angiogenesis and promotes metastasis by enhancing cell motility, invasion and survival. Studies in a transgenic mouse model of pancreatic cancer indicate that treatment with FG-3019 in combination with chemotherapy can enhance the efficacy of chemotherapy and significantly improve survival.

Pancreatic cancer is the fourth leading cause of cancer deaths in the United States. In the United States, the prevalence of pancreatic cancer is estimated to be 44,000 and there are projected to be approximately 46,000 new cases of pancreatic cancer and approximately 39,000 deaths from the disease in 2014. Pancreatic cancer is aggressive and typically not diagnosed until it is incurable. Most patients are diagnosed after the age of 45, and 94% of patients die within five years from diagnosis.

The majority of pancreatic cancer patients are treated with chemotherapy, but this cancer is highly resistant to chemotherapy. Approximately 20% are treated with surgery; however, even for those with successful surgical resection, the median survival is approximately 2 years. Radiation may be used for locally advanced tumors, but it is not curative.

Several anti-cancer agents have been approved to treat pancreatic cancer. However, the duration of effect of these treatments is limited. In 1996, gemcitabine was approved for pancreatic cancer based on the demonstrated improvement in median overall survival from four to six months. Erlotinib was approved in 2005 after demonstrating an additional 10 days of survival. Nab-paclitaxel in combination with gemcitabine was recently

approved by the FDA for the treatment of pancreatic cancer, having demonstrated median survival of 8.5 months. The limitations of these drugs illustrate that progress in pancreatic cancer has been slow and incremental, and there remains a need for substantial improvement in patient survival and quality of life.

We have completed an open-label Phase 2 dose finding trial of FG-3019 combined with gemcitabine plus erlotinib in patients with previously untreated locally advanced (stage 3) or metastatic (stage 4) pancreatic cancer. FG-3019 demonstrated a dose-dependent improvement in one year survival rate. We have recently begun an open-label, randomized Phase 2 trial of FG-3019 combined with gemcitabine plus nab-paclitaxel chemotherapy versus the chemotherapy regimen alone in patients with marginally inoperable pancreatic cancer that has not been previously treated. Approximately 40 patients are expected to be treated and the number may be increased based on preliminary results. The overall goal of the trial is to determine whether FG-3019 in combination with other drug treatments can convert inoperable pancreatic cancer to operable cancer. Tumor removal is the only chance for cure of pancreatic cancer, but only 15% to 20% of patients are eligible for surgery. The use of an anti-fibrotic agent in combination with chemotherapy may shrink the tumor size enough to enable surgical removal without compromising major blood vessels or other important anatomic structures.

We also plan to perform a randomized Phase 2 trial of FG-3019 combined with gemcitabine and nab-paclitaxel compared to the chemotherapy regimen alone to assess disease progression and survival in patients with previously untreated metastatic pancreatic cancer. The overall goal is to confirm our open-label Phase 2 data that suggest combinations of FG-3019 and chemotherapy may increase survival. We plan to open the study for enrollment in the first half of 2015.

Our Strategy

We intend to leverage our extensive experience in fibrosis and HIF biology to build a successful biopharmaceutical company with a strong pipeline of products and product candidates for the treatment of anemia, fibrosis, cancer, corneal blindness and other serious unmet medical needs. Our near-term and long-term strategies include:

- Develop and, if approved, commercialize roxadustat with the assistance of our collaboration partners in the United States, Europe, China and Japan and the rest of the world, including enrolling and completing our global Phase 3 program in CKD anemia and seeking regulatory approval for roxadustat in multiple geographies, including as a Domestic Class 1.1 therapeutic in China.
- Enroll and complete our Phase 2 clinical studies of FG-3019 in IPF and pancreatic cancer, and initiate, enroll, and complete subsequent Phase 3 pivotal studies of FG-3019 in IPF and pancreatic cancer in the United States and potentially outside of the United States.
- Continue to pursue an extensive and multi-layered patent portfolio to protect our technologies and product candidates.
- Explore potential partnering opportunities for the development and commercialization of FG-3019 in certain territories.
- Develop FG-5200 for treatment of corneal blindness resulting from partial thickness corneal damage in China and elsewhere in the world.
- Strategically invest in the research and development of additional anemia indications for roxadustat, which may include chemotherapy-induced anemia, anemia relating to inflammatory diseases, myelodysplastic syndrome and surgical procedures requiring transfusions.
- Use our extensive HIF platform to increase our pipeline by exploring proof-of-concept with our HIF-PH selective inhibitors, such as FG-8205, and our other HIF-PH inhibitors, including FG-6874 (which has completed single and multiple ascending dose Phase 1 clinical studies in Singapore), in indications

such as hematopoietic stem cell mobilization, peri-operative anemia, heart failure post-myocardial infarction, inflammatory bowel disease, diabetes, cancer and wound healing.

- Expand our efforts in fibrosis by pursuing additional indications for FG-3019, which may include Duchenne muscular dystrophy, scleroderma lung disease, liver fibrosis associated with graft injection, non-alcoholic steatohepatitis, diabetic nephropathy, focal segmental glomerular sclerosis, congestive heart failure, pulmonary arterial hypertension and cancers such as melanoma, ovarian, breast, and squamous cell lung carcinoma.

Financial Overview

Our revenue to date has been generated primarily from collaboration and license revenue pursuant to our collaboration agreements with Astellas and AstraZeneca. We have not generated any commercial product revenue. As of June 30, 2014, we had $202.1 million of cash, cash equivalents and short-term investments and an accumulated deficit of $232.2 million.

Risk Factors Summary

Our business is subject to numerous risks and uncertainties, including those highlighted in the section entitled “Risk Factors” immediately following this prospectus summary. These risks include, among others, the following:

- We have incurred significant losses since our inception and anticipate that we will continue to incur losses for the foreseeable future; we may require additional financings in order to fund our operations;
- All of our recent revenue has been received from our roxadustat collaboration partners; if any of the agreements with these collaboration partners were to terminate we would require substantial additional funding;
- If we are unable to achieve development and regulatory milestones under our collaboration agreements, our revenues may decrease and our activities may fail to lead to commercialized products;
- We are substantially dependent on the success of our lead product candidate, roxadustat, and our second compound in development, FG-3019, and their clinical and commercial success will depend on a number of factors, many of which are beyond our control;
- We may be unable to obtain regulatory approval for our product candidates, or such approval may be delayed or limited, due to a number of factors, many of which are beyond our control;
- Our Phase 2 results to date for roxadustat and FG-3019 may not be indicative of the results that may be obtained in larger clinical studies required for approval;
- We do not know whether our ongoing or planned Phase 3 clinical studies in roxadustat or Phase 2 clinical studies in FG-3019 will need to be redesigned based on interim results, be able to achieve sufficient enrollment or be completed on schedule, if at all;
- Our product candidates may cause, or have attributed to them, undesirable side effects or have other properties that delay or prevent their regulatory approval or limit their commercial potential;
- If we or third party manufacturers on which we rely cannot manufacture our product candidates and/or products at sufficient yields, we may experience delays in development, regulatory approval and commercialization;
- If our collaborations with Astellas or AstraZeneca were terminated, or if Astellas of AstraZeneca were to prioritize other initiatives over their collaborations with us, whether as a result of a change of control or otherwise, our ability to successfully develop and commercialize our lead product candidate, roxadustat, would suffer;

- We currently rely, and expect to continue to rely, on third parties to conduct many aspects of our clinical studies, and these third parties may not perform satisfactorily;
- Certain of the components of our product candidates are acquired from single-source suppliers and have been purchased without long-term supply agreements;
- If our efforts to protect our proprietary technologies are not adequate, we may not be able to compete effectively in our market;
- Intellectual property disputes with third parties and competitors may be costly and time consuming, and may negatively affect our competitive position;
- We are establishing international operations and seeking approval to commercialize our product candidates outside of the United States, in particular in China, and a number of risks associated with international operations could materially and adversely affect our business;
- We are building our own manufacturing facility in China to produce roxadustat and clinical trial material for our corneal program; as an organization, we have limited experience in the construction or operation of a manufacturing plant; accordingly, we cannot assure you we will be able to meet regulatory requirements to operate our plant and to sell our products;
- Our decision to seek approval in China for roxadustat as a domestic new drug may not be accepted, which would result in additional delay and expense; and
- The market price of our common stock may be highly volatile, and you may not be able to resell your shares at or above the initial public offering price.

Our Corporate Information

We were incorporated in 1993 in Delaware. Our headquarters are located at 409 Illinois Street, San Francisco, CA 94158 and our telephone number is (415) 978-1200. Our website address is www.FibroGen.com. The information contained on, or that can be accessed through, our website is not part of, and is not incorporated into, this prospectus.

We are an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As such, we are eligible for exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies, including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002 and reduced disclosure obligations regarding executive compensation. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards, and, therefore, will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. We will remain an emerging growth company until the earliest of (1) the last day of the fiscal year (a) following the fifth anniversary of this offering, (b) in which we have total annual gross revenue of at least $1.0 billion, or (c) in which we are deemed to be a large accelerated filer, which means we have been public for at least twelve months and the market value of our common stock that is held by non-affiliates exceeds $700 million as of the prior June 30th, and (2) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period.

“FibroGen,” the FibroGen logo and other trademarks or service marks of FibroGen, Inc. appearing in this prospectus are the property of FibroGen, Inc. This prospectus contains additional trade names, trademarks and service marks of others, which are the property of their respective owners. We do not intend our use of display of other companies’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies.

The Offering	
Common stock offered by us	shares
Common stock to be outstanding after this offering	shares
Underwriters' option to purchase additional shares of common stock offered by us	shares
Use of proceeds	We estimate the net proceeds to us from this offering to be approximately $ million, assuming an initial public offering price of $ per share, which is the midpoint of the range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. See the section of the prospectus captioned "Use of Proceeds." The principal purposes of this offering are to create a public market for our common stock and thereby facilitate access to the public equity markets, increase our visibility in the marketplace and obtain additional capital. We believe our existing cash and cash equivalents, short-term and long-term investments and payments due under our license and collaboration agreements will be sufficient to meet our anticipated working capital and capital expenditure needs for at least the next 12 months. Additionally, if roxadustat is successful in further clinical development, based on our current development plans, expected payments under our existing license and collaboration agreements may be sufficient to fund our development of roxadustat through commercialization. We intend to use a portion of the net proceeds from this offering to commercialize our unpartnered product candidates such as FG-3019, corneal implants and other HIF-PH inhibitors, as well as for general corporate purposes. These uses include meeting any short term liquidity needs pending receipt of amounts due or subject to reimbursement under our license and collaboration agreements. If the development cost of roxadustat were to exceed our expectations and not be funded by our collaboration partners, or collaboration receipts were less than we anticipate, or if a portion of our existing cash and cash equivalents are used to develop other product candidates, we may use a more substantial portion of the net offering proceeds to fund our roxadustat development costs through commercialization. We may also use a portion of the net proceeds to acquire complementary businesses, products or technologies, although we have no present commitments or agreements for any specific acquisitions. Accordingly, we will have broad discretion over the uses of the net proceeds from this offering.
Risk factors	See the section of the prospectus captioned "Risk Factors" beginning on page 16 and the other information included in this prospectus for a discussion of factors you should carefully consider before deciding to invest in our common stock.

Proposed Listing and Trading symbol	We intend to list our common stock on the NASDAQ Global Market under the symbol “ ”.

The number of shares of our common stock to be outstanding after this offering is based on 118,514,511 shares of common stock outstanding as of June 30, 2014, which reflects and assumes the conversion of all shares of convertible preferred stock (Senior Preferred Stock and Junior Preferred Stock) and excludes the following shares:

- 26,922,433 shares of common stock issuable upon the exercise of outstanding stock options issued as of June 30, 2014 pursuant to our 1999 and 2005 Stock Plans at a weighted average exercise price of $1.48 per share;
- 5,661,682 shares of common stock issuable upon the exercise of stock options pursuant to our 2005 Stock Plan at a weighted average exercise price of $5.82 that were subject to shareholder approval as of June 30, 2014, 26,552 of which were cancelled as of shareholder approval (which approval was obtained in July 2014);
- 4,000,000 shares of common stock to be reserved for future issuance under our 2014 Employee Stock Purchase Plan, or ESPP, as of the date the registration statement of which this prospectus forms a part if declared effective by the SEC, as well as any automatic increases in the number of shares of common stock reserved for future issuance under ESPP;
- 18,942,169 shares of common stock to be reserved for future issuance under our 2014 Plan, as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC (which shares are as of June 30, 2014 and are currently reserved for future grant under our 2005 Plan and will cease to be reserved under our 2005 Plan immediately prior to the time our 2014 Plan becomes effective) as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2014 Plan;
- 432,790 shares of common stock issuable upon exercise of common stock warrants outstanding as of June 30, 2014 at a weighted-average exercise price of $3.03 per share; and
- 2,397,505 shares of common stock issuable upon the exchange of outstanding preferred stock issued by our European subsidiary, FibroGen Europe Oy, or FibroGen Europe.

Unless otherwise indicated, all information in this prospectus reflects and assumes the following:

- the conversion of all outstanding shares of our convertible preferred stock (Senior Preferred Stock and Junior Preferred Stock) into an aggregate of 84,800,239 shares of our common stock, which will occur immediately prior to the completion of this offering;
- no exercise by the underwriters of their option to purchase up to additional shares of our common stock in this offering; and
- the filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the completion of this offering.

Summary Financial Data

The following tables summarize our financial data and should be read together with the sections in this prospectus entitled "Selected financial data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes included elsewhere in this prospectus.

We have derived the consolidated statement of operations data for the years ended December 31, 2012 and 2013 from our audited financial statements included elsewhere in this prospectus. We have derived the statement of operations data for the six months ended June 30, 2013 and 2014 and the balance sheet data as of June 30, 2014 from our unaudited interim consolidated financial statements included elsewhere in this prospectus. We have prepared the unaudited interim consolidated financial statements on the same basis as the audited financial statements and have included, in our opinion, all adjustments, consisting only of normal recurring adjustments, that we consider necessary for a fair statement of the financial information set forth in those statements. Our historical results are not necessarily indicative of the results that should be expected in the future, and our unaudited interim results are not necessarily indicative of the results that should be expected for the full year or any other period.

	Years ended December 31,		Six Months ended June 30,	
	2012	2013	2013	2014
	(in thousands, except per share data)			
Result of Operations				
Revenue:				
License and milestone revenue	$ 62,845	$ 94,961	$ 16,895	$ 97,148
Collaboration services and other revenue	3,088	7,209	1,637	10,686
Total revenue	65,933	102,170	18,532	107,834
Operating expenses:				
Research and development (1)	74,222	85,710	33,092	58,919
General and administrative (1)	18,934	24,409	9,610	13,948
Total operating expenses	93,156	110,119	42,702	72,867
Income (loss) from operations	(27,223)	(7,949)	(24,170)	34,967
Total interest and other, net	(5,448)	(6,994)	(3,303)	(4,376)
Income (loss) before income taxes	(32,671)	(14,943)	(27,473)	30,591
Benefit from income taxes	100	—	—	—
Net income (loss)	$(32,571)	$ (14,943)	$(27,473)	$ 30,591
Net income (loss) per share—basic (2)	$ (0.99)	$ (0.45)	$ (0.83)	$ 0.30
Net income (loss) per share—diluted (2)	$ (0.99)	$ (0.45)	$ (0.83)	$ 0.18
Weighted-average number of common shares used in net income (loss) per share—basic (2)	32,820	32,964	32,938	33,198
Weighted-average number of common shares used in net income (loss) per share—diluted (2)	32,820	32,964	32,938	53,970
Pro forma net income (loss) per share—basic (unaudited) (3)		$ (0.13)		$ 0.26
Pro forma net income (loss) per share—diluted (unaudited) (3)		$ (0.13)		$ 0.22
Pro forma weighted-average number of common shares used in net income (loss) per share—basic (unaudited) (3)		117,764		117,998
Pro forma weighted-average number of common shares used in net income (loss) per share—diluted (unaudited) (3)		117,764		140,164

(1) Stock-based compensation expense is included in our results of operations as follows (in thousands):

	Years Ended December 31,		Six Months Ended June 30,	
	2012	2013	2013	2014
Research and development	$2,277	$1,925	$ 953	$ 883
General and administrative	2,284	1,519	802	582
Total stock-based compensation expense	$4,561	$3,444	$1,755	$1,465

(2) See Note 10 to our consolidated financial statements appearing elsewhere in this prospectus for a description of the method used to calculate basic and diluted net income (loss) per share of common stock.

(3) Pro forma basic net income (loss) per share has been calculated assuming the conversion of all outstanding shares of convertible preferred stock, using the as-if converted method, into shares of common stock as of the beginning of the applicable period or the original issuance if later. Pro forma diluted net income (loss) per share includes the dilutive effect of employee stock options and warrants using the treasury stock method, as well as the effect of the conversion of preferred stock held by investors in FibroGen Europe into a maximum total of 2,397,505 shares of FibroGen, Inc. common stock.

The pro forma balance sheet data set forth below give effect to an assumed conversion as of June 30, 2014 of all outstanding shares of our Senior Preferred Stock and Junior Preferred Stock into 84,800,239 shares of our common stock. See Note 10 to our consolidated financial statements appearing elsewhere in this prospectus for a description of the method used to calculate pro forma basic and diluted net income (loss) per share.

The pro forma as adjusted balance sheet data set forth below give further effect to our issuance and sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	As of June 30, 2014		
	Actual	Pro forma	Pro forma as adjusted
		(in thousands)	
Balance Sheet Data:			
Cash and cash equivalents	$ 182,662	$ 182,662	$
Short-term and long-term investments	27,159	27,159	
Working capital	171,683	171,683	
Total assets	372,657	372,657	
Deferred revenue	72,936	72,936	
Lease financing obligations	96,914	96,914	
Product development obligations	18,291	18,291	
Senior Preferred Stock	168,436	—	
Junior Preferred Stock	136,313	—	
Accumulated deficit	(232,188)	(232,188)	
Total stockholders' equity (deficit)	(56,446)	111,990	
Non-controlling interests	27,875	27,875	
Total equity (deficit)	(28,571)	139,865	

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus, including our financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations and growth prospects. In such an event, the market price of our common stock could decline, and you may lose all or part of your investment. Although we have discussed all known material risks, the risks described below are not the only ones that we may face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations.

Risks Related to Our Financial Condition and History of Operating Losses

We have incurred significant losses since our inception and anticipate that we will continue to incur losses for the foreseeable future and may never achieve or sustain profitability. We may require additional financings in order to fund our operations.

We are a clinical-stage biopharmaceutical company with two lead product candidates in clinical development, roxadustat, or FG-4592 in anemia in CKD, and FG-3019 in idiopathic pulmonary fibrosis, or IPF, pancreatic cancer and liver fibrosis. Pharmaceutical product development is a highly risky undertaking. To date, we have focused our efforts and most of our resources on hypoxia-inducible factor, or HIF, and fibrosis biology research, as well as developing our lead product candidates. We are not profitable and, other than in 2006 and 2007 due to income received from our Astellas collaboration, have incurred losses in each year since our inception. We have not generated any significant revenue based on product sales to date. We continue to incur significant research and development and other expenses related to our ongoing operations. Our net loss for the years ended December 31, 2012 and 2013 was approximately $32.6 million and $14.9 million, respectively. For the six months ended June 30, 2014 we achieved net income of $30.6 million due principally to a significant contractual time-based payment and the resulting revenue recognized from our AstraZeneca collaboration agreement. As of June 30, 2014, we had an accumulated deficit of $232.2 million. As of June 30, 2014, we had capital resources consisting of cash, cash equivalents and short-term investments of $202.1 million. Despite contractual development and cost coverage commitments from our collaboration partners, AstraZeneca AB, or AstraZeneca, and Astellas Pharma Inc., or Astellas, and the potential to receive milestone and other payments from these partners, we anticipate we will continue to incur losses for the foreseeable future, and we anticipate these losses will increase as we continue our development of, and seek regulatory approval for our product candidates. If we do not successfully develop and obtain regulatory approval for our existing or any future product candidates and effectively manufacture, market and sell any product candidates that are approved, we may never generate product sales, and even if we do generate product sales, we may never achieve or sustain profitability on a quarterly or annual basis. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' equity and working capital. Our failure to become and remain profitable would depress the market price of our common stock and could impair our ability to raise capital, expand our business, diversify our product offerings or continue our operations.

We believe that we will continue to expend substantial resources for the foreseeable future as we continue late-stage clinical development of roxadustat, grow our operations in China, expand our clinical development efforts on FG-3019, seek regulatory approval and prepare for the commercialization of our product candidates, and pursue additional indications. These expenditures will include costs associated with research and development, conducting preclinical trials and clinical trials, obtaining regulatory approvals in various jurisdictions, and manufacturing and supplying products and product candidates for ourselves and our partners. In particular, in our planned Phase 3 clinical trial program for roxadustat, which we believe will be the largest Phase 3 program ever conducted for an anemia product candidate, we are expecting to enroll approximately 7,000 to 8,000 patients worldwide. We are conducting this Phase 3 program in conjunction with Astellas and AstraZeneca, and we are substantially dependent on Astellas and AstraZeneca for the funding of this large program. The outcome of any

clinical trial and/or regulatory approval process is highly uncertain and we are unable to fully estimate the actual costs necessary to successfully complete the development and regulatory approval process for our compounds in development and any future product candidates. We believe that the net proceeds from this offering, together with our expected third party collaboration revenues and existing cash, cash equivalents and short-term investments, will allow us to fund our operating plans through at least the next 12 months. Our operating plans or third party collaborations may change as a result of many factors, which are discussed in more detail below, and other factors that may not currently be known to us, and we therefore may need to seek additional funds sooner than planned, through offerings of public or private securities, debt financings or other sources, such as royalty monetization or other structured financings. Such financings may result in dilution to stockholders, imposition of debt covenants and repayment obligations, or other restrictions that may adversely affect our business. We may also seek additional capital due to favorable market conditions or strategic considerations even if we currently believe that we have sufficient funds for our current or future operating plans.

Our future funding requirements will depend on many factors, including, but not limited to:

- the rate of progress in the development of our product candidates;
- the costs of development efforts for our product candidates, such as FG-3019, that are not subject to reimbursement from our collaboration partners;
- the costs necessary to obtain regulatory approvals, if any, for our product candidates in the United States, China and other jurisdictions, and the costs of post-marketing studies that could be required by regulatory authorities in jurisdictions where approval is obtained;
- the continuation of our existing collaborations and entry into new collaborations;
- the time and unreimbursed costs necessary to commercialize products in territories in which our product candidates are approved for sale;
- the revenues from any future sales of our products as well as revenue earned from profit share, royalties and milestones;
- the level of reimbursement or third party payor pricing available to our products;
- the costs of establishing and maintaining manufacturing operations and obtaining third party commercial supplies of our products, if any, manufactured in accordance with regulatory requirements;
- the costs we incur in maintaining domestic and foreign operations, including operations in China;
- the costs associated with being a public company; and
- the costs we incur in the filing, prosecution, maintenance and defense of our extensive patent portfolio and other intellectual property rights.

Additional funds may not be available when we require them, or on terms that are acceptable to us. If adequate funds are not available to us on a timely basis, we may be required to delay, limit, reduce or terminate our research and development efforts or other operations or activities that may be necessary to commercialize our product candidates.

All of our recent revenue has been received from collaboration partners for our product candidates under development.

During the past two years, substantially all of our revenues were from our collaboration partners, including $90.8 million received under our current collaborations with Astellas and $76.5 million received under our current collaborations with AstraZeneca, constituting 99% and 100% of our revenues for 2012 and 2013, respectively.

We will require substantial additional capital to achieve our development and commercialization goals, which for our lead product candidate, roxadustat, is currently contemplated to be provided under our existing third party collaborations with Astellas and AstraZeneca.

If either or both of these collaborations were to be terminated, we could require significant additional capital in order to proceed with development and commercialization of our product candidates, or we may require additional partnering in order to help fund such development and commercialization. If adequate funds or partners are not available to us on a timely basis or on favorable terms, we may be required to delay, limit, reduce or terminate our research and development efforts or other operations.

If we are unable to continue to progress our development efforts and achieve milestones under our collaboration agreements, our revenues may decrease and our activities may fail to lead to commercial products.

Substantially all of our revenues to date have been, and a significant portion of our future revenues are expected to be, derived from our existing collaboration agreements. Revenues from research and development collaborations depend upon continuation of the collaborations, reimbursement of development costs, the achievement of milestones and royalties and profits from our product sales, if any, derived from future products developed from our research. If we are unable to successfully advance the development of our product candidates or achieve milestones, revenues under our collaboration agreements will be substantially less than expected.

Risks Related to the Development and Commercialization of Our Product Candidates

We are substantially dependent on the success of our lead product candidate, roxadustat, and our second compound in development, FG-3019.

To date, we have invested a substantial portion of our efforts and financial resources in the research and development of roxadustat, which is currently our lead product candidate. Roxadustat is our only product candidate that has advanced into a potentially pivotal trial, and it may be years before the studies required for its approval are completed, if ever. Our other product candidates are less advanced in development and may never enter into pivotal studies. We have completed 22 Phase 1 and 2 clinical studies with roxadustat involving over 1,271 enrolled subjects, for which we reported favorable primary and secondary safety and efficacy endpoint results. Based on our discussions with the United States Food and Drug Administration, or FDA, we believe that we have an acceptable plan for the conduct of our global Phase 3 clinical trial program. We have also had discussions with China regulatory authorities regarding the conduct of Phase 3 clinical trials in China, which are part of our global Phase 3 clinical trial program for safety data. We have also discussed our Phase 3 clinical development program with three national health authorities in the EU and obtained scientific advice from the European Medicines Agency. Our near-term prospects, including maintaining our existing collaborations with Astellas and AstraZeneca, will depend heavily on successful Phase 3 development and commercialization of roxadustat.

Our other lead product candidate, FG-3019, is currently in clinical development for IPF, pancreatic cancer and liver fibrosis. FG-3019 requires substantial further development and investment. In ten Phase 1 and 2 clinical trials, over 340 subjects have been treated with FG-3019 to date. We do not have a collaboration partner for support of this compound, and, while we have promising open-label safety data and potential signals of efficacy, we would need to complete larger and more extensive controlled clinical trials to validate the results to date in order to continue further development of this product candidate. In addition, although there are many potentially promising indications beyond IPF, pancreatic cancer and liver fibrosis, we are still exploring indications for which further development of, and investment for, FG-3019 may be appropriate. Accordingly, the costs and time to complete development and related risks are currently unknown. Moreover, FG-3019 is a monoclonal antibody, which may require experience and expertise that we may not currently possess as well as financial resources that are potentially greater than those required for our small molecule lead compound, roxadustat.

The clinical and commercial success of roxadustat and FG-3019 will depend on a number of factors, many of which are beyond our control, and we may be unable to complete the development or commercialization of roxadustat or FG-3019.

The clinical and commercial success of roxadustat and FG-3019 will depend on a number of factors, including the following:

- the timely initiation, continuation and completion of our Phase 3 clinical trials for roxadustat, which will depend substantially upon requirements for such trials imposed by the FDA and other regulatory agencies and bodies and the continued commitment and coordinated and timely performance by our third party collaboration partners, AstraZeneca and Astellas;
- the timely initiation and completion of our Phase 2 clinical trials for FG-3019, including in IPF and pancreatic cancer;
- our ability to demonstrate the safety and efficacy of our product candidates to the satisfaction of the relevant regulatory authorities;
- whether we are required by the FDA or other regulatory authorities to conduct additional clinical trials, and the scope and nature of such clinical trials, prior to approval to market our products;
- the timely receipt of necessary marketing approvals from the FDA and foreign regulatory authorities, including pricing and reimbursement determinations;
- the ability to successfully commercialize our product candidates, if approved, for marketing and sale by the FDA or foreign regulatory authorities, whether alone or in collaboration with others;
- our ability and the ability of our third party manufacturing partners to manufacture quantities of our product candidates at quality levels necessary to meet regulatory requirements and at a scale sufficient to meet anticipated demand at a cost that allows us to achieve profitability;
- our success in educating health care providers and patients about the benefits, risks, administration and use of our product candidates, if approved;
- acceptance of our product candidates, if approved, as safe and effective by patients and the healthcare community;
- the success of efforts to enter into relationships with large dialysis organizations involving the administration of roxadustat to dialysis patients;
- the achievement and maintenance of compliance with all regulatory requirements applicable to our product candidates;
- the maintenance of an acceptable safety profile of our products following any approval;
- the availability, perceived advantages, relative cost, relative safety, and relative efficacy of alternative and competitive treatments;
- our ability to obtain and sustain an adequate level of pricing or reimbursement for our products by third party payors;
- our ability to enforce successfully our intellectual property rights for our product candidates and against the products of potential competitors; and
- our ability to avoid or succeed in third party patent interference or patent infringement claims.

Many of these factors are beyond our control. Accordingly, we cannot assure you that we will ever be able to achieve profitability through the sale of, or royalties from, our product candidates. If we or our collaboration partners are not successful in obtaining approval for and commercializing our product candidates, or are delayed in completing those efforts, our business and operations would be adversely affected.

We may be unable to obtain regulatory approval for our product candidates, or such approval may be delayed or limited, due to a number of factors, many of which are beyond our control.

The clinical trials and the manufacturing of our product candidates are and will continue to be, and the marketing of our product candidates will be, subject to extensive and rigorous review and regulation by numerous government authorities in the United States and in other countries where we intend to develop and, if approved, market any product candidates. Before obtaining regulatory approval for the commercial sale of any product candidate, we must demonstrate through extensive preclinical trials and clinical trials that the product candidate is safe and effective for use in each indication for which approval is sought. The regulatory review and approval process is expensive and requires substantial resources and time, and in general very few product candidates that enter development receive regulatory approval. Accordingly, we may be unable to successfully develop or commercialize roxadustat or FG-3019 or any of our other product candidates.

We have not obtained regulatory approval for any of our product candidates and it is possible that roxadustat and FG-3019 will never receive regulatory approval in any country. Regulatory authorities may delay, limit or deny approval of roxadustat or FG-3019 for many reasons, including, among others:

- our failure to adequately demonstrate to the satisfaction of regulatory authorities that roxadustat is safe and effective in treating anemia in chronic kidney disease, or CKD, or that FG-3019 is safe and effective in treating IPF, pancreatic cancer or liver fibrosis;
- our failure to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- the determination by regulatory authorities that additional clinical trials are necessary to demonstrate the safety and efficacy of roxadustat or FG-3019, or that ongoing clinical trials need to be modified in design, size, conduct or implementation;
- our product candidates may exhibit an unacceptable safety signal as they advance through clinical trials, in particular controlled Phase 3 trials;
- the contract research organizations, or CROs, that conduct clinical trials on our behalf may take actions outside of our control that materially adversely impact our clinical trials;
- we or third party contractors manufacturing our product candidates may not maintain current good manufacturing practices, or cGMP, successfully pass inspection or meet other applicable manufacturing regulatory requirements;
- regulatory authorities may not agree with our interpretation of the data from our preclinical trials and clinical trials;
- collaboration partners may not perform or complete their clinical programs in a timely manner, or at all; or
- principal investigators may determine that one or more serious adverse events, or SAEs, is related or possibly related to roxadustat, and any such determination may adversely affect our ability to obtain regulatory approval, whether or not the determination is correct.

Any of these factors, many of which are beyond our control, could jeopardize our or our collaboration partners' abilities to obtain regulatory approval for and successfully market roxadustat. Because our business and operations in the near-term are almost entirely dependent upon roxadustat, any significant delays or impediments to regulatory approval could have a material adverse effect on our business and prospects.

Furthermore, in both the United States and China, we also expect to be required to perform additional clinical trials in order to obtain approval or as a condition to maintaining approval due to post-marketing requirements. If the FDA requires a risk evaluation and mitigation strategy, or REMS, for any of our product candidates if approved, the substantial cost and expense of complying with a REMS or other post-marketing requirements may limit our ability to successfully commercialize our product candidates.

Our Phase 2 clinical trial results to date for roxadustat may not be indicative of the results that may be obtained in larger, controlled Phase 3 clinical trials required for approval.

Clinical development is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. Success in preclinical and early clinical trials may not be predictive of similar results in larger, controlled clinical trials, and successful results from early or small clinical trials may not be replicated or show as favorable an outcome, even if successful. For example, in the past we developed an earlier generation product candidate aimed at treating anemia in CKD that resulted in a clinical hold for a safety signal seen in that product in Phase 2 clinical trials. The clinical hold applied to that product candidate and roxadustat and was lifted for both product candidates after submission of the requested data to the FDA. While we have not seen similar safety concerns involving roxadustat to date, our Phase 2 clinical trials have involved a relatively small number of patients exposed to roxadustat for a relatively short period of time compared to the Phase 3 clinical trials that we will be conducting, and only a fraction of the patients in the Phase 2 clinical trials were randomized to placebo. Accordingly, the Phase 2 clinical trials that we have conducted may not have uncovered safety issues, even if they exist. In addition, some of the safety concerns associated with the treatment of patients with anemia in CKD using erythropoiesis stimulating agents, or ESAs, did not emerge for many years until placebo-controlled studies had been conducted in large numbers of patients. The biochemical pathways that we believe are affected by roxadustat are implicated in a variety of biological processes and disease conditions, and it is possible that the use of roxadustat to treat larger numbers of patients will demonstrate unanticipated adverse effects, including possible drug interactions, which may negatively impact the safety profile, use and market acceptance of roxadustat. The FDA has informed us that our Phase 3 trials must include, as a safety endpoint, a major adverse cardiac events, or MACE, endpoint, which is a composite endpoint designed to identify major safety concerns, in particular relating to cardiovascular events such as cardiovascular death, myocardial infarction and stroke. As a result, our ongoing and planned Phase 3 clinical trials may identify unanticipated safety concerns in the patient population under study. The FDA has also informed us that the MACE endpoint will need to be evaluated separately for our Phase 3 trials in non-dialysis dependent-CKD patients and our Phase 3 trials in dialysis dependent-CKD patients. The MACE endpoint will be evaluated through a non-inferiority trial, which means that the rate of MACE events in the arm of the trial involving treatment with roxadustat must have less than a specified probability of exceeding the rate in the other arm of the trial by a specified margin, called the non-inferiority margin. The number of patients necessary in order to permit a statistical analysis with adequate ability to detect the relative risk of MACE events in different arms of the trial, referred to as statistical power, depends on a number of factors, including the rate at which MACE events occur in the trial, the required non-inferiority margin and the statistical power and confidence intervals required for the analysis of the trial.

In addition, we cannot be sure that the potential advantages that we believe roxadustat may have for treatment of patients with anemia in CKD as compared to the use of ESAs will be substantiated by our Phase 3 clinical trials or that we will be able to include a discussion of such advantages in our labeling should we obtain approval. We believe that roxadustat may have certain benefits as compared to ESAs based on the data from our Phase 2 clinical trials conducted to date, including safety benefits, the absence of a hypertensive effect, the potential to lower cholesterol levels and the potential to correct anemia without the use of IV iron. However, our belief that roxadustat may offer those benefits is based on a limited amount of data from our Phase 2 clinical trials and our understanding of the likely mechanisms of action for roxadustat. Some of these benefits, such as those associated with the apparent effects on blood pressure and cholesterol, are not fully understood and, even if roxadustat receives marketing approval, we do not expect that it will be approved for the treatment of high blood pressure or high cholesterol based on the data from our Phase 3 trials, and we may not be able to refer to any such benefits in the labeling. While the data from our Phase 2 trials suggests roxadustat may reduce LDL, or low-density lipoprotein, and reduce the ratio of LDL to HDL, or high-density lipoprotein, the data show it may also reduce HDL, which may be a risk to patients. In addition, causes of the safety concerns associated with the use of ESAs to achieve specified target Hb levels have not been fully elucidated. While we believe that the issues giving rise to these concerns with ESAs are likely due to factors other than the Hb levels achieved, we cannot be certain that roxadustat will not be associated with similar, or more severe, safety concerns.

Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in early stage development, and we may face similar setbacks. In addition, the CKD patient population has many afflictions that may cause severe illness or death, which may be attributed to roxadustat in a manner that negatively impacts the safety profile of our product candidate. If the results of our ongoing or future clinical trials for roxadustat are inconclusive with respect to efficacy, if we do not meet our clinical endpoints with statistical significance, or if there are unanticipated safety concerns or adverse events that emerge during clinical trials, we may be prevented from or delayed in obtaining marketing approval for roxadustat, and even if we obtain marketing approval, any sales of roxadustat may suffer.

Our Phase 2 results to date for FG-3019 may not be indicative of the results that may be obtained in larger, controlled Phase 2 clinical trials or Phase 3 clinical trials required for approval.

We have conducted only a limited number of Phase 2 clinical trials with FG-3019. We have conducted an open-label Phase 2 dose escalation study of FG-3019 for IPF in 89 patients and a Phase 2 dose finding trial of FG-3019 combined with gemcitabine plus erlotinib in 75 patients with pancreatic cancer. We cannot be sure that the results of these trials will be substantiated in double-blinded trials with larger numbers of patients, that larger trials will demonstrate the efficacy of FG-3019 for these or other indications or that safety issues will not be uncovered in further trials. In the Phase 2 clinical trial for IPF, we used quantitative high resolution computed tomography, or HRCT, to measure the extent of lung fibrosis. While we believe that quantitative HRCT is an accurate measure of lung fibrosis, it is a novel technology that has not yet been accepted by the FDA as a primary endpoint in pivotal clinical trials. In addition, while we believe that the animal studies that we have conducted to date demonstrate that FG-3019 has the potential to arrest or reverse fibrosis and reduce tumor mass, we cannot be sure that these results will be indicative of the effects of FG-3019 in human trials. In addition, the IPF and pancreatic cancer patient populations are extremely ill and routinely experience SAEs, including death, which may be attributed to FG-3019 in a manner that negatively impacts the safety profile of our product candidate. If the additional Phase 2 clinical trials that we are planning for FG-3019 in IPF and pancreatic cancer do not show favorable efficacy results or result in safety concerns, or if we do not meet our clinical endpoints with statistical significance, or demonstrate an acceptable risk-benefit profile, we may be prevented from or delayed in obtaining marketing approval for FG-3019 in one or both of these indications.

We do not know whether our ongoing or planned Phase 3 clinical trials in roxadustat or Phase 2 clinical trials in FG-3019 will need to be redesigned based on interim results, be able to achieve sufficient enrollment or be completed on schedule, if at all.

Clinical trials can be delayed or terminated for a variety of reasons, including delay or failure to:

- address any physician or patient safety concerns that arise during the course of the trial;
- obtain required regulatory or institutional review board, or IRB, approval or guidance;
- reach timely agreement on acceptable terms with prospective CROs and clinical trial sites;
- recruit, enroll and retain patients through the completion of the trial;
- maintain clinical sites in compliance with clinical trial protocols;
- initiate or add a sufficient number of clinical trial sites; and
- manufacture sufficient quantities of product candidate for use in clinical trials.

In addition, we could encounter delays if a clinical trial is suspended or terminated by us, by the relevant IRBs at the sites at which such trials are being conducted, or by the FDA or other regulatory authorities. A suspension or termination of clinical trials may result from any number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, changes in laws or regulations, or a principal investigator’s determination

that a serious adverse event could be related to our product candidates. Any delays in completing our clinical trials will increase the costs of the trial, delay the product candidate development and approval process and jeopardize our ability to commence marketing and generate revenues. Any of these occurrences may materially and adversely harm our business and operations and prospects.

Our product candidates may cause or have attributed to them undesirable side effects or have other properties that delay or prevent their regulatory approval or limit their commercial potential.

Undesirable side effects caused by our product candidates or that may be identified as related to our product candidates by physician investigators conducting our clinical trials or even competing products in development that utilize a similar mechanism of action or act through a similar biological disease pathway could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in the delay or denial of regulatory approval by the FDA or other regulatory authorities and potential product liability claims. Adverse events and SAEs that emerge during treatment with our product candidates or other compounds acting through similar biological pathways may be deemed to be related to our product candidate and may result in:

- our Phase 3 clinical trial development plan becoming longer and more extensive;
- regulatory authorities increasing the data and information required to approve our product candidates and imposing other requirements; and
- our collaboration partners terminating our existing agreements.

The occurrence of any or all of these events may cause the development of our product candidates to be delayed or terminated, which could materially and adversely affect our business and prospects. See “Business—Our Development Program for Roxadustat” and “Business—FG-3019 for the Treatment of Fibrosis and Cancer” for a discussion of the adverse events and serious adverse events that have emerged in clinical trials of roxadustat and FG-3019.

Clinical trials of our product candidates may not uncover all possible adverse effects that patients may experience.

Clinical trials are conducted in representative samples of the potential patient population which may have significant variability. Clinical trials are by design based on a limited number of subjects and of limited duration for exposure to the product used to determine whether, on a potentially statistically significant basis, the planned safety and efficacy of any product candidate can be achieved. As with the results of any statistical sampling, we cannot be sure that all side effects of our product candidates may be uncovered, and it may be the case that only with a significantly larger number of patients exposed to the product candidate for a longer duration, may a more complete safety profile be identified. Further, even larger clinical trials may not identify rare serious adverse effects or the duration of such studies may not be sufficient to identify when those events may occur. There have been other products, including ESAs, that have been approved by the regulatory authorities but for which safety concerns have been uncovered following approval. Such safety concerns have led to labelling changes or withdrawal of ESA products from the market, and any of our product candidates may be subject to similar risks. For example, roxadustat for use in anemia in CKD is being developed to address a very diverse patient population expected to have many serious health conditions at the time of administration of roxadustat, including diabetes, high blood pressure and declining kidney function.

Although to date we have not seen evidence of significant safety concerns with our product candidates currently in clinical trials, patients treated with our products, if approved, may experience adverse reactions and it is possible that the FDA or other regulatory authorities may ask for additional safety data as a condition of, or in connection with, our efforts to obtain approval of our product candidates. If safety problems occur or are identified after our product candidates reach the market, we may, or regulatory authorities may require us to amend the labeling of our products, recall our products or even withdraw approval for our products.

We may fail to enroll a sufficient number of patients in our clinical trials in a timely manner, which could delay or prevent clinical trials of our product candidates.

Identifying and qualifying patients to participate in clinical trials of our product candidates is critical to our success. The timing of our clinical trials depends on the rate at which we can recruit and enroll patients in testing our product candidates. Patients may be unwilling to participate in clinical trials of our product candidates for a variety of reasons, some of which may be beyond our control:

- severity of the disease under investigation;
- availability of alternative treatments;
- size and nature of the patient population;
- eligibility criteria for and design of the study in question;
- perceived risks and benefits of the product candidate under study;
- ongoing clinical trials of competitive agents;
- physicians' and patients' perceptions as to the potential advantages of our product candidates being studied in relation to available therapies or other products under development;
- our, our CRO's, and our trial sites' efforts to facilitate timely enrollment in clinical trials;
- patient referral practices of physicians; and
- ability to monitor patients and collect patient data adequately during and after treatment.

Patients may be unwilling to participate in our clinical trials for roxadustat due to adverse events observed in other drug treatments of anemia in CKD, and patients currently controlling their disease with existing ESAs may be reluctant to participate in a clinical trial with an investigational drug. We may not be able to successfully initiate or continue clinical trials if we cannot rapidly enroll a sufficient number of eligible patients to participate in the clinical trials required by regulatory agencies. If we have difficulty enrolling a sufficient number of patients to conduct our clinical trials as planned, we may need to delay, limit or terminate on-going or planned clinical trials, any of which could have a material and adverse effect on our business and prospects.

If we or third party manufacturers on which we rely cannot manufacture our product candidates and/or products at sufficient yields, we may experience delays in development, regulatory approval and commercialization.

Completion of our clinical trials and commercialization of our product candidates require access to, or development of, facilities to manufacture our product candidates at sufficient yields and at commercial scale. We have limited experience manufacturing, or managing third parties in manufacturing any of our product candidates in the volumes that are expected to be necessary to support large-scale clinical trials and sales. Our efforts to establish these capabilities may not meet our requirements as to scale-up, yield, cost, potency or quality in compliance with cGMP. Our clinical trials must be conducted with product produced under applicable cGMP regulations. Failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process. Even an experienced third party manufacturer may encounter difficulties in production, which difficulties may include:

- costs and challenges associated with scale-up and attaining sufficient manufacturing yields, in particular for biologic products such as FG-3019, which is a monoclonal antibody;
- supply chain issues, including the timely availability and shelf life requirements of raw materials and supplies;
- quality control and assurance;
- shortages of qualified personnel and capital required to manufacture large quantities of product;

- compliance with regulatory requirements that vary in each country where a product might be sold;
- capacity limitations and scheduling availability in contracted facilities; and
- natural disasters that affect facilities and possibly limit production.

Any delay or interruption in the supply of our product candidates or products could have a material adverse effect on our business and operations.

Even if we are able to obtain regulatory approval of our product candidates, the label we obtain may limit the indicated uses for which our product candidates may be marketed.

With respect to roxadustat, we expect that regulatory approvals, if obtained at all, will limit the approved indicated uses for which roxadustat may be marketed, as ESAs have been subject to significant safety limitations on usage as directed by the "Black Box" warnings included in their labels. See "Business—Roxadustat For the Treatment of Anemia in Chronic Kidney Disease—Limitations of the Current Standard of Care for Anemia in CKD". In addition, in the past, an approved ESA was voluntarily withdrawn due to serious safety issues discovered after approval. The safety concerns relating to ESAs may result in labeling for roxadustat containing similar warnings even if our Phase 3 clinical trials do not suggest that roxadustat has similar safety issues. Even if the label for roxadustat does not contain all of the warnings contained in the Black Box warning for ESAs, the label for roxadustat may contain other warnings that limit the market opportunity for roxadustat. These warnings could include warnings against exceeding specified Hb targets and other warnings that derive from the lack of clarity regarding the basis for the safety issues associated with ESAs, even if our Phase 3 clinical trials do not themselves raise safety concerns.

As an organization, we have never completed a Phase 3 clinical trial or submitted a New Drug Application, or NDA, before, and may be unable to do so efficiently or at all for roxadustat or any product candidate we are developing.

We are currently conducting Phase 2 clinical trials for FG-3019 and we may need to conduct additional Phase 2 clinical trials before initiating our Phase 3 clinical trials for FG-3019. We intend to conduct Phase 3 clinical trials of roxadustat, and if our Phase 2 clinical trials are successful for FG-3019, we intend to conduct Phase 3 clinical trials for FG-3019. The conduct of Phase 3 clinical trials and the submission of a successful NDA is a complicated process. As an organization, we have not completed a Phase 3 clinical trial before, have limited experience in preparing, submitting and prosecuting regulatory filings, and have not submitted an NDA before. Consequently, we may be unable to successfully and efficiently execute and complete necessary clinical trials in a way that leads to NDA submission and approval of roxadustat or for any other product candidate we are developing, even if our earlier stage clinical trials are successful. We may require more time and incur greater costs than our competitors and may not succeed in obtaining regulatory approvals of product candidates that we develop. Failure to commence or complete, or delays in, our planned clinical trials would prevent us from or delay us in commercializing roxadustat or any other product candidate we are developing.

If we are unable to establish sales, marketing and distribution capabilities or enter into or maintain agreements with third parties to market and sell our product candidates, we may not be successful in commercializing our product candidates if and when they are approved.

We do not have a sales or marketing infrastructure and have no experience in the sales, marketing or distribution of pharmaceutical products in any country. To achieve commercial success for any product for which we obtain marketing approval, we will need to establish sales and marketing capabilities or make and maintain our existing arrangements with third parties to perform these services at a level sufficient to support our commercialization efforts.

To the extent that we would undertake sales and marketing of any of our products directly, there are risks involved with establishing our own sales, marketing and distribution capabilities. Factors that may inhibit our efforts to commercialize our products on our own include:

- our inability to recruit, train and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future products;
- our inability to effectively manage geographically dispersed sales and marketing teams;
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

With respect to roxadustat, we are dependent on the commercialization capabilities of our collaboration partners, AstraZeneca and Astellas. If either such partner were to terminate its agreement with us, we would have to commercialize on our own or with another third party. We will have limited or little control over the commercialization efforts of such third parties, and either of them may fail to devote the necessary resources and attention to sell and market our products, if any, effectively. If they are not successful in commercializing our product candidates, our business and financial condition would suffer.

We face substantial competition, which may result in others discovering, developing or commercializing products before, or more successfully, than we do.

The development and commercialization of new pharmaceutical products is highly competitive. Our future success depends on our ability to achieve and maintain a competitive advantage with respect to the development and commercialization of our product candidates. Our objective is to discover, develop and commercialize new products with superior efficacy, convenience, tolerability and safety. We expect that in many cases, the products that we commercialize will compete with existing, market-leading products of companies that have large, established commercial organizations.

If roxadustat is approved and launched commercially, competing drugs are expected to include ESAs such as EPOGEN® and Aranesp®, commercialized by Amgen Inc., Procrit® and Eprex®, commercialized by Johnson & Johnson Inc., and Mircera®, which has received marketing approval in the United States, has been commercialized by Hoffmann-La Roche, or Roche, outside of the United States, and which Roche is able to commercialize in the United States beginning in mid-2014 if it chooses to do so. ESAs currently comprise the standard of care in the treatment of anemia in CKD, serving a significant majority of dialysis patients on Medicare. It may be difficult to encourage treatment providers and patients to switch from products with which they have become familiar to roxadustat. We may also face competition from potential new anemia therapies currently in clinical development. For example, there are several other HIF product candidates in various stages of active development for anemia indications that may be in competition with roxadustat for patient recruitment and enrollment for clinical trials and may be in direct competition with roxadustat if and when it is approved and launched commercially. These candidates are being developed by such companies as Akebia Pharmaceuticals, Inc., or Akebia, Bayer Corporation, GlaxoSmithKline plc and Japan Tobacco Inc. Some of these product candidates may enter the market prior to roxadustat. There may be new therapies for renal-related diseases that could limit the market or level of reimbursement available for roxadustat if and when it is commercialized.

The introduction of biosimilars for ESAs into the market in the United States will likely also increase the competition for roxadustat if approved. A biosimilar product is a follow-on version of an existing, branded biologic product. Under current laws, an application for a biosimilar product should not be approved by the FDA until 12 years after the existing, patent-protected product was approved under a Biologics License Application, or BLA. The patents for the existing, branded product must expire in a given market before biosimilars may enter

that market with limited or no risk of being sued for patent infringement. The patents for epoetin alfa, a version of EPOGEN, expired in 2004 in the European Union, and the remaining patents have expired or will expire between 2012 and 2015 in the United States. Several biosimilar versions of currently marketed ESAs are available for sale in the EU and other biosimilars are currently under development, including in the United States.

Furthermore, in the case of roxadustat, many of our existing and potential competitors have distribution relationships with leading dialysis providers and customers as well as brand recognition and reimbursement. Two of the largest operators of dialysis clinics in the United States, DaVita Healthcare Partners Inc., or DaVita, and Fresenius SE & Co. KGaA, or Fresenius, represent more than 60% of the dialysis market in the United States and have entered into long-term sales agreements with Amgen that began in January 2012, which in the case of Fresenius, includes an exclusive relationship. As a result, successful penetration of this market would require AstraZeneca to reach a significant agreement with Fresenius or DaVita, the two largest dialysis clinics in the United States, on favorable terms and on a timely basis.

If FG-3019 is approved and launched commercially to treat IPF, competing drugs are expected to include pirfenidone which is approved for marketing in Europe, Canada and Japan and which InterMune has resubmitted for approval in the United States. We will also likely face competition from potential new IPF therapies. For example, Boehringer Ingelheim GmbH has submitted for accelerated approval in the EU and submitted for approval, and received priority review designation, in the United States for its product candidate, nintedanib, for the treatment of IPF, and is also in development for non-small cell lung cancer and ovarian cancer. Other potential competitive product candidates in various stages of Phase 2 development for IPF include Gilead Sciences, Inc.'s simtuzumab, Celgene Corporation's CC-4047 and CC-930, Janssen Biotech, Inc. and Johnson & Johnson Inc.'s CNTO-888, Sanofi's GC-1008, Novartis' QAX-576 and Biogen Idec's STX-100.

If FG-3019 is approved and launched commercially to treat pancreatic cancer, we expect it to be used in combination instead of as monotherapy; and, likely competition for FG-3019 would be from other agents also seeking approval in combination with gemcitibine and nab-paclitaxel from companies such as Threshold Pharmaceuticals, Inc., Gilead Sciences, Inc. and Halozyme Therapeutics, Inc. Gemcitabine and/or nab-paclitaxel are the current standard of care in the first-line treatment of metastatic pancreatic cancer. Celgene Corporation's Abraxane® (nab-paclitaxel) was launched in the U.S. and Europe in 2013 and 2014, respectively, and was the first drug approved in this disease in nearly a decade. Other chemotherapies include capecitabine (Xeloda®), oxaliplatin (Eloxatin®), fluorouracil or leucovorin. There are a number of product candidates in clinical trials for pancreatic cancer, many of which are in combination with existing chemotherapies, as both first-line and second-line therapy for metastatic pancreatic cancer. In a recent Phase 3 clinical trial in first-line metastatic pancreatic cancer comparing gemcitabine with the regimen known as FOLFIRINOX, which is a combination of oxaliplatin, irinotecan, fluorouracil and leucovorin. Merrimack Pharmaceuticals, Inc. is currently conducting a pivotal Phase 3 clinical trial of MM-398 for the treatment of patients with metastatic pancreatic cancer who have previously failed treatment with gemcitabine.

The success of any or all of these potential competitive products may negatively impact the development and potential for success of FG-3019. In addition, any competitive products that are on the market or in development may compete with FG-3019 for patient recruitment and enrollment for clinical trials or may force us to change our clinical trial comparators, whether placebo or active, in order to compare FG-3019 against another drug, which may be the new standard of care.

Moreover, many of our competitors have significantly greater resources than we do. Large pharmaceutical companies, in particular, have extensive experience in clinical testing, obtaining regulatory approvals, recruiting patients, manufacturing pharmaceutical products, and commercialization. In the potential anemia market for roxadustat, for example, large and established companies such as Amgen and Roche, among others, compete aggressively to maintain their market shares. In particular, these companies have greater experience and expertise in securing reimbursement, government contracts and relationships with key opinion leaders; conducting testing

and clinical trials; obtaining and maintaining regulatory approvals and distribution relationships to market products; and marketing approved products. These companies also have significantly greater research and marketing capabilities than we do and may also have products that have been approved or are in later stages of development, and have collaboration agreements in our target markets with leading dialysis companies and research institutions. These competitors have in the past successfully prevented new and competing products from entering into the anemia market, and we expect that their resources will represent challenges for us and our collaboration partners, AstraZeneca and Astellas. If we and our collaboration partners are not able to compete effectively against existing and potential competitors, our business and financial condition may be materially and adversely affected.

Our future commercial success depends upon attaining significant market acceptance of our product candidates, if approved, among physicians, patients, third party payors and others in the health care community.

Even if we obtain marketing approval for roxadustat, FG-3019 or any other product candidates that we may develop or acquire in the future, these product candidates may not gain market acceptance among physicians, third party payors, patients and others in the health care community. Market acceptance of any approved product depends on a number of other factors, including:

- the clinical indications for which the product is approved and the labeling required by regulatory authorities for use with the product, including any warnings that may be required in the labeling;
- acceptance by physicians and patients of the product as a safe and effective treatment and the willingness of the target patient population to try new therapies and of physicians to prescribe new therapies;
- the cost, safety, efficacy and convenience of treatment in relation to alternative treatments;
- the restrictions on the use of our products together with other medications, if any;
- the availability of adequate coverage and reimbursement or pricing by third party payors and government authorities;
- the ability of treatment providers, such as dialysis clinics, to enter into relationships with us without violating their existing agreement; and
- the effectiveness of our sales and marketing efforts.

For example, in the case of roxadustat, two of the largest operators of dialysis clinics in the United States, DaVita and Fresenius, represent more than 60% of the dialysis market in the United States and have entered into long-term sales agreements with Amgen that began in January 2012, which in the case of Fresenius, includes an exclusive relationship.

Limited reimbursement or insurance coverage of our approved products, if any, by third party payors may render our products less attractive to patients and healthcare providers.

Market acceptance and sales of any approved products will depend significantly on reimbursement or coverage of our products by third party payors and may be affected by existing and future healthcare reform measures or the prices of related products for which reimbursement third party applies. Coverage and reimbursement by a third party payor may depend upon a number of factors, including the third party payor’s determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

Obtaining coverage and reimbursement approval for a product from a government or other third party payor is a time consuming and costly process that could require us to provide supporting scientific, clinical and cost-effectiveness data for the use of our products to the payor, which we may not be able to provide. Furthermore, the reimbursement policies of third party payors may significantly change in a manner that renders our clinical data insufficient for adequate reimbursement or otherwise limits the successful marketing of our products. Even if we obtain coverage for our product candidates, third party payors may not establish adequate reimbursement amounts, which may reduce the demand for, or the price of, our products. If reimbursement is not available or is available only to limited levels, we may not be able to commercialize certain of our products.

In countries outside of the United States, price controls may limit the price at which products such as roxadustat, if approved, are sold. For example, reference pricing is used by various European Union member states and parallel distribution, or arbitrage between low-priced and high-priced member states, can further reduce prices. In some countries, we or our partner may be required to conduct a clinical trial or other studies that compare the cost-effectiveness of our product candidates to other available products in order to obtain or maintain reimbursement or pricing approval. Publication of discounts by third party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unacceptable levels, we or our partner may elect not to commercialize our products in such countries, and our business and financial condition could be adversely affected.

Risks Related to Our Reliance on Third Parties

If our collaborations with Astellas or AstraZeneca were terminated, or if Astellas or AstraZeneca were to prioritize other initiatives over their collaborations with us, whether as a result of a change of control or otherwise, our ability to successfully develop and commercialize our lead product candidate, roxadustat, would suffer.

We have entered into collaboration agreements with respect to the development and commercialization of our lead product candidate, roxadustat, with Astellas and AstraZeneca. These agreements provide for reimbursement of our development costs by our collaboration partners and also provide for commercialization of roxadustat throughout the major territories of the world.

Our agreements with Astellas and AstraZeneca provide each of them with the right to terminate their respective agreements with us, upon the occurrence of negative clinical results, delays in the development and commercialization of our product candidates or adverse regulatory requirements or guidance. The termination of any of our collaboration agreements would require us to fund and perform the further development and commercialization of roxadustat in the affected territory, or pursue another collaboration, which we may be unable to do, either of which could have an adverse effect on our business and operations. In addition, each of those agreements provides our respective partners the right to terminate any of those agreements upon written notice for convenience. Moreover, if Astellas or AstraZeneca, or any successor entity, were to determine that their collaborations with us are no longer a strategic priority, or if either of them or a successor were to reduce their level of commitment to their collaborations with us, our ability to develop and commercialize roxadustat could suffer. In addition, some of our collaborations are exclusive and preclude us from entering into additional collaboration agreements with other parties in the area or field of exclusivity.

If we fail to establish and maintain strategic collaborations related to our product candidates, we will bear all of the risk and costs related to the development and commercialization of any such product candidate, and we may need to seek additional financing, hire additional employees and otherwise develop expertise at significant cost. This in turn may negatively affect the development of our other product candidates as we direct resources to our most advanced product candidates.

Conflicts with our collaboration partners could jeopardize our collaboration agreements and our ability to commercialize product candidates.

Our collaboration partners have certain rights to control decisions regarding the development and commercialization of our product candidates with respect to which they are providing funding. If we have a

disagreement over strategy and activities, our plans for obtaining approval may be revised and negatively affect the anticipated timing and potential for success of our product candidates. Even if a product under a collaboration agreement is approved, we will remain substantially dependent on the commercialization strategy and efforts of our collaboration partners, and neither of our collaboration partners has experience in commercialization of a novel drug such as roxadustat in the dialysis market.

With respect to our collaboration agreements for roxadustat, there are additional complexities in that we and our collaboration partners, Astellas and AstraZeneca, must reach consensus on our Phase 3 development program. Multi-party decision-making is complex and involves significant time and effort, and there can be no assurance that the parties will cooperate or reach consensus, or that one or both of our partners will not ask to proceed independently in some or all of their respective territories or functional areas of responsibility in which the applicable collaboration partner would otherwise be obligated to cooperate with us. Any disputes or lack of cooperation with us by either Astellas or AstraZeneca may negatively impact the timing or success of our planned Phase 3 clinical studies.

We intend to conduct proprietary research programs in specific disease areas that are not covered by our collaboration agreements. Our pursuit of such opportunities could, however, result in conflicts with our collaboration partners in the event that any of our collaboration partners takes the position that our internal activities overlap with those areas that are exclusive to our collaboration agreements, and we should be precluded from such internal activities. Moreover, disagreements with our collaboration partners could develop over rights to our intellectual property. In addition, our collaboration agreements may have provisions that give rise to disputes regarding the rights and obligations of the parties. Any conflict with our collaboration partners could lead to the termination of our collaboration agreements, delay collaborative activities, reduce our ability to renew agreements or obtain future collaboration agreements or result in litigation or arbitration and would negatively impact our relationship with existing collaboration partners.

Certain of our collaboration partners could also become our competitors in the future. If our collaboration partners develop competing products, fail to obtain necessary regulatory approvals, terminate their agreements with us prematurely or fail to devote sufficient resources to the development and commercialization of our product candidates, the development and commercialization of our product candidates and products could be delayed.

We rely on third parties for the conduct of most of our preclinical and clinical trials for our product candidates, and if our third party contractors do not properly and successfully perform their obligations under our agreements with them, we may not be able to obtain or may be delayed in receiving regulatory approvals for our product candidates.

We rely heavily on university, hospital, dialysis centers and other institutions and third parties, including the principal investigators and their staff, to carry out our clinical trials in accordance with our clinical protocols and designs. We also rely on a number of third party contract research organizations, or CROs, to assist in undertaking, managing, monitoring and executing our ongoing clinical trials, including those for roxadustat. We expect to continue to rely on CROs, clinical data management organizations, medical institutions and clinical investigators to conduct our development efforts in the future, including our Phase 3 development program for roxadustat. We compete with many other companies for the resources of these third parties, and large pharmaceutical companies often have significantly more extensive agreements and relationships with such third party providers, and such third party providers may prioritize the requirements of such large pharmaceutical companies over ours. The third parties on whom we rely may terminate their engagements with us at any time, which may cause delay in the development and commercialization of our product candidates. If any such third party terminates its engagement with us or fails to perform as agreed, we may be required to enter into alternative arrangements, which would result in significant cost and delay to our product development program. Moreover, our agreements with such third parties generally do not provide assurances regarding employee turnover and availability, which may cause interruptions in the research on our product candidates by such third parties.

Moreover, while our reliance on these third parties for certain development and management activities will reduce our control over these activities, it will not relieve us of our responsibilities. For example, the FDA and foreign regulatory authorities require compliance with regulations and standards, including good clinical practices, or GCP, requirements, for designing, conducting, monitoring, recording, analyzing and reporting the results of clinical trials to ensure that the data and results from trials are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. Although we rely on third parties to conduct our clinical trials, we are responsible for ensuring that each of these clinical trials is conducted in accordance with its general investigational plan and protocol under legal and regulatory requirements. Regulatory authorities enforce these GCP requirements through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of our CROs fail to comply with applicable GCP requirements, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or other regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that upon inspection by a regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP requirements.

If CROs and other third parties do not successfully carry out their duties under their agreements with us, if the quality or accuracy of the data they obtain is be compromised due to their failure to adhere to trial protocols or to regulatory requirements, or if they otherwise fail to comply with regulations and trial protocols or meet expected standards or deadlines, the trials of our product candidates may not meet regulatory requirements. If trials do not meet regulatory requirements or if these third parties need to be replaced, the development of our product candidates may be delayed, suspended or terminated, or the results may not be acceptable. If any of these events occur, we may not be able to obtain regulatory approval of our product candidates on a timely basis, at a reasonable cost, or at all.

We currently rely, and expect to continue to rely, on third parties to conduct many aspects of our product manufacturing, and these third parties may not perform satisfactorily.

We do not have any operating manufacturing facilities at this time, and our current manufacturing facility plans in China are not expected to satisfy the requirements necessary to support roxadustat development and commercialization outside of China. Other than in and for China specifically, we do not expect to independently manufacture our products. We currently rely, and expect to continue to rely, on third parties to scale-up, manufacture and supply roxadustat and our other product candidates outside of China. Risks arising from our reliance on third party manufacturers include:

- reduced control and additional burdens of oversight as a result of using third party manufacturers for all aspects of manufacturing activities, including regulatory compliance and quality control and assurance;
- termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that may negatively impact our planned development and commercialization activities;
- the possible misappropriation of our proprietary technology, including our trade secrets and know-how; and
- disruptions to the operations of our third party manufacturers or suppliers unrelated to our product, including the bankruptcy of the manufacturer or supplier or a catastrophic event affecting our manufacturers or suppliers.

Any of these events could lead to development delays or failure to obtain regulatory approval, or affect our ability to successfully commercialize our product candidates. Some of these events could be the basis for action by the FDA or another regulatory authority, including injunction, recall, seizure or total or partial suspension of production.

The facilities used by our contract manufacturers to manufacture our product candidates must pass inspections by the FDA and other regulatory authorities. Although, except for China, we do not control the manufacturing operations of, and expect to remain completely dependent on, our contract manufacturers for manufacture of

drug substance and finished drug product, we are ultimately responsible for ensuring that our product candidates are manufactured in compliance with cGMP requirements. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the regulatory requirements of the FDA or other regulatory authorities, we will not be able to secure and/or maintain regulatory approval for our product candidates. In addition, we have no control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. In addition, although our longer-term agreements are expected to provide for requirements to meet our quantity and quality requirements to manufacture our products candidates for clinical studies and commercial sale, we will have minimal direct control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel and we expect to rely on our audit rights to ensure that those qualifications are maintained to meet our requirements. If our contract manufacturers' facilities do not pass inspection by regulatory authorities, or if regulatory authorities do not approve these facilities for the manufacture of our products, or withdraw any such approval in the future, we would need to identify and qualify alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our products, if approved. Moreover, any failure of our third party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us or adverse regulatory consequences, including clinical holds, warnings or untitled letters, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which would be expected to significantly and adversely affect supplies of our products to us and our collaboration partners.

Any of our third party manufacturers may terminate their engagement with us at any time and we have not yet entered into any commercial supply agreements for the manufacture of active pharmaceutical ingredient or drug product. With respect to roxadustat, AstraZeneca and Astellas have certain rights to assume manufacturing of roxadustat and the existence of those rights may limit our ability to enter into favorable long-term supply agreements, if at all, with other third party manufacturers. In addition, our product candidates and any products that we may develop may compete with other product candidates and products for access and prioritization to manufacture. Certain third party manufacturers may be contractually prohibited from manufacturing our product due to non-compete agreements with our competitors or a commitment to grant another party priority relative to our products. There are a limited number of third party manufacturers that operate under cGMP and that might be capable of manufacturing to meet our requirements. Due to the limited number of third party manufacturers with the contractual freedom, expertise, required regulatory approvals and facilities to manufacture our products on a commercial scale, identifying and qualifying a replacement third party manufacturer would be expensive and time-consuming and may cause delay or interruptions in the production of our product candidates or products, which in turn may delay, prevent or impair our development and commercialization efforts.

We have a letter agreement with IRIX Pharmaceuticals, Inc., or IRIX, a third party manufacturer that we have used in the past, pursuant to which we agreed to negotiate a single source manufacturing agreement that included a right of first negotiation for the cGMP manufacture of HIF-PH inhibitors, including roxadustat, provided that IRIX is able to match any third party bids within 5%. The exclusive right to manufacture extends for five years after approval of an NDA for those compounds, and any agreement would provide that no minimum amounts would be specified until appropriate by forecast, that we and a commercialization partner would have the rights to contract with independent third parties that exceed IRIX's internal manufacturing capabilities or in the event that we or our commercialization partner determines for reasons of continuity of supply and security that such a need exists, provided that IRIX would supply no less than 65% of the product if it is able to provide this level of supply. Subsequent to the letter agreement, we and IRIX have entered into several additional service agreements. IRIX has requested in writing that we honor the letter agreement with respect to the single source manufacturing agreement, and if we were to enter into any such exclusive manufacturing agreement, there can be no assurance that IRIX will not assert a claim for right to manufacture roxadustat or that IRIX could manufacture roxadustat successfully and in accordance with applicable regulations for a commercial product and the specifications of our collaboration partners.

If any third party manufacturer terminates its engagement with us or fails to perform as agreed, we may be required to find replacement manufacturers, which would result in significant cost and delay to our development programs. Although we believe that there are several potential alternative manufacturers who could manufacture our product candidates, we may incur significant delays and added costs in identifying, qualifying and contracting with any such third party or potential second source manufacturer. In any event, with any third party manufacturer we expect to enter into technical transfer agreements and share our know-how with the third party manufacturer, which can be time-consuming and may result in delays. These delays could result in a suspension or delay of our Phase 3 clinical trials or, if roxadustat is approved and marketed, a failure to satisfy patient demand.

Certain of the components of our product candidates are acquired from single-source suppliers and have been purchased without long-term supply agreements. The loss of any of these suppliers, or their failure to supply us with supplies of sufficient quantity and quality to complete our drug substance or finished drug product of acceptable quality and an acceptable price, would materially and adversely affect our business.

We do not have an alternative supplier of certain components of our product candidates. To date, we have used purchase orders for the supply of materials that we use in our product candidates. We may be unable to enter into long-term commercial supply arrangements with our vendors, or do so on commercially reasonable terms, which could have a material adverse impact upon our business. In addition, we currently rely on our contract manufacturers to purchase from third-party suppliers some of the materials necessary to produce our product candidates. We do not have direct control over the acquisition of those materials by our contract manufacturers. Moreover, we currently do not have any agreements for the commercial production of those materials.

The logistics of our supply chain, which includes shipment of materials and intermediates from countries such as China and India adds additional time and risk to the manufacture of our product candidates. While we have in the past maintained sufficient inventory of materials, active pharmaceutical ingredient, or API, and drug product to meet our and our collaboration partners' needs for roxadustat to date, the lead time and regulatory approvals required to source from and into countries outside of the United States increases the risk of delay and potential shortages of supply.

Risks Related to Our Intellectual Property

If our efforts to protect our proprietary technologies are not adequate, we may not be able to compete effectively in our market.

We rely upon a combination of patents, trade secret protection and contractual arrangements to protect the intellectual property related to our technologies. We will only be able to protect our products and proprietary information and technology by preventing unauthorized use by third parties to the extent that our patents, trade secrets, and contractual position allow us to do so. Any disclosure to or misappropriation by third parties of our trade secrets or confidential information could compromise our competitive position. Moreover, we are involved in, have in the past been involved in, and may in the future be involved in legal or administrative proceedings involving our intellectual property and initiated by third parties, which proceedings can result in significant costs and commitment of management time and attention. As our product candidates continue in development, third parties may attempt to challenge the validity and enforceability of our patents and proprietary information and technologies.

We also are involved in, have in the past been involved in, and may in the future be involved in initiating legal or administrative proceedings involving the product candidates and intellectual property of our competitors. These proceedings can result in significant costs and commitment of management time and attention, and there can be no assurance that our efforts would be successful in preventing or limiting the ability of our competitors to market competing products.

Composition-of-matter patents relating to the active pharmaceutical ingredient are generally considered to be the strongest form of intellectual property protection for pharmaceutical products, as such patents provide protection

not limited to any one method of use. Method-of-use patents protect the use of a product for the specified method(s), and do not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. We rely on a combination of these and other types of patents to protect our product candidates, and there can be no assurance that our intellectual property will create and sustain the competitive position of our product candidates.

Biotechnology and pharmaceutical product patents involve highly complex legal and scientific questions and can be uncertain. Any patent applications that we own or license may fail to result in issued patents. Even if patents do successfully issue from our applications, third parties may challenge their validity or enforceability, which may result in such patents being narrowed, invalidated, or held unenforceable. Even if our patents and patent applications are not challenged by third parties, those patents and patent applications may not prevent others from designing around our claims and may not otherwise adequately protect our product candidates. If the breadth or strength of protection provided by the patents and patent applications we hold with respect to our product candidates is threatened, competitors with significantly greater resources could threaten our ability to commercialize our product candidates. Discoveries are generally published in the scientific literature well after their actual development, and patent applications in the United States and other countries are typically not published until 18 months after filing, and in some cases are never published. Therefore, we cannot be certain that we or our licensors were the first to make the inventions claimed in our owned and licensed patents or patent applications, or that we or our licensors were the first to file for patent protection covering such inventions. Subject to meeting other requirements for patentability, for United States patent applications filed prior to March 16, 2013, the first to invent the claimed invention is entitled to receive patent protection for that invention while, outside the United States, the first to file a patent application encompassing the invention is entitled to patent protection for the invention. The United States moved to a “first to file” system under the Leahy-Smith America Invents Act, or AIA, effective March 16, 2013. The effects of this change and other elements of the AIA are currently unclear, as the United States Patent and Trademark Office, or USPTO, is still implementing associated regulations, and the applicability of the AIA and associated regulations to our patents and patent applications have not been fully determined. This new system also includes new procedures for challenging issued patents and pending patent applications, which creates additional uncertainty. We may become involved in opposition or interference proceedings challenging our patents and patent applications or the patents and patent applications of others, and the outcome of any such proceedings are highly uncertain. An unfavorable outcome in any such proceedings could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology and compete directly with us, or result in our inability to manufacture, develop or commercialize our product candidates without infringing the patent rights of others.

In addition to the protection afforded by patents, we seek to rely on trade secret protection and confidentiality agreements to protect proprietary know-how, information, or technology that is not covered by our patents. Although our agreements require all of our employees to assign their inventions to us, and we require all of our employees, consultants, advisors and any third parties who have access to our trade secrets, proprietary know-how and other confidential information and technology to enter into appropriate confidentiality agreements, we cannot be certain that our trade secrets, proprietary know-how and other confidential information and technology will not be subject to unauthorized disclosure or that our competitors will not otherwise gain access to or independently develop substantially equivalent trade secrets, proprietary know-how and other information and technology. Furthermore, the laws of some foreign countries, in particular, China, where we have operations, do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property globally. If we are unable to prevent unauthorized disclosure of our intellectual property related to our product candidates and technology to third parties, we may not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business and operations.

Intellectual property disputes with third parties and competitors may be costly and time consuming, and may negatively affect our competitive position.

Our commercial success may depend on our avoiding infringement of the patents and other proprietary rights of third parties as well as on enforcing our patents and other proprietary rights against third parties. Pharmaceutical and biotechnology intellectual property disputes are characterized by complex, lengthy and expensive litigation over patents and other intellectual property rights. We may initiate or become a party to, or be threatened with, future litigation or other proceedings regarding intellectual property rights with respect to our product candidates and competing products.

As our product candidates progress toward commercialization, we or our collaboration partners may be subject to patent infringement claims from third parties. We attempt to ensure that our product candidates do not infringe third party patents and other proprietary rights. However, the patent landscape in competitive product areas is highly complex, and there may be patents of third parties of which we are unaware that may result in claims of infringement. Accordingly, there can be no assurance that our product candidates do not infringe proprietary rights of third parties, and parties making claims against us may seek and obtain injunctive or other equitable relief, which could potentially block further efforts to develop and commercialize our product candidates including roxadustat or FG-3019. Any litigation involving defense against claims of infringement, regardless of the merit of such claims, would involve substantial litigation expense and would be a substantial diversion of management time.

We intend, if necessary, to vigorously enforce our intellectual property in order to protect the proprietary position of our product candidates, including roxadustat and FG-3019. Active efforts to enforce our patents may include litigation, administrative proceedings, or both, depending on the potential benefits that might be available from those actions and the costs associated with undertaking those efforts against third parties. We carefully review and monitor publicly available information regarding products that may be competitive with our product candidates and assert our intellectual property rights where appropriate. We previously prevailed in an administrative challenge initiated by a major biopharmaceutical company regarding our intellectual property rights, maintaining our intellectual property in all relevant scope, and will continue to protect and enforce our intellectual property rights. Moreover, third parties may continue to initiate new proceedings in the U.S. and foreign jurisdictions to challenge our patents from time to time.

We may consider administrative proceedings and other means for challenging third party patents and patent applications. Third parties may also challenge our patents and patent applications, through interference, reexamination, *inter partes* review, and post-grant review proceedings before the USPTO or through other comparable proceedings, such as oppositions or invalidation proceedings, before foreign patent offices. An unfavorable outcome in any such challenge could require us to cease using the related technology and to attempt to license rights to it from the prevailing third party, which may not be available on commercially reasonable terms, if at all, in which case our business could be harmed. Even if we are successful, participation in administrative proceedings before the USPTO or a foreign patent office may result in substantial costs and time on the part of our management and other employees. For example, on December 5, 2013, Akebia filed an opposition to our European Patent No. 1463823, or the ‘823 patent, with the European Patent Office, and Akebia and other third parties may initiate or pursue similar proceedings with the European Patent Office or other corresponding foreign jurisdictions. The granted claims of the ‘823 patent encompass the use of roxadustat for the treatment of anemia. While we believe the ‘823 patent will be upheld in its entirety, the ultimate outcome of the opposition remains uncertain, and ultimate resolution of the proceeding may take a number of years and result in substantial costs to us.

Furthermore, there is a risk that any public announcements concerning the status or outcomes of intellectual property litigation or administrative proceedings may adversely affect the price of our stock. If securities analysts or our investors interpret such status or outcomes as negative or otherwise creating uncertainty, our common stock price may be adversely affected.

Our reliance on third parties and agreements with collaboration partners requires us to share our trade secrets, which increases the possibility that a competitor may discover them or that our trade secrets will be misappropriated or disclosed.

Our reliance on third party contractors to develop and manufacture our product candidates is based upon agreements that limit the rights of the third parties to use or disclose our confidential information, including our trade secrets and know-how. Despite the contractual provisions, the need to share trade secrets and other confidential information increases the risk that such trade secrets and information are disclosed or used, even if unintentionally, in violation of these agreements. In the highly competitive markets in which our product candidates are expected to compete, protecting our trade secrets, including our strategies for addressing competing products, is imperative, and any unauthorized use or disclosure could impair our competitive position and may have a material adverse effect on our business and operations.

In addition, our collaboration partners are larger, more complex organizations than ours, and the risk of inadvertent disclosure of our proprietary information may be increased despite their internal procedures and contractual obligations in place with our collaboration partners. Despite our efforts to protect our trade secrets and other confidential information, a competitor's discovery of such trade secrets and information could impair our competitive position and have an adverse impact on our business.

We have an extensive worldwide patent portfolio. The cost of maintaining our patent protection is high and maintaining our patent protection requires continuous review and compliance in order to maintain worldwide patent protection. We may not be able to effectively maintain our intellectual property position throughout the major markets of the world.

The USPTO and foreign patent authorities require maintenance fees and payments as well as continued compliance with a number of procedural and documentary requirements. Noncompliance may result in abandonment or lapse of the subject patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance may result in reduced royalty payments for lack of patent coverage in a particular jurisdiction from our collaboration partners or may result in competition, either of which could have a material adverse effect on our business.

We have made, and will continue to make, certain strategic decisions in balancing costs and the potential protection afforded by the patent laws of certain countries. As a result, we may not be able to prevent third parties from practicing our inventions in all countries throughout the world, or from selling or importing products made using our inventions in and into the United States or other countries. Third parties may use our technologies in territories in which we have not obtained patent protection to develop their own products and, further, may infringe our patents in territories which provide inadequate enforcement mechanisms, even if we have patent protection. Such third party products may compete with our product candidates, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

The laws of some foreign countries do not protect proprietary rights to the same extent as do the laws of the United States, and we may encounter significant problems in securing and defending our intellectual property rights outside the United States.

Many companies have encountered significant problems in protecting and defending intellectual property rights in certain countries. The legal systems of certain countries, particularly certain developing countries such as China, do not always favor the enforcement of patents, trade secrets, and other intellectual property rights, particularly those relating to pharmaceutical and biotechnology products, which could make it difficult for us to stop infringement of our patents, misappropriation of our trade secrets, or marketing of competing products in violation of our proprietary rights. In China, our intended establishment of significant operations will depend in substantial part on our ability to effectively enforce our intellectual property rights in that country. Proceedings to enforce our intellectual property rights in foreign countries could result in substantial costs and divert our efforts and attention from other aspects of our business, and could put our patents in these territories at risk of being

invalidated or interpreted narrowly, or our patent applications at risk of not granting, and could provoke third parties to assert claims against us. We may not prevail in all legal or other proceedings that we may initiate and, if we were to prevail, the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Intellectual property rights do not address all potential threats to any competitive advantage we may have.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and intellectual property rights may not adequately protect our business or permit us to maintain our competitive advantage. The following examples are illustrative:

- Others may be able to make compounds that are the same as or similar to our current or future product candidates but that are not covered by the claims of the patents that we own or have exclusively licensed.
- We or any of our licensors or strategic partners might not have been the first to make the inventions covered by the issued patent or pending patent application that we own or have exclusively licensed.
- We or any of our licensors or strategic partners might not have been the first to file patent applications covering certain of our inventions.
- Others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights.
- The prosecution of our pending patent applications may not result in granted patents.
- Granted patents that we own or have exclusively licensed may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors.
- Patent protection on our product candidates may expire before we are able to develop and commercialize the product, or before we are able to recover our investment in the product.
- Our competitors might conduct research and development activities in the United States and other countries that provide a safe harbor from patent infringement claims for such activities, as well as in countries in which we do not have patent rights, and may then use the information learned from such activities to develop competitive products for sale in markets where we intend to market our product candidates.

The existence of counterfeit pharmaceutical products in pharmaceutical markets may damage our brand and reputation and have a material adverse effect on our business, operations and prospects.

Counterfeit products, including counterfeit pharmaceutical products, are a significant problem, particularly in China. Counterfeit pharmaceuticals are products sold under the same or very similar brand names and/or having a similar appearance to genuine products, but which are sold without proper licenses or approvals. Such products divert sales from genuine products, often are of lower cost, often are of lower quality (having different ingredients or formulations, for example), and have the potential to damage the reputation for quality and effectiveness of the genuine product. If counterfeit pharmaceuticals illegally sold under our brand name result in adverse side effects to consumers, we may be associated with any negative publicity resulting from such incidents. In addition, consumers may buy counterfeit pharmaceuticals that are in direct competition with our pharmaceuticals, which could have an adverse impact on our revenues, business and results of operations. With respect to China, although the government has recently been increasingly active in policing counterfeit pharmaceuticals, there is not yet an effective counterfeit pharmaceutical regulation control and enforcement system in China. As a result, we may not be able to prevent third parties from selling or purporting to sell our products in China. The proliferation of counterfeit pharmaceuticals has grown in recent years and may continue to grow in the future. The existence of and any increase in the sales and production of counterfeit pharmaceuticals, or the technological capabilities of counterfeiters, could negatively impact our revenues, brand reputation, business and results of operations.

Risks Related to Government Regulation

The regulatory approval process is highly uncertain and we may not obtain regulatory approval for the commercialization of our product candidates.

The time required to obtain approval by the FDA and comparable foreign regulatory authorities is unpredictable, but typically takes many years following the commencement of preclinical studies and clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any product candidate, and it is possible that neither roxadustat nor FG-3019, nor any future product candidates we may discover, in-license or acquire and seek to develop in the future, will ever obtain regulatory approval.

Our product candidates could fail to receive regulatory approval from the FDA or other regulatory authorities for many reasons, including:

- disagreement over the design or implementation of our clinical trials;
- failure to demonstrate that a product candidate is safe and effective for its proposed indication;
- failure of clinical trials to meet the level of statistical significance required for approval;
- failure to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- disagreement over our interpretation of data from preclinical studies or clinical trials;
- disagreement over whether to accept efficacy results from clinical trial sites outside the United States where the standard of care is potentially different from that in the United States;
- the insufficiency of data collected from clinical trials of our present or future product candidates to support the submission and filing of an NDA or other submission or to obtain regulatory approval;
- disapproval of the manufacturing processes or facilities of either our manufacturing plant or third party manufacturers with whom we contract for clinical and commercial supplies; or
- changes in the approval policies or regulations that render our preclinical and clinical data insufficient for approval.

The FDA or other regulatory authorities may require more information, including additional preclinical or clinical data to support approval, which may delay or prevent approval and our commercialization plans, or we may decide to abandon the development program altogether. Even if we do obtain regulatory approval, our product candidates may be approved for fewer or more limited indications than we request, approval may be contingent on the performance of costly post-marketing clinical trials, or approval may require labeling that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. In addition, if our product candidates produce undesirable side effects or safety issues, the FDA may require the establishment of REMS or other regulatory authorities may require the establishment of a similar strategy, that may, restrict distribution of our approved products, if any, and impose burdensome implementation requirements on us. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

Even if we believe our current or planned clinical trials are successful, regulatory authorities may not agree that our completed clinical trials provide adequate data on safety or efficacy. Approval by one regulatory authority does not ensure approval by any other regulatory authority. However, a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others. We may not be able to file for regulatory approvals and even if we file we may not receive the necessary approvals to commercialize our product candidates in any market.

If our product candidates obtain marketing approval, we will be subject to more extensive healthcare laws, regulation and enforcement and our failure to comply with those laws could have a material adverse effect on our results of operations and financial condition.

If we obtain approval for any of our product candidates, the regulatory requirements applicable to our operations, in particular our sales and marketing efforts, will increase significantly with respect to our operations and the potential for civil and criminal enforcement by the federal government and the states and foreign governments will increase with respect to the conduct of our business. The laws that may affect our operations in the United States include:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, to induce, or in return for, the purchase or recommendation of an item or service reimbursable under a federal healthcare program, such as the Medicare and Medicaid programs;
- federal civil and criminal false claims laws and civil monetary penalty laws, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third party payors that are false or fraudulent;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created new federal criminal statutes that prohibit executing a scheme to defraud any healthcare benefit program and making false statements relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology and Clinical Health Act, or HITECH, and its implementing regulations, which imposes certain requirements relating to the privacy, security, and transmission of individually identifiable health information;
- the federal physician sunshine requirements under PPACA, which requires manufacturers of drugs, devices, biologics, and medical supplies to report annually to the Centers for Medicare and Medicaid Services, or CMS, information related to payments and other transfers of value to physicians, other healthcare providers, and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members;
- foreign and state law equivalents of each of the above federal laws, such as the U.S. Foreign Corrupt Practices Act, or FCPA, anti-kickback and false claims laws that may apply to items or services reimbursed by any third party payor, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the applicable compliance guidance promulgated by the federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways, thus complicating compliance efforts.

The scope of these laws and our lack of experience in establishing the compliance programs necessary to comply with this complex and evolving regulatory environment increases the risks that we may violate the applicable laws and regulations. If our operations are found to be in violation of any of such laws or any other governmental regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines, the curtailment or restructuring of our operations, the exclusion from participation in federal and state healthcare programs and imprisonment, any of which could materially adversely affect our ability to operate our business and our financial results.

The impact of recent United States healthcare reform and other changes in the healthcare industry and in healthcare spending is currently unknown, and may adversely affect our business model.

The commercial potential for our approved products, if any, could be affected by changes in healthcare spending and policy in the United States and abroad. We operate in a highly regulated industry and new laws, regulations or judicial decisions, or new interpretations of existing laws, regulations or decisions, related to healthcare availability, the method of delivery or payment for healthcare products and services could negatively impact our business, operations and financial condition.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, also called the MMA, altered Medicare coverage and payments for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for physician-administered drugs. The MMA also provided authority for limiting the number of drugs that will be covered in any therapeutic class and as a result, we expect that there will be additional pressure to reduce costs. For example, the CMS in implementing the MMA has enacted regulations that reduced capitated payments to dialysis providers. These cost reduction initiatives and other provisions of the MMA could decrease the scope of coverage and the price that may be received for any approved dialysis products and could seriously harm our business and financial condition. While the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policies and payment limitations in setting their own reimbursement rates, and any reduction in reimbursement that results from the MMA may cause a similar reduction in payments from private payors. Similar regulations or reimbursement policies have been enacted in many international markets which could similarly impact the commercial potential for our products.

Under the Medicare Improvements for Patients and Providers Act, or MIPPA, a basic case-mix adjusted composite, or bundled, payment system commenced in January 2011 and transitioned fully by January 2014 to a single reimbursement rate for drugs and all services furnished by renal dialysis centers for Medicare beneficiaries with end-stage renal disease. Specifically, under MIPPA the bundle now covers drugs, services, lab tests and supplies under a single treatment base rate for reimbursement by CMS based on the average cost per treatment, including the cost of ESAs and IV iron doses, typically without adjustment for usage. It is unknown whether roxadustat will be included in the payment bundle. If roxadustat is included in the bundle, it may reduce the price that could be charged for roxadustat, and therefore potentially limit our profitability. On the other hand, it is possible that exclusion from the bundle may limit or delay market penetration of roxadustat.

More recently, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively PPACA, was enacted in 2010 with a goal of reducing the cost of healthcare and substantially changing the way healthcare is financed by both government and private insurers. The PPACA, among other things, increases the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extends the rebate program to individuals enrolled in Medicaid managed care organizations, establishes annual fees and taxes on manufacturers of certain branded prescription drugs, and creates a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period as a condition for the manufacturer’s outpatient drugs to be covered under Medicare Part D. In addition, other legislative changes have been proposed and adopted in the United States since the PPACA was enacted. On August 2, 2011, the Budget Control Act of 2011 created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation’s automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of up to 2% per fiscal year, which went into effect on April 1, 2013.

It is likely that federal and state legislatures within the United States and foreign governments will continue to consider changes to existing healthcare legislation. We cannot predict the reform initiatives that may be adopted in the future or whether initiatives that have been adopted will be repealed or modified. The continuing efforts of

the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare may adversely affect:

- the demand for any products that may be approved for sale;
- the price and profitability of our products;
- pricing, coverage and reimbursement applicable to our products;
- the ability to successfully position and market any approved product; and
- the taxes applicable to our pharmaceutical product revenues.

We may not be able to conduct, or contract others to conduct, animal testing in the future, which could harm our research and development activities.

Certain laws and regulations relating to drug development require us to test our product candidates on animals before initiating clinical trials involving humans. Animal testing activities have been the subject of controversy and adverse publicity. Animal rights groups and other organizations and individuals have attempted to stop animal testing activities by pressing for legislation and regulation in these areas and by disrupting these activities through protests and other means. To the extent the activities of these groups are successful, our research and development activities may be interrupted or delayed.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could result in significant liability for us and harm our reputation.

We are exposed to the risk of employee fraud or other misconduct, including intentional failures to comply with FDA regulations or similar regulations of comparable foreign regulatory authorities, provide accurate information to the FDA or comparable foreign regulatory authorities, comply with manufacturing standards we have established, comply with federal and state healthcare fraud and abuse laws and regulations and similar laws and regulations established and enforced by comparable foreign regulatory authorities, comply with the FCPA and other anti-bribery laws, report financial information or data accurately or disclose unauthorized activities to us. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions, delays in clinical trials, or serious harm to our reputation. We will adopt a code of conduct for our directors, officers and employees, or the Code of Business Conduct and Ethics, which will be effective as of consummation of this offering, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could harm our business, results of operations, financial condition and cash flows, including through the imposition of significant fines or other sanctions.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could harm our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties for failure to comply with such laws and regulations. We do

not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations applicable to our operations in the United States and foreign countries. These current or future laws and regulations may impair our research, development or manufacturing efforts. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Risks Related to Our International Operations

We are establishing international operations and seeking approval to commercialize our product candidates outside of the United States, in particular in China, and a number of risks associated with international operations could materially and adversely affect our business.

We expect to be subject to a number risks related with our international operations, many of which may be beyond our control. These risks include:

- different regulatory requirements for drug approvals in foreign countries;
- different standards of care in various countries that could complicate the evaluation of our product candidates;
- different United States and foreign drug import and export rules;
- reduced protection for intellectual property rights in certain countries;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- different reimbursement systems and different competitive drugs indicated to treat the indications for which our product candidates are being developed;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- compliance with the FCPA, and other anti-corruption and anti-bribery laws;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad;
- potential liability resulting from development work conducted by foreign distributors; and
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters.

The pharmaceutical industry in China is highly regulated and such regulations are subject to change.

The pharmaceutical industry in China is subject to comprehensive government regulation and supervision, encompassing the approval, registration, manufacturing, packaging, licensing and marketing of new drugs. See “Business—Government Regulation—Regulation in China” for a discussion of the regulatory requirements that are applicable to our current and planned business activities in China. In recent years, the regulatory framework in China regarding the pharmaceutical industry has undergone significant changes, and we expect that it will continue to undergo significant changes. Any such changes or amendments may result in increased compliance
costs on our business or cause delays in or prevent the successful development or commercialization of our

product candidates in China. Chinese authorities have become increasingly vigilant in enforcing laws in the pharmaceutical industry, in some cases launching industry-wide investigations, oftentimes appearing to focus on foreign companies. The costs and time necessary to respond to an investigation can be material. Any failure by us or our partners to maintain compliance with applicable laws and regulations or obtain and maintain required licenses and permits may result in the suspension or termination of our business activities in China.

Patients' use of traditional Chinese medicine in violation of study protocols in our China studies may lead the CFDA and regulators in other jurisdictions in which are seeking approval to suspend our studies, reject our study data and withhold approval for roxadustat.

A common issue encountered in conducting clinical studies in China is patients' use of traditional Chinese medicine in violation of study protocols. We believe that many patients with anemia in CKD are currently being treated with traditional Chinese medicine, and it is possible that such patients may continue their use of traditional Chinese medicine after enrollment in our studies and in violation of study protocols. If the patients participating in our China clinical studies do not comply with study protocols and continue to use traditional Chinese medicine, adverse events may emerge in our studies that are due to such traditional Chinese medicine or the interaction between such traditional Chinese medicine and roxadustat. In addition, the use of traditional Chinese medicine by patients in our studies may confound our study results. The occurrence of such adverse events or the confounding our study results may lead the China Food and Drug Administration, or CFDA, and regulators in other jurisdictions in which we are seeking approval to, among other things, suspend our studies, reject our study data and withhold approval for roxadustat.

We are building our own manufacturing facility in China to produce roxadustat and clinical trial material for our corneal implant program. As an organization, we have limited experience in the construction or operation of a manufacturing plant, and, accordingly we cannot assure you we will be able to meet regulatory requirements to operate our plant and to sell our products.

We recently received a Pharmaceutical Production Permit, a general manufacturing license, for our facility in China in which we intend to manufacture roxadustat and FG-5200 in support of the clinical development and potential commercialization of these product candidates in China. However, we have not yet received a license to commercially manufacture either roxadustat or FG-5200. As an organization, we have limited experience building a manufacturing facility in the past and our facility must be constructed, licensed and operated in conformity with applicable cGMP requirements. We will be obligated to comply with continuing cGMP requirements and there can be no assurance that we will receive and maintain all of the appropriate licenses required to manufacture our product candidates for clinical and commercial use in China. In addition, we and our product suppliers must continually spend time, money and effort in production, record-keeping and quality assurance and appropriate controls in order to ensure that any products manufactured in our facility meet applicable specifications and other requirements for product safety, efficacy and quality and there can be no assurance that our efforts will succeed for licensure or continue to be successful in meeting these requirements. Moreover, our facility, even if approved for the manufacture of roxadustat, would require separate approval for the separate suite being constructed for the manufacture of FG-5200, whether it is categorized as a medical device or other product under CFDA guidelines. For FG-5200, we expect to convert our existing manufacturing process to an automated process which would require us to show that implants from our new manufacturing process are comparable to the implants from our existing manufacturing process. There can be no assurance that we will successfully receive licensure and maintain approval for the manufacture of either or both of roxadustat or FG-5200, either of which would be expected to delay or preclude our ability to develop and commercialize those product candidates in China and may materially adversely affect our business and operations and prospects in China.

Manufacturing facilities in China are subject to periodic unannounced inspections by the CFDA and other regulatory authorities. We expect to depend on these facilities for our product candidates and business operations in China. Natural disasters or other unanticipated catastrophic events, including power interruptions, water shortages, storms, fires, earthquakes, terrorist attacks, government appropriation of our facility, and wars, could

significantly impair our ability to operate our manufacturing facility and certain equipment, records and other materials located in these facilities would be difficult to replace or require substantial replacement lead time that would impact our ability to successfully commercialize our product candidates in China. The occurrence of any such event could materially and adversely affect our business, financial condition, results of operations, cash flows and prospects.

Our decision to seek approval in China for roxadustat as a domestic new drug may not be accepted, which would result in additional delay and expense.

Our Chinese subsidiary, Beijing FibroGen Medical Technology Co., Ltd., or FibroGen China plans to seek approval for roxadustat in China as a Domestic Class 1.1 Drug, which is not a typical route to approval in China for enterprises with headquarters outside of China. Our submission for review of a New Drug Application under domestic drug regulations rather than under the imported drug regulations may not result in approval, or the regulatory authorities may determine that we are not eligible for approval as a domestic drug, which would require us to obtain approval for roxadustat first in the United States or in Europe and then to prepare and submit a new application for approval of roxadustat in China as an imported drug. This would result in significant delay in our commercialization plans for roxadustat. While we plan to provide the China-only clinical trial data required of a domestic drug, the size of our trial in China and the additional safety data from our global roxadustat Phase 3 program may not be deemed sufficient to receive approval. Elements of our plan for approval of roxadustat and other product candidates in China are based on communications with the CFDA and not on formal written regulations, findings or determinations. Accordingly, while we believe we have understandings with the CFDA regarding the domestic drug approval process and the clinical data currently required for approval, the regulatory authorities may later determine that changes are required in the drug approval process, that additional or different clinical data must be generated, or that the domestic drug route may not be available to FibroGen China, any of which could significantly delay approval of roxadustat or any of our other product candidates, and materially and adversely affect our plans and operations in China.

Even if roxadustat is approved in China, we and our collaboration partner in China, AstraZeneca, may experience difficulties in successfully generating sales of roxadustat in China.

We and AstraZeneca have a profit sharing arrangement with respect to roxadustat in China. Even if roxadustat is approved for sale in China, we and AstraZeneca may experience difficulties in our marketing, commercialization and sales efforts in China, and our business and operations could be adversely affected. In particular, sales of roxadustat in China may be limited due to the complex nature of the healthcare system, low average personal income, lack of patient cost reimbursement, pricing controls, poorly developed infrastructure and potentially rapid competition from other products.

The market for treatments of anemia in CKD in China is highly competitive.

Even if roxadustat is approved in China, it will face intense competition in the market for treatments of anemia in CKD. Roxadustat would compete with ESAs, which are offered by established multinational pharmaceutical companies such as Kirin Brewery Company Limited and Roche and Chinese pharmaceutical companies such as 3SBio Inc. and Di’ao Group Chengdu Diao Jiuhong Pharmaceutical Factory. Many of these competitors have substantially greater name recognition, scientific, financial and marketing resources as well as established distribution capabilities than we do. Many of our competitors have more resources to develop or acquire, and more experience in developing or acquiring, new products and in creating market awareness for those products. Many of these competitors have significantly more experience than we have in navigating the Chinese regulatory framework regarding the development, manufacturing and marketing of drugs in China, as well as in marketing and selling anemia products in China. Additionally, we believe that most patients with anemia in CKD in China are currently being treated with traditional Chinese medicine, which is widely accepted and highly prevalent in China. Traditional Chinese medicine treatments are often oral and thus convenient and low-cost, and practitioners of traditional Chinese medicine are numerous and accessible in China. As a result, it may be difficult to persuade patients with anemia in CKD to switch from traditional Chinese medicine to roxadustat.

There is no assurance that roxadustat will be included in the Medical Insurance Catalogs.

Eligible participants in the national basic medical insurance program in China, which consists of mostly urban residents, are entitled to reimbursement from the social medical insurance fund for up to the entire cost of medicines that are included in the Medical Insurance Catalogs. See "Business—Government Regulation—Regulation in China." We believe that the inclusion of a drug in the Medical Insurance Catalogs can substantially improve the sales of a drug. The Ministry of Labor and Social Security in China, or the MLSS, together with other government authorities, select medicines to be included in the Medical Insurance Catalogs based on a variety of factors, including treatment requirements, frequency of use, effectiveness and price. The MLSS also occasionally removes medicines from such catalogs. There can be no assurance that roxadustat will be included, and once included, remain in the Medical Insurance Catalogs. The exclusion or removal of roxadustat from the Medical Insurance Catalogs may materially and adversely affect sales of roxadustat.

We may not be successful in the tender processes for the purchase of medicines by state-owned and state-controlled hospitals.

Most hospitals in China participate in collective tender processes for the purchase of medicines listed in the Medical Insurance Catalogs and medicines that are consumed in large volumes and commonly prescribed for clinical uses. During a collective tender process, the hospitals will establish a committee consisting of recognized pharmaceutical experts. The committee will assess the bids submitted by the various participating pharmaceutical manufacturers, taking into consideration, among other things, the quality and price of the drug product and the service and reputation of the manufacturer. Only drug products that have been selected in the collective tender processes may be purchased by participating hospitals. If we are unable to win purchase contracts through the collective tender processes in which we decide to participate, there will be limited demand for roxadustat, and sales revenues from roxadustat will be materially and adversely affected.

We plan to seek approval for FG-5200 as a medical device, with respect to which we have no development and manufacturing experience. Even if FG-5200 can be manufactured successfully and achieve regulatory approval, we may not achieve commercial success.

We plan to seek regulatory approval for FG-5200 as a medical device, with respect to which we have no development and manufacturing experience. There can be no assurance that we will achieve medical device designation or receive approval for FG-5200. In addition, we have not yet used the material planned for our clinical trials of FG-5200 in any previous clinical trials and because we have not yet received a license to manufacture FG-5200 in our China manufacturing facility or at scale, we will have to show that FG-5200 from our China manufacturing facility meets the applicable regulatory requirements. There can be no assurance that we can meet these requirements or that FG-5200 can be approved for development, manufacture and sale in China.

Even if we are able to manufacture and develop FG-5200 as a medical device in China, the size and length of any potential clinical trials required for approval are uncertain and we are unable to predict the time and investment required to obtain regulatory approval. Moreover, even if FG-5200 can be successfully developed for approval in China, our product candidate would require extensive training and investment in assisting physicians in the use of FG-5200.

The retail prices of any product candidates that we develop may be subject to control, including periodic downward adjustment, by Chinese government authorities.

The price for pharmaceutical products is highly regulated in China, both at the national and provincial level. Price controls may reduce prices to levels significantly below those that would prevail in less regulated markets or limit the volume of products which may be sold, either of which may have a material and adverse effect on potential revenues from sales of roxadustat in China. Moreover, the process and timing for the implementation of price restrictions is unpredictable, which may cause potential revenues from the sales of roxadustat to fluctuate from period to period.

If our planned business activities in China fall within a restricted category under China Catalog for Guidance for Foreign Investment, we will need to operate in China through a variable interest entity structure.

The China Catalog for Guidance for Foreign Investment sets forth the industries and sectors that the Chinese government encourages and restricts foreign investment and participation. The Catalog for Guidance for Foreign Investment is subject to revision from time to time by China Ministry of Commerce. While we currently do not believe the development and marketing of roxadustat falls within a restricted category under the Catalog for Guidance for Foreign Investment, if roxadustat does fall under such a restricted category, we will need to operate in China through a variable interest entity, or VIE, structure. A VIE structure involves a wholly foreign-owned enterprise that would control and receive the economic benefits of a domestic Chinese company through various contractual relationships. Such a structure would subject us to a number of risks that may have an adverse effect on our business, including that China government may determine that such contractual arrangements do not comply with applicable regulations, Chinese tax authorities may require us to pay additional taxes, shareholders of our VIEs may have potential conflicts of interest with us, and we may lose the ability to use and enjoy assets held by our VIEs that are important to the operations of our business if such entities go bankrupt or become subject to dissolution or liquidation proceedings. VIE structures in China have come under increasing scrutiny from accounting firms and the SEC staff. If we do attempt to use a VIE structure and are unsuccessful in structuring it so as to qualify as a VIE, we would not be able to consolidate the financial statements of the VIE with our financial statements, which could have a material adverse effect on our operating results and financial condition.

FibroGen China would be subject to restrictions on paying dividends or making other payments to us, which may restrict our ability to satisfy our liquidity requirements.

We plan to conduct all of our business in China through FibroGen China. We may rely on dividends and royalties paid by FibroGen China for a portion of our cash needs, including the funds necessary to service any debt we may incur and to pay our operating expenses. The payment of dividends by FibroGen China is subject to limitations. Regulations in China currently permit payment of dividends only out of accumulated profits as determined in accordance with accounting standards and regulations in China. FibroGen China is not permitted to distribute any profits until losses from prior fiscal years have been recouped and in any event must maintain certain minimum capital requirements. FibroGen China is also required to set aside at least 10.0% of its after-tax profit based on Chinese accounting standards each year to its statutory reserve fund until the cumulative amount of such reserves reach 50.0% of its registered capital. Statutory reserves are not distributable as cash dividends. In addition, if FibroGen China incurs debt on its own behalf in the future, the agreements governing such debt may restrict its ability to pay dividends or make other distributions to us.

Any capital contributions from us to FibroGen China must be approved by the Ministry of Commerce in China, and failure to obtain such approval may materially and adversely affect the liquidity position of FibroGen China.

The Ministry of Commerce in China or its local counterpart must approve the amount and use of any capital contributions from us to FibroGen China, and there can be no assurance that we will be able to complete the necessary government registrations and obtain the necessary government approvals on a timely basis, or at all. If we fail to do so, we may not be able to contribute additional capital to fund our Chinese operations, and the liquidity and financial position of FibroGen China may be materially and adversely affected.

We may be subject to currency exchange rate fluctuations and currency exchange restrictions with respect to our operations in China, which could adversely affect our financial performance.

If roxadustat is approved for sale in China, most of our product sales will occur in local Chinese currency and our operating results will be subject to volatility from currency exchange rate fluctuations. To date, we have not hedged against the risks associated with fluctuations in exchange rates and, therefore, exchange rate fluctuations could have an adverse impact on our future operating results. Changes in value of the Renminbi against the U.S. dollar, Euro and other currencies is affected by, among other things, changes in China’s political and economic

conditions. Currently, the Renminbi is permitted to fluctuate within a narrow and managed band against a basket of certain foreign currencies. Any significant currency exchange rate fluctuations may have a material adverse effect on our business and financial condition.

In addition, China government imposes controls on the convertibility of the Renminbi into foreign currencies and the remittance of foreign currency out of China for certain transactions. Shortages in the availability of foreign currency may restrict the ability of FibroGen China to remit sufficient foreign currency to pay dividends or other payments to us, or otherwise satisfy their foreign currency-denominated obligations. Under existing Chinese foreign exchange regulations, payments of current account items, including profit distributions, interest payments and balance of trade, can be made in foreign currencies without prior approval from the State Administration of Foreign Exchange, or SAFE, by complying with certain procedural requirements. However, approval from SAFE or its local branch is required where Renminbi is to be converted into foreign currency and remitted out of China to pay capital expenses such as the repayment of loans denominated in foreign currencies. The China government may also at its discretion restrict access in the future to foreign currencies for current account transactions. If the foreign exchange control system prevents us from obtaining sufficient foreign currency to satisfy our operational requirements, our liquidity and financial position may be materially and adversely affected.

Because FibroGen China's funds are held in banks that do not provide insurance, the failure of any bank in which FibroGen China deposit its funds could adversely affect our business.

Banks and other financial institutions in China do not provide insurance for funds held on deposit. As a result, in the event of a bank failure, FibroGen China may not have access to funds on deposit. Depending upon the amount of money FibroGen China maintains in a bank that fails, its inability to have access to cash could materially impair its operations.

We may be subject to tax inefficiencies associated with our offshore corporate structure.

The tax regulations of the United States and other jurisdictions in which we operate are extremely complex and subject to change. New laws, new interpretations of existing laws, or limitations on our ability to structure our operations and intercompany transactions may lead to inefficient tax treatment of our revenue, profits, royalties and distributions, if any are achieved. For example, under the Internal Revenue Code, certain types of income derived by our foreign subsidiaries that are controlled foreign corporations could give rise to a current inclusion of income to FibroGen, Inc., for U.S. tax purposes.

In addition, we and our foreign subsidiaries have various intercompany transactions. We may not be able to obtain certain benefits under relevant tax treaties to avoid double taxation on certain transactions among our subsidiaries. If we are not able to avail ourselves of the tax treaties we could be subject to additional taxes, which could adversely affect our financial condition and results of operations.

The enactment of legislation implementing changes in the U.S. taxation of international business activities or the adoption of other tax reform policies could materially impact our financial position and results of operations.

The current Administration has proposed, and Congress has introduced, legislation to reform the U.S. taxation of international business activities, including, but not limited to, limiting the ability of taxpayers to claim and utilize foreign tax credits, limiting the check-the-box regime, revising the rules applicable to transfers of intangible property, and deferring certain tax deductions until non-U.S. earnings are repatriated to the United States. The current Administration has made public statements indicating that it has made the issue a priority, and key members of the U.S. Congress have conducted hearings and proposed legislation. Accordingly, depending on the final form of legislation enacted, if any, the consequences of changes to the U.S. taxation of international business activities may be significant for our China Business and other offshore activities. If any of these proposals are enacted into legislation, they could have material adverse consequences on our effective tax rate, the amount of tax we pay and our financial position and results of operations.

We have implemented a corporate structure taking into consideration our international operations and potentially applicable tax impact on our worldwide operations, and any changes in applicable tax laws and regulations may negatively impact our financial condition and operating results.

We have developed our corporate structure to be closely aligned with the international nature of our business. There can be no assurance that the applicable tax laws and regulations will continue in effect or that the taxing authorities in any or all of the applicable jurisdictions will not challenge one or more aspects or characterizations of our corporate structure and the treatment of transactions or agreements within our corporate structure, or determine that the manner in which we operate our business is not consistent with our corporate structure. Any unfavorable changes in laws and regulations or positions by tax authorities could harm our financial position and results of operations.

Our foreign operations, particularly those in China, are subject to significant risks involving the protection of intellectual property.

We seek to protect the products and technology that we consider important to our business by filing China and international patent applications, relying on trade secrets or pharmaceutical regulatory protection or employing a combination of these methods. We currently have 3 granted patents and 15 pending patent applications relating to roxadustat in China. See “Business—Intellectual Property.” However, the filing of a patent application does not mean that we will be granted a patent, or that any patent eventually granted will be as broad as requested in the patent application or will be sufficient to protect our technology. There are a number of factors that could cause our patents, if granted, to become invalid or unenforceable or that could cause our patent applications not to be granted, including known or unknown prior art, deficiencies in the patent application, or lack of originality of the technology. Furthermore, the terms of our patents are limited. The patents we hold and patents that may be granted from our currently pending patent applications have, absent any patent term adjustment or extension, a twenty-year protection period starting from the date of application.

Intellectual property rights and confidentiality protections in China may not be as effective as those in the United States or other countries for many reasons, including lack of procedural rules for discovery and evidence, low damage awards, and lack of judicial independence. Implementation and enforcement of Chinese intellectual property laws have historically been deficient and ineffective and may be hampered by corruption and local protectionism. Policing unauthorized use of proprietary technology is difficult and expensive, and we may need to resort to litigation to enforce or defend patents issued to us or to determine the enforceability and validity of our proprietary rights or those of others. The experience and capabilities of Chinese courts in handling intellectual property litigation varies, and outcomes are unpredictable. An adverse determination in any such litigation could materially impair our intellectual property rights and may harm our business.

We are subject to laws and regulations governing corruption, which will require us to develop and implement costly compliance programs.

We must comply with a wide range of laws and regulations to prevent corruption, bribery, and other unethical business practices, including the FCPA and anti-bribery and anti-corruption laws in other countries, particularly China. The creation and implementation of international business practices compliance programs is costly and such programs are difficult to enforce, particularly where reliance on third parties is required.

Anti-bribery laws prohibit us, our employees, and some of our agents or representatives from offering or providing any personal benefit to covered government officials to influence their performance of their duties or induce them to serve interests other than the missions of the public organizations in which they serve. Certain commercial bribery rules also prohibit offering or providing any personal benefit to employees and representatives of commercial companies to influence their performance of their duties or induce them to serve interests other than their employers. The FCPA also obligates companies whose securities are listed in the United States to comply with certain accounting provisions requiring us to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and

maintain an adequate system of internal accounting controls for international operations. The anti-bribery provisions of the FCPA are enforced primarily by the Department of Justice, or DOJ. The Securities and Exchange Commission, or the SEC, is involved with enforcement of the books and records provisions of the FCPA.

Compliance with these anti-bribery laws is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the anti-bribery laws present particular challenges in the pharmaceutical industry, because, in many countries including China, hospitals are state-owned or operated by the government, and doctors and other hospital employees are considered foreign government officials; furthermore, in certain countries (China in particular), hospitals and clinics are permitted to sell pharmaceuticals to their patients and are primary or significant distributors of pharmaceuticals, Certain payments to hospitals in connection with clinical studies, procurement of pharmaceuticals and other work have been deemed to be improper payments to government officials and have led to vigorous anti-bribery law enforcement actions imposing heavy fines in multiple jurisdictions, particularly in the United States and China.

It is not always possible to identify and deter violations, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations.

In the pharmaceutical industry, corrupt practices include, among others, acceptance of kickbacks, bribes or other illegal gains or benefits by the hospitals and medical practitioners from pharmaceutical manufacturers, distributors or their third party agents in connection with the prescription of certain pharmaceuticals. If our employees, affiliates, distributors or third party marketing firms violate these laws or otherwise engage in illegal practices with respect to their sales or marketing of our products or other activities involving our products, we could be required to pay damages or heavy fines by multiple jurisdictions where we operate, which could materially and adversely affect our financial condition and results of operations. The Chinese government has also sponsored anti-corruption campaigns from time to time, which could have a chilling effect on any future marketing efforts by us to new hospital customers. There have been recent occurrences in which certain hospitals have denied access to sales representatives from pharmaceutical companies because the hospitals wanted to avoid the perception of corruption. If this attitude becomes widespread among our potential customers, our ability to promote our products to hospitals may be adversely affected.

As we expand our operations in China and other jurisdictions internationally, we will need to increase the scope of our compliance programs to address the risks relating to the potential for violations of the FCPA and other anti-bribery and anti-corruption laws. Our compliance programs will need to include policies addressing not only the FCPA, but also the provisions of a variety of anti-bribery and anti-corruption laws in multiple foreign jurisdictions, including China, encompass provisions relating to books and records that will apply to us as we become a public company and include effective training for our personnel throughout our organization. The creation and implementation of anti-corruption compliance programs is costly and such programs are difficult to enforce, particularly where reliance on third parties is required. Violation of the FCPA and other anti-corruption laws can result in significant administrative and criminal penalties for us and our employees, including substantial fines, suspension or debarment from government contracting, prison sentences, or even the death penalty in extremely serious cases in certain countries. The SEC also may suspend or bar us from trading securities on U.S. exchanges for violations of the FCPA’s accounting provisions. Even if we are not ultimately punished by government authorities, the costs of investigation and review, the distraction of company personnel, legal defense costs, and harm to our reputation could be substantial and could limit our profitability or our ability to develop or commercialize our product candidates. In addition, if any of our competitors are not subject to the FCPA, they may engage in practices that will lead to their receipt of preferential treatment from foreign hospitals and enable them to secure business from foreign hospitals in ways that are unavailable to us.

Our operations in China subject us to various Chinese labor and social insurance laws, and our failure to comply with such laws may materially and adversely affect our business, financial condition and results of operations.

We are subject to China Labor Contract Law, which became effective in 2008 and provides stronger protections for employees and imposes more obligations on employers. The Labor Contract Law places certain restrictions on the circumstances under which employers may terminate labor contracts and require economic compensation to employees upon termination of employment, among other things. In addition, companies operating in China are generally required to contribute to labor union funds and the mandatory social insurance and housing funds. Any failure by us to comply with Chinese labor and social insurance laws may subject us to late fees, fines and penalties, or cause the suspension or termination of our ability to conduct business in China, any of which could have a material and adverse effect on business, results of operations and prospects.

Uncertainties with respect to the China legal system could have a material adverse effect on us.

The legal system of China is a civil law system primarily based on written statutes. Unlike in a common law system, prior court decisions may be cited for reference but are not binding. Because the China legal system continues to rapidly evolve, the interpretations of many laws, regulations and rules are not always uniform and enforcement of these laws, regulations and rules involve uncertainties, which may limit legal protections available to us. Moreover, decision makers in China judicial system have significant discretion in interpreting and implementing statutory and contractual terms, which may render it difficult for FibroGen China to enforce the contracts it has entered into with our business partners, customers and suppliers. Different government departments may have different interpretations of certain laws and regulations, and licenses and permits issued or granted by one government authority may be revoked by a higher government authority at a later time. Navigating the uncertainty and change in China legal system will require the devotion of significant resources and time, and there can be no assurance that our contractual and other rights will ultimately be enforced.

Changes in China's economic, political or social conditions or government policies could have a material adverse effect on our business and operations.

The Chinese economy and Chinese society continue to undergo significant change. Adverse changes in the political and economic policies of the Chinese government could have a material adverse effect on the overall economic growth of China, which could adversely affect our ability to conduct business in China. The Chinese government continues to adjust economic policies to promote economic growth. Some of these measures benefit the overall Chinese economy, but may also have a negative effect on us. For example, our financial condition and results of operations in China may be adversely affected by government control over capital investments or changes in tax regulations. As the Chinese pharmaceutical industry grows and evolves, the Chinese government may also implement measures to change the structure of foreign investment in this industry. We are unable to predict the frequency and scope of such policy changes, any of which could materially and adversely affect FibroGen China's liquidity and access to capital and its ability to conduct business in China. Any failure on our part to comply with changing government regulations and policies could result in the loss of our ability to develop and commercialize our product candidates in China.

Risks Related to the Operation of Our Business

We may encounter difficulties in managing our growth and expanding our operations successfully.

As we seek to advance our product candidates through clinical trials and commercialization, we will need to expand our development, regulatory, manufacturing, commercialization and administration capabilities or contract with third parties to provide these capabilities for us. As our operations expand and we undertake the efforts and expense to operate as a public reporting company, we expect that we will need to increase the responsibilities on members of management and manage any future growth effectively. Our failure to accomplish any of them could prevent us from successfully implementing our strategy and maintaining the confidence of investors in our company.

If we fail to attract and keep senior management and key personnel, in particular our chief executive officer, we may be unable to successfully develop our product candidates, conduct our clinical trials and commercialize our product candidates.

We are highly dependent on our chief executive officer, Thomas Neff, and other members of our senior management team. The loss of the services of Mr. Neff or any of these other individuals would be expected to significantly negatively impact the development and commercialization of our product candidates, our existing collaborative relationships and our ability to successfully implement our business strategy.

Recruiting and retaining qualified commercial, development, scientific, clinical and manufacturing personnel are and will continue to be critical to our success. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize product candidates. We may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the intense competition among numerous biopharmaceutical companies for similar personnel.

There is also significant competition, in particular in the San Francisco Bay area, for the hiring of experienced and qualified personnel, which increases the importance of retention of our existing personnel. If we are unable to continue to attract and retain personnel with the quality and experience applicable to our product candidates, our ability to pursue our strategy will be limited and our business and operations would be adversely affected.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability as a result of the clinical testing, manufacturing and commercialization of our product candidates. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in a product, negligence, strict liability or breach of warranty. Claims could also be asserted under state consumer protection acts. If we are unable to obtain insurance coverage at levels that are appropriate to maintain our business and operations, or if we are unable to successfully defend ourselves against product liability claims, we may incur substantial liabilities or otherwise cease operations. Product liability claims may result in:

- termination of further development of unapproved product candidates or significantly reduced demand for any approved products;
- material costs and expenses to defend the related litigation;
- a diversion of time and resources across the entire organization, including our executive management;
- product recalls, withdrawals or labeling restrictions;
- termination of our collaboration relationships or disputes with our collaboration partners; and
- reputational damage negatively impacting our other product candidates in development.

If we fail to obtain and retain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims, we may not be able to continue to develop our product candidates. We maintain product liability insurance in a customary amount for the stage of development of our product candidates. Although we believe that we have sufficient coverage based on the advice of our third party advisors, there can be no assurance that such levels will be sufficient for our needs. Moreover, our insurance policies have various exclusions, and we may be in a dispute with our carrier as to the extent and nature of our coverage, including whether we are covered under the applicable product liability policy. If we are not able to ensure coverage or are required to pay substantial amounts to settle or otherwise contest the claims for product liability, our business and operations would be negatively affected.

Our business and operations would suffer in the event of computer system failures.

Despite the implementation of security measures, our internal computer systems, and those of our CROs, collaboration partners, and other third parties on which we rely, are vulnerable to damage from computer viruses, unauthorized access, natural disasters, fire, terrorism, war and telecommunication and electrical failures. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our drug development programs. For example, the loss of clinical trial data from completed, ongoing or planned clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development of our product candidates could be delayed.

Our headquarters and data storage facilities are located near known earthquake fault zones. The occurrence of an earthquake, fire or any other catastrophic event could disrupt our operations or the operations of third parties who provide vital support functions to us, which could have a material adverse effect on our business, results of operations and financial condition.

We and some of the third party service providers on which we depend for various support functions, such as data storage, are vulnerable to damage from catastrophic events, such as power loss, natural disasters, terrorism and similar unforeseen events beyond our control. Our corporate headquarters and other facilities are located in the San Francisco Bay Area, which in the past has experienced severe earthquakes and fires.

We do not carry earthquake insurance. Earthquakes or other natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects.

If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, damaged critical infrastructure, such as our data storage facilities, enterprise financial systems or manufacturing resource planning and enterprise quality systems, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and are unlikely to prove adequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, particularly when taken together with our lack of earthquake insurance, could have a material adverse effect on our business.

Furthermore, integral parties in our supply chain are operating from single sites, increasing their vulnerability to natural disasters or other sudden, unforeseen and severe adverse events. If such an event were to affect our supply chain, it could have a material adverse effect on our business.

Risks Related to Our Common Stock and This Offering

We do not know whether a market will develop for our common stock or what the market price of our common stock will be, and as a result, it may be difficult for you to sell your shares of our common stock.

Before this offering, there was no public trading market for our common stock. If a market for our common stock does not develop or is not sustained, it may depress the market price of our common stock and make it difficult for you to sell your shares of common stock at an attractive price, or at all. Further, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic partnerships or acquire companies or products by using our shares of common stock as consideration. We cannot predict the prices at which our common stock will trade. It is possible that in one or more future periods our results of operations may be below the expectations of public market analysts and investors and, as a result of these and other factors, the price of our common stock may fall.

The market price of our common stock may be highly volatile, and you may not be able to resell your shares at or above the initial public offering price.

In general, pharmaceutical, biotechnology and other life sciences company stocks have been highly volatile in the current market. The volatility of pharmaceutical, biotechnology and other life sciences company stocks is sometimes unrelated to the operating performance of particular companies and biotechnology and life science companies stocks often respond to trends and perceptions rather than financial performance. In particular, the market price of shares of our common stock could be subject to wide fluctuations in response to the following factors:

- results of clinical trials of our product candidates, including roxadustat and FG-3019;
- the timing of the release of results of and regulatory updates regarding our clinical trials;
- the level of expenses related to any of our product candidates or clinical development programs;
- results of clinical trials of our competitors' products;
- safety issues with respect to our product candidates or our competitors' products;
- regulatory actions with respect to our product candidates and any approved products or our competitors' products;
- fluctuations in our financial condition and operating results, which will be significantly affected by the manner in which we recognize revenue from the achievement of milestones under our collaboration agreements;
- adverse developments concerning our collaborations and our manufacturers;
- the termination of a collaboration or the inability to establish additional collaborations;
- the publication of research reports by securities analysts about us or our competitors or our industry or negative recommendations or withdrawal of research coverage by securities analysts;
- the inability to obtain adequate product supply for any approved drug product or inability to do so at acceptable prices;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- the ineffectiveness of our internal controls;
- our failure or the failure of our competitors to meet analysts' projections or guidance that we or our competitors may give to the market;
- additions and departures of key personnel;
- announced strategic decisions by us or our competitors;
- changes in legislation or other regulatory developments affecting our product candidates or our industry;
- fluctuations in the valuation of the biotechnology industry and particular companies perceived by investors to be comparable to us;
- sales of our common stock by us, our insiders or our other stockholders;
- speculation in the press or investment community;
- announcement or expectation of additional financing efforts;
- announcements of investigations or regulatory scrutiny of our operations or lawsuits filed against us;
- changes in accounting principles;
- activities of the government of China, including those related to the pharmaceutical industry as well as industrial policy generally;

- performance of other United States publicly traded companies with significant operations in China;
- terrorist acts, acts of war or periods of widespread civil unrest;
- natural disasters such as earthquakes and other calamities;
- changes in market conditions for biopharmaceutical stocks;
- changes in general market and economic conditions; and
- the other factors described in this "Risk Factors" section.

As a result of fluctuations caused by these and other factors, comparisons of our operating results across different periods may not be accurate indicators of our future performance. Any fluctuations that we report in the future may differ from the expectations of market analysts and investors, which could cause the price of our common stock to fluctuate significantly. Moreover, securities class action litigation has often been initiated against companies following periods of volatility in their stock price. This type of litigation could result in substantial costs and divert our management's attention and resources, and could also require us to make substantial payments to satisfy judgments or to settle litigation.

If securities or industry analysts do not publish research or reports about our business, or if they change their recommendations regarding our stock adversely, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If one or more of the analysts who cover us downgrade our stock, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

Our principal stockholders and management own a significant percentage of our stock and will be able to exercise significant influence over matters subject to stockholder approval.

As of June 30, 2014, our executive officers, directors and principal stockholders, together with their respective affiliates, owned approximately 27.8% of our common stock, including shares subject to outstanding options that are exercisable within 60 days after such date, and we expect that upon completion of this offering that same group will continue to hold at least % of our outstanding common stock. Accordingly, even after this offering, these stockholders will be able to exert a significant degree of influence over our management and affairs and over matters requiring stockholder approval, including the election of our board of directors and approval of significant corporate transactions. The interests of this group may differ from those of other stockholders and they may vote their shares in a way that is contrary to the way other stockholders vote their shares. This concentration of ownership could have the effect of entrenching our management and/or the board of directors, delaying or preventing a change in our control or otherwise discouraging a potential acquirer from attempting to obtain control of us, which in turn could have a material and adverse effect on the fair market value of our common stock.

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act and for so long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies. Specifically, the JOBS Act:

- permits us to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;

- eliminates the requirement to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- removes the requirement to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board;
- reduces disclosure obligations regarding executive compensation; and
- exempts from the requirements of holding a non-binding stockholder advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

This prospectus is based upon the reduced reporting burdens under the JOBS Act and we expect to continue at these reduced levels for so long as we are permitted under the JOBS Act. Specifically, we could be an emerging growth company for up to five years, although circumstances could cause us to lose that status earlier, including any of the following: if the market value of our common stock held by non-affiliates exceeds $700 million as of June 30 in any calendar year before that time or if we have total annual gross revenue of $1 billion or more during any fiscal year before that time, in which cases we would no longer be an emerging growth company as of the end of such year or, if we issue more than $1 billion in non-convertible debt during any three-year period before that time, we would cease to be an emerging growth company immediately. If any investors find our common stock less attractive as a result, there may be a less active market for our common stock and our stock price may be more volatile.

In addition, Section 107 of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. However, we chose to "opt out" of such extended transition period, and as a result, we will comply with new or revised accounting standards on the relevant dates that adoption of such standards is required for non-emerging growth companies. Our decision to opt out of the extended transition period for complying with new or revised accounting standards is irrevocable.

A significant portion of our total outstanding shares may be sold into the public market in the near future, which could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market could occur at any time after the expiration of the lock-up agreements described in the "Underwriting" section of this prospectus. These sales, or the market perception that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. After this offering, we will have shares of common stock outstanding. This includes the shares that we are selling in this offering, which may be resold in the public market immediately subject to any restrictions imposed on our affiliates under Rule 144. The remaining shares, or % of our outstanding shares after this offering, are currently restricted as a result of securities laws or lock-up agreements but will be able to be sold, subject to any applicable volume limitations under federal securities laws with respect to affiliate sales, in the near future as set forth below.

In addition, as of December 31, 2013, there were 27,710,067 shares subject to outstanding options and 432,790 shares subject to outstanding warrants to purchase common stock that will become eligible for sale in the public market to the extent permitted by any applicable vesting requirements, the lock-up agreements and Rules 144 and 701 under the Securities Act. We also intend to register all shares of common stock that we may issue under our employee benefit plans, including our 2005 Equity Incentive Plan and 2014 Equity Incentive Plan. Once we register these shares and they are issued in accordance with the terms of the plans, they can be freely sold in the public market upon issuance, subject to the lock-up agreements and the restrictions imposed on our affiliates under Rule 144. For more information, see "Shares Eligible for Future Sale—Rule 144".

Proceedings instituted by the SEC against five China based accounting firms, including the Chinese affiliate of our independent registered public accounting firm, could result in our financial statements being determined to not be in compliance with the requirements of the Exchange Act.

In late 2012, the SEC commenced administrative proceedings under Rule 102(e) of its Rules of Practice and also under the Sarbanes-Oxley Act of 2002 against the Chinese affiliates of the "big four" accounting firms, including PricewaterhouseCoopers Zhong Tian CPAs Limited, the Chinese affiliate of our independent registered public accounting firm. The Rule 102(e) proceedings initiated by the SEC relate to these firms' failure to produce documents, including audit work papers, in response to the request of the SEC pursuant to Section 106 of the Sarbanes-Oxley Act of 2002, as the auditors located in China are not in a position lawfully to produce documents directly to the SEC because of restrictions under Chinese law and specific directives issued by the China Securities Regulatory Commission. The issues raised by the proceedings are not specific to our auditors or to us.

In January 2014, an administrative law judge reached an initial decision that the Chinese affiliates of the "big four" accounting firms should be barred from practicing before the SEC for a period of six months. However, it is currently impossible to determine the ultimate outcome of this matter as the accounting firms have filed a petition for review of the initial decision, and, pending that review, the effect of the initial decision is suspended. It will, therefore, be for the commissioners of the SEC to make a legally binding order specifying the sanctions, if any, to be placed on these audit firms. Once such an order was made, the accounting firms would have a right to appeal to U.S. Federal courts, and the effect of the order might be further suspended pending the outcome of that appeal.

Although it does not play a substantial role (as defined under PCAOB standards) in the audit of our consolidated financial statements, if PricewaterhouseCoopers Zhong Tian CPAs Limited were denied, temporarily, the ability to practice before the SEC, our ability to produce audited consolidated financial statements for our company could be affected and we could be determined not to be in compliance with the requirements of the Securities Exchange Act of 1934. Such a determination could ultimately lead to the delisting of our shares from or deregistration from the SEC, or both, which would substantially reduce or effectively terminate the trading of our stock.

You will incur immediate and substantial dilution as a result of this offering.

The initial public offering price of our common stock will be substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase common stock in this offering, you will pay a price per share that substantially exceeds our pro forma adjusted net tangible book value per share after this offering. To the extent shares subsequently are issued under options, you will incur further dilution. Based on an initial assumed public offering price of $, the midpoint of the range set forth on the cover page of this prospectus, you will incur immediate and substantial dilution of $ per share, representing the difference between our pro forma net tangible book value per share, after giving effect to this offering, and the assumed initial public offering price. In addition, purchasers of common stock in this offering will have contributed approximately % of the aggregate price paid by all purchasers of our stock but will own approximately % of our common stock outstanding after this offering.

In addition, as of June 30, 2014, we had outstanding stock options to purchase an aggregate of 32,584,115 shares of common stock, of which 26,552 were cancelled upon shareholder approval (which approval was obtained in July 2014), at a weighted average exercise price of $2.23 per share and warrants to purchase an aggregate of 432,790 shares of common stock at a weighted average exercise price of $3.03 per share. As of June 30, 2014, shares of preferred stock held by investors of FibroGen Europe were exchangeable into an aggregate of 2,397,505 shares of our common stock. To the extent these outstanding options, warrants or shares of FibroGen Europe preferred stock are exercised to purchase or are exchanged for shares of our common stock, there will be further dilution to investors in the offering. Further, because we may need to raise additional capital to fund our clinical development programs, we may in the future sell substantial amounts of common stock or securities convertible into or exchangeable for common stock.

We have broad discretion in the use of net proceeds from this offering and may not use them effectively.

We currently intend to use the net proceeds from this offering to further development of our product candidates in additional indications and for general corporate purposes. Investors are directed to see the section of this prospectus entitled "Use of Proceeds." Although we currently plan to use the net proceeds from this offering as described, we will have broad discretion in the application of the net proceeds. Our failure to apply these funds effectively could affect our ability to continue to develop, manufacture and commercialize our product candidates.

We will incur increased costs as a result of operating as a public company and we expect to devote substantial resources to public company compliance programs.

As a public company, we will incur significant legal, insurance, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, the listing requirements of The NASDAQ Stock Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment will result in increased general and administrative expenses and may divert management's time and attention from product development activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to practice, regulatory authorities may initiate legal proceedings against us and our business may be harmed. In the future, it will be more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our board of directors, particularly to serve on our audit committee and compensation committee, and qualified executive officers.

Specifically, in order to comply with the requirements of being a public company, we may need to undertake various actions, including implementing new internal controls and procedures and hiring new accounting or internal audit staff. The Sarbanes-Oxley Act requires that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are continuing to develop and refine our disclosure controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we file with the SEC is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that information required to be disclosed in reports under the Exchange Act is accumulated and communicated to our principal executive and financial officers. Any failure to develop or maintain effective controls could adversely affect the results of periodic management evaluations. In the event that we are not able to demonstrate compliance with the Sarbanes-Oxley Act, that our internal control over financial reporting is perceived as inadequate, or that we are unable to produce timely or accurate financial statements, investors may lose confidence in our operating results and the price of our ordinary shares could decline. In addition, if we are unable to continue to meet these requirements, we may not be able to remain listed on The NASDAQ Stock Market.

We are not currently required to comply with the SEC's rules that implement Section 404 of the Sarbanes-Oxley Act, or Section 404, and are therefore not yet required to make a formal assessment of the effectiveness of our internal control over financial reporting for that purpose. Upon becoming a public company, we will be required to comply with certain of these rules, which will require management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of our internal control over financial reporting commencing with our second annual report. This assessment will need to include the disclosure of any material weaknesses in our internal control over financial reporting identified by our management or our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will need to continue to dedicate internal resources, outside consultants and continue to execute a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control

over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by Section 404. If we identify one or more material weaknesses, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements and we cannot assure you that there will not be material weaknesses or significant deficiencies in our internal controls in the future.

We may engage in future acquisitions that could disrupt our business, cause dilution to our stockholders and harm our business, results of operations, financial condition and cash flows and future prospects.

While we currently have no specific plans to acquire any other businesses, we may, in the future, make acquisitions of, or investments in, companies that we believe have products or capabilities that are a strategic or commercial fit with our present or future product candidates and business or otherwise offer opportunities for our company. In connection with these acquisitions or investments, we may:

- issue stock that would dilute our existing stockholders' percentage of ownership;
- incur debt and assume liabilities; and
- incur amortization expenses related to intangible assets or incur large and immediate write-offs.

We may not be able to complete acquisitions on favorable terms, if at all. If we do complete an acquisition, we cannot assure you that it will ultimately strengthen our competitive position or that it will be viewed positively by customers, financial markets or investors. Furthermore, future acquisitions could pose numerous additional risks to our operations, including:

- problems integrating the purchased business, products or technologies, or employees or other assets of the acquisition target;
- increases to our expenses;
- disclosed or undisclosed liabilities of the acquired asset or company;
- diversion of management's attention from their day-to-day responsibilities;
- reprioritization of our development programs and even cessation of development and commercialization of our current product candidates;
- harm to our operating results or financial condition;
- entrance into markets in which we have limited or no prior experience; and
- potential loss of key employees, particularly those of the acquired entity.

We may not be able to complete any acquisitions or effectively integrate the operations, products or personnel gained through any such acquisition.

Provisions in our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders, and may prevent attempts by our stockholders to replace or remove our current directors or management.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon the closing of this offering contain provisions that may have the effect of discouraging, delaying or preventing a change in control of us or changes in our management. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions:

- authorize "blank check" preferred stock, which could be issued by our board of directors without stockholder approval and may contain voting, liquidation, dividend and other rights superior to our common stock;
- create a classified board of directors whose members serve staggered three-year terms;
- specify that special meetings of our stockholders can be called only by our board of directors pursuant to a resolution adopted by a majority of the total number of directors;
- prohibit stockholder action by written consent;
- establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;
- provide that our directors may be removed prior to the end of their term only for cause;
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;
- require a supermajority vote of the holders of our common stock or the majority vote of our board of directors to amend our bylaws; and
- require a supermajority vote of the holders of our common stock to amend the classification of our board of directors into three classes and to amend certain other provisions of our certificate of incorporation.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management.

Moreover, because we are incorporated in Delaware, we are governed by certain anti-takeover provisions under Delaware law which may discourage, delay or prevent someone from acquiring us or merging with us whether or not it is desired by or beneficial to our stockholders. We are subject to the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Any provision of our amended and restated certificate of incorporation, our amended and restated bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-change net operating losses or tax credits, or NOLs or credits, to offset future taxable income. Our existing NOLs or credits may be subject to substantial limitations arising from previous ownership changes, and if we undergo an ownership change in connection with or after this offering, our ability to utilize NOLs or credits could be further limited by Section 382 of the Code. In addition, future changes in our stock ownership, many of which are outside of our control, could result in an ownership change under Section 382 of the Code. Our NOLs or credits may also be impaired under state law. Accordingly, we may not be able to utilize a material portion of our NOLs or credits. Furthermore, our ability to utilize our NOLs or credits is conditioned upon our attaining profitability and generating United States federal and state taxable income. As described above under "—Risks Related to our Financial Position and History of Operating Losses," we have incurred significant net losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future; thus, we do not know whether or when we will generate the United States federal or state taxable income necessary to utilize our NOLs or credits. A full valuation allowance has been provided for the entire amount of our NOLs and credits.

Our amended and restated certificate of incorporation designates the state or federal courts located in the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated certificate of incorporation that will become effective upon the closing of this offering provides that, subject to limited exceptions, the state and federal courts located in the State of Delaware will be the sole and exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (3) any action asserting a claim against us arising pursuant to any provision of the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated by-laws, or (4) any other action asserting a claim against us that is governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our amended and restated certificate of incorporation described above. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find these provisions of our amended and restated certificate of incorporation inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business and financial condition.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain and you may never receive a return on your investment.

You should not rely on an investment in our common stock to provide dividend income. We do not anticipate that we will pay any cash dividends to holders of our common stock in the foreseeable future and investors seeking cash dividends should not purchase our common stock. We plan to retain any earnings to invest in our product candidates and maintain and expand our operations. Therefore, capital appreciation, or an increase in your stock price, which may never occur, may be the only way to realize any return on your investment.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, particularly in the sections captioned “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business,” contains forward-looking statements, which involve substantial risks and uncertainties. In this prospectus, all statements other than statements of historical or present facts contained in this prospectus, including statements regarding our future financial condition, business strategy and plans and objectives of management for future operations, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “believe,” “will,” “may,” “estimate,” “continue,” “anticipate,” “contemplate,” “intend,” “target,” “project,” “should,” “plan,” “expect,” “predict,” “could,” “potentially” or the negative of these terms or other similar terms or expressions that concern our expectations, strategy, plans or intentions. Forward-looking statements appear in a number of places throughout this prospectus and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our ongoing and planned preclinical development and clinical trials, the timing of and our ability to make regulatory filings and obtain and maintain regulatory approvals for roxadustat, FG-3019 and our other product candidates, our intellectual property position, the potential safety, efficacy, reimbursement, convenience clinical and pharmaco-economic benefits of our product candidates, the potential markets for any of our product candidates, our ability to develop commercial functions, our ability to operate in China, expectations regarding clinical trial data, our results of operations, cash needs, spending of the proceeds from this offering, financial condition, liquidity, prospects, growth and strategies, the industry in which we operate and the trends that may affect the industry or us. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions described in the section of this prospectus captioned “Risk Factors” and elsewhere in this prospectus, regarding, among other things:

- We have incurred significant losses since our inception and anticipate that we will continue to incur losses for the foreseeable future; we may require additional financings in order to fund our operations;
- All of our recent revenue has been received from our roxadustat collaboration partners; if any of the agreements with these collaboration partners were to terminate, we would require substantial additional funding;
- If we are unable to achieve development and regulatory milestones under our collaboration agreements, our revenues may decrease and our activities may fail to lead to commercialized products;
- We are substantially dependent on the success of our lead product candidate, roxadustat, and our second compound in development, FG-3019, and their clinical and commercial success will depend on a number of factors, many of which are beyond our control;
- We may be unable to obtain regulatory approval for our product candidates, or such approval may be delayed or limited, due to a number of factors, many of which are beyond our control;
- Our Phase 2 results to date for roxadustat and FG-3019 may not be indicative of the results that may be obtained in larger clinical studies required for approval;
- We do not know whether our ongoing or planned Phase 3 clinical studies in roxadustat or Phase 2 clinical studies in FG-3019 will need to be redesigned based on interim results, be able to achieve sufficient enrollment or be completed on schedule, if at all;
- Our product candidates may cause, or have attributed to them, undesirable side effects or have other properties that delay or prevent their regulatory approval or limit their commercial potential;
- If we or third party manufacturers on which we rely cannot manufacture our product candidates and/or products at sufficient yields, we may experience delays in development, regulatory approval and commercialization;

- If our collaborations with Astellas or AstraZeneca were terminated, or if Astellas of AstraZeneca were to prioritize other initiatives over their collaborations with us, whether as a result of a change of control or otherwise, our ability to successfully develop and commercialize our lead product candidate, roxadustat, would suffer;
- We currently rely, and expect to continue to rely, on third parties to conduct many aspects of our clinical studies, and these third parties may not perform satisfactorily;
- Certain of the components of our product candidates are acquired from single-source suppliers and have been purchased without long-term supply agreements;
- If our efforts to protect our proprietary technologies are not adequate, we may not be able to compete effectively in our market;
- Intellectual property disputes with third parties and competitors may be costly and time consuming, and may negatively affect our competitive position;
- We are establishing international operations and seeking approval to commercialize our product candidates outside of the United States, in particular in China, and a number of risks associated with international operations could materially and adversely affect our business;
- We are building our own manufacturing facility in China to produce roxadustat and clinical trial material for our corneal program; as an organization, we have limited experience in the construction or operation and licensure of a manufacturing plant; accordingly, we cannot assure you we will be able to meet regulatory requirements to operate our plant and to sell our products;
- Our decision to seek approval in China for roxadustat as a domestic new drug may not be accepted, which would result in additional delay and expense; and
- The market price of our common stock may be highly volatile, and you may not be able to resell your shares at or above the initial public offering price.

These risks are not exhaustive. Other sections of this prospectus may include additional factors that could adversely impact our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time, and it is not possible for our management to predict all risk factors nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in, or implied by, any forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. We cannot assure you that the events and circumstances reflected in the forward-looking statements will be achieved or occur. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. The forward-looking statements made in this prospectus are based on circumstances as of the date on which the statements are made. Except as required by law, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus or to conform these statements to actual results or to changes in our expectations.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part with the understanding that our actual future results, levels of activity, performance and achievements may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements. You should also read carefully the factors described in the section of this prospectus captioned “Risk Factors” and elsewhere to better understand the risks and uncertainties inherent in our business and underlying and forward-looking statements.

This prospectus also contains market data, research, industry forecasts and other similar information obtained from or based on industry reports and publications, including information concerning our industry, our business, and the potential markets for our product candidates, including data regarding the estimated size and patient populations of those and related markets, their projected growth rates and the incidence of certain medical conditions, as well as physician and patient practices within the related markets. Such data and information involve a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates.

USE OF PROCEEDS

We estimate that the net proceeds to us from this offering will be approximately $ million, assuming an initial public offering price of $ per share, which is the midpoint of the range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) the net proceeds to us from this offering by $, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated expenses payable by us. Each increase or decrease of shares by shares in the number of shares offered by us would increase or decrease the net proceeds to us from this offering by approximately $, assuming that the assumed initial price to public remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We do not expect that a change in the initial price to the public or the number of shares by these amounts would have a material effect on uses of the proceeds from this offering, although it may accelerate the time at which we will need to seek additional capital.

The principal purposes of this offering are to create a public market for our common stock and thereby facilitate access to the public equity markets, increase our visibility in the marketplace and obtain additional capital. We believe our existing cash and cash equivalents, short-term and long-term investments and payments due under our license and collaboration agreements will be sufficient to meet our anticipated working capital and capital expenditure needs for at least the next 12 months. Additionally, if roxadustat is successful in further clinical development, based on our current development plans, expected payments under our existing license and collaboration agreements may be sufficient to fund our development of roxadustat through commercialization. We intend to use a portion of the net proceeds from this offering to commercialize our unpartnered product candidates such as FG-3019, corneal implants and other HIF-PH inhibitors, as well as for general corporate purposes. These uses include meeting any short term liquidity needs pending receipt of amounts due or subject to reimbursement under our license and collaboration agreements. If the development cost of roxadustat were to exceed our expectations and not be funded by our collaboration partners, or collaboration receipts were less than we anticipate, or if a portion of our existing cash and cash equivalents are used to develop other product candidates, we may use a more substantial portion of the net offering proceeds to fund our roxadustat development costs through commercialization. We may also use a portion of the net proceeds to acquire complementary businesses, products or technologies, although we have no present commitments or agreements for any specific acquisitions. Accordingly, we will have broad discretion over the uses of the net proceeds from this offering. Pending these uses, we plan to invest these net proceeds in short-term and long-term interest bearing obligations, investment grade instruments, certificates of deposit or direct or guaranteed obligations of the United States.

We will have broad discretion in the application of the net proceeds, and investors will be relying on the judgment of our management regarding the application of the net proceeds of this offering.

DIVIDEND POLICY

We have never declared or paid dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support operations and to finance the growth and development of our business. We do not intend to declare or pay cash dividends on our capital stock in the foreseeable future. Any future determination to pay dividends will be made at the discretion of our board of directors subject to applicable laws, and will depend upon, among other factors, our results of operations, financial condition, contractual restrictions and capital requirements. Our future ability to pay cash dividends on our stock may be limited by the terms of any future debt or preferred securities.

CAPITALIZATION

The following table sets forth our cash, cash equivalents and investments and capitalization as of June 30, 2014:

- on an actual basis;
- on a pro forma basis to give effect to the automatic conversion of all outstanding shares of our convertible preferred stock (Senior Preferred Stock and Junior Preferred Stock) into an aggregate of 84,800,239 shares of common stock immediately prior to the completion of this offering; and
- on a pro forma as adjusted basis to give further effect to the sale of shares of our common stock offered in this offering, based on an assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this information together with our unaudited interim consolidated financial statements and related notes appearing elsewhere in this prospectus and the information set forth under the heading "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations".

	As of June 30, 2014		
	Actual	Pro Forma (unaudited, in thousands)	Pro Forma, as Adjusted
Cash, cash equivalents and investments (1)	$ 209,821	$ 209,821	$
Current and long-term lease financing obligations	96,914	96,914	
Product development obligations	18,291	18,291	
Series E and F redeemable convertible preferred stock (Senior Preferred Stock); par value $0.01 per share, 38,340,182 shares authorized, 38,340,182 shares issued and outstanding at June 30, 2014 (unaudited), and no shares authorized, issued or outstanding pro forma and pro forma as adjusted at June 30, 2014 (unaudited)	168,436	—	
Stockholders' equity (deficit):			
Series A, B, C, D, G and royalty acquisition convertible preferred stock (Junior Preferred Stock); par value $0.01 per share, 86,659,818 shares authorized, 46,460,057 shares issued and outstanding at June 30, 2014 (unaudited), and no shares authorized, issued or outstanding pro forma and pro forma as adjusted at June 30, 2014 (unaudited)	136,313	—	
Common stock; par value of $0.01, 225,000,000 shares authorized, 33,714,272 shares issued and outstanding at June 30, 2014 (unaudited), respectively, and 118,514,511 and shares outstanding pro forma and pro forma as adjusted at June 30, 2014 (unaudited)	337	1,185	
Additional paid-in capital	43,225	347,126	
Accumulated other comprehensive loss	(4,133)	(4,133)	
Accumulated deficit	(232,188)	(232,188)	
Total stockholders' equity (deficit)	(56,446)	111,990	
Non-controlling interests	27,875	27,875	
Total equity (deficit)	(28,571)	139,865	
Total capitalization	$ 255,070	$ 255,070	$

(1) Includes $7.7 million classified as long-term investments.

If the underwriters' option to purchase additional shares of our common stock from us were exercised in full, pro forma as adjusted cash and cash equivalents and investments, additional paid-in capital, total stockholders' equity and shares outstanding as of June 30, 2014 would be $, $, $ and shares, respectively.

The actual, pro forma and pro forma as adjusted information set forth in the table above are based on 33,714,272 shares of our common stock outstanding as of June 30, 2014, and excludes the following:

- 26,922,433 shares of common stock issuable upon the exercise of outstanding stock options issued as of June 30, 2014 pursuant to our 1999 and 2005 Stock Plans at a weighted average exercise price of $1.48 per share;
- 5,661,682 shares of common stock issuable upon the exercise of stock options pursuant to our 2005 Stock Plan at a weighted average exercise price of $5.82 that were subject to shareholder approval as of June 30, 2014, 26,552 of which were cancelled as of shareholder approval (which approval was obtained in July 2014).
- 4,000,000 shares of common stock to be reserved for future issuance under our 2014 Employee Stock Purchase Plan, or ESPP, as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the ESPP.
- 18,942,169 shares of common stock to be reserved for future issuance under our 2014 Plan, as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC (which shares are as of June 30, 2014 and are currently reserved for future grant under our 2005 Plan and will cease to be reserved under our 2005 Plan immediately prior to the time our 2014 Plan becomes effective) as well as any automatic increases in the number of shares of common stock reserved for future issuance under this the 2014 Plan;
- 432,790 shares of common stock issuable upon exercise of common stock warrants outstanding as of June 30, 2014 at a weighted-average exercise price of $3.03 per share; and
- 2,397,505 shares of common stock issuable upon the exchange of outstanding preferred stock issued by FibroGen Europe.

DILUTION

Dilution in net tangible book value per share to new investors is the amount by which the offering price paid by the purchasers of the shares of common stock sold in the offering exceeds the pro forma net tangible book value per share of common stock after the offering. Net tangible book value per share is determined at any date by subtracting our total liabilities from the total book value of our tangible assets and dividing the difference by the number of shares of common stock deemed to be outstanding at that date.

The historical net tangible book value of our common stock as of June 30, 2014 was $(28.6) million, or $(0.85) per share. Our pro forma net tangible book value as of June 30, 2014 was $139.9 million, or $1.18 per share, which gives effect to the conversion of all outstanding shares of our preferred stock into an aggregate of 84,800,239 shares of our common stock immediately prior to the completion of this offering. After giving effect to the receipt and our intended use of approximately $ million of estimated net proceeds from our sale of shares of common stock in this offering at an assumed offering price of $ per share, which is the midpoint of the range set forth on the cover page of this prospectus, our pro forma as adjusted net tangible book value as of June 30, 2014 would have been $ million, or $ per share. This represents an immediate increase in net tangible book value of $ per share to existing stockholders and an immediate dilution of $ per share to new investors purchasing shares of common stock in the offering. The following table illustrates this substantial and immediate per share dilution to new investors.

Assumed initial public offering price per share (the midpoint of the range set forth on the cover page of this prospectus)		$
Pro forma net tangible book value per share at June 30, 2014	$	
Pro forma increase per share attributable to new investors	$	
Pro forma as adjusted net tangible book value per share after giving effect to this offering		$
Dilution in net tangible book value per share to new investors		$

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the range set forth on the cover page of this prospectus, would increase (decrease) our pro forma as adjusted net tangible book value by $, the pro forma as adjusted net tangible book value per share by $ and the dilution per share to new investors in this offering by $, or $ if the underwriters exercise their option to purchase additional shares in full, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated expenses payable by us.

Similarly, each increase or decrease of shares in the number of shares offered by us would increase or decrease, as applicable, our pro forma as adjusted net tangible book value by approximately $, the pro forma as adjusted net tangible book value per share by $ and the dilution per share to new investors by $, or $ if the underwriters exercise their option to purchase additional shares in full, assuming the assumed initial public offering price remains the same and after deducting underwriting discounts and commissions and estimated expenses payable by us.

The following table summarizes, as of June 30, 2014:

- the total number of shares of common stock purchased from us by our existing stockholders and by new investors purchasing shares in this offering;
- the total consideration paid to us by our existing stockholders and by new investors purchasing common stock in this offering, assuming an initial public offering of $ per share, which is the midpoint of the range set forth on the cover page of this prospectus (before deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us in connection with this offering); and

- the average price per share paid by existing stockholders and by new investors purchasing shares in this offering.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders		%	$	%	$
New investors					
Total		100%	$	100%	$

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share would increase or decrease, as applicable, total consideration paid by existing stockholders, total consideration paid by new investors and the average price per share by $, $ and $, respectively, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and without deducting the estimated underwriting discounts and commissions and estimated expenses payable by us.

If the underwriters exercise their option to purchase additional shares in full, the number of shares held by the existing stockholders after this offering would be reduced to , or % of the total number of shares of our common stock outstanding after this offering, and the number of shares held by new investors would increase to , or %, of the total number of shares of our common stock outstanding after this offering.

The tables and calculations above are based on the number of shares of our common stock outstanding as of June 30, 2014, but do not include, as of June 30, 2014, the following shares:

- 26,922,433 shares of common stock issuable upon the exercise of outstanding stock options issued as of June 30, 2014 pursuant to our 1999 and 2005 Stock Plans at a weighted average exercise price of $1.48 per share;
- 5,661,682 shares of common stock issuable upon the exercise of stock options pursuant to our 2005 Stock Plan at a weighted average exercise price of $5.82 that were subject to shareholder approval as of June 30, 2014, 26,552 of which were cancelled as of shareholder approval (which approval was obtained in July 2014).
- 4,000,000 shares of common stock to be reserved for future issuance under our ESPP, as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the ESPP.
- 18,942,169 shares of common stock to be reserved for future issuance under our 2014 Plan, as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC (which 18,942,169 shares are as of June 30, 2014 and are currently reserved for future grant under our 2005 Plan and will cease to be reserved under our 2005 Plan immediately prior to the time our 2014 Plan becomes effective) as well as any automatic increases in the number of shares of common stock reserved for future issuance under this the 2014 Plan;
- 432,790 shares of common stock issuable upon exercise of common stock warrants outstanding as of June 30, 2014 at a weighted-average exercise price of $3.03 per share; and
- 2,397,505 shares of common stock issuable upon the exchange of outstanding preferred stock issued by FibroGen Europe.

SELECTED CONSOLIDATED FINANCIAL DATA

You should read the following selected financial data together with the section of this prospectus entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes included in this prospectus. The statement of operations data for the years ended December 31, 2012 and 2013 and the balance sheet data as of December 31, 2012 and 2013 are derived from our consolidated financial statements included elsewhere in this prospectus. The statement of operations data for the six months ended June 30, 2013 and 2014 and the balance sheet data as of June 30, 2014 are derived from our unaudited interim consolidated financial statements included elsewhere in this prospectus. We have included, in our opinion, all adjustments, consisting only of normal recurring adjustments that we consider necessary for a fair statement of the financial information set forth in those statements. Our historical results are not necessarily indicative of the results to be expected in the future, and our unaudited interim results are not necessarily indicative of the results to be expected for the full year or any other period.

	Years ended December 31,		Six Months ended June 30,	
	2012	2013	2013	2014
	(in thousands, except per share data)			
Result of Operations				
Revenue:				
License and milestone revenue	$ 62,845	$ 94,961	$ 16,895	$ 97,148
Collaboration services and other revenue	3,088	7,209	1,637	10,686
Total revenue	65,933	102,170	18,532	107,834
Operating expenses:				
Research and development (1)	74,222	85,710	33,092	58,919
General and administrative (1)	18,934	24,409	9,610	13,948
Total operating expenses	93,156	110,119	42,702	72,867
Income (loss) from operations	(27,223)	(7,949)	(24,170)	34,967
Total interest and other, net	(5,448)	(6,994)	(3,303)	(4,376)
Income (loss) before income taxes	(32,671)	(14,943)	(27,473)	30,591
Benefit from income taxes	100	—	—	—
Net income (loss)	$(32,571)	$ (14,943)	$(27,473)	$ 30,591
Net income (loss) per share—basic (2)	$ (0.99)	$ (0.45)	$ (0.83)	$ 0.30
Net income (loss) per share—diluted (2)	$ (0.99)	$ (0.45)	$ (0.83)	$ 0.18
Weighted-average number of common shares used in net income (loss) per share—basic (2)	32,820	32,964	32,938	33,198
Weighted-average number of common shares used in net income (loss) per share—diluted (2)	32,820	32,964	32,938	53,970
Pro forma net income (loss) per share—basic (unaudited) (3)		$ (0.13)		$ 0.26
Pro forma net income (loss) per share—diluted (unaudited) (3)		$ (0.13)		$ 0.22
Pro forma weighted-average number of common shares used in net income (loss) per share—basic (unaudited) (3)		117,764		117,998
Pro forma weighted-average number of common shares used in net income (loss) per share—diluted (unaudited) (3)		117,764		140,164

(1) Stock-based compensation expense is included in our results of operations as follows (in thousands):

	Years Ended December 31,		Six Months Ended June 30,	
	2012	2013	2013	2014
Research and development	$2,277	$1,925	$ 953	$ 883
General and administrative	2,284	1,519	802	582
Total stock-based compensation expense	$4,561	$3,444	$1,755	$1,465

(2) See Note 10 within the notes to our consolidated financial statements appearing elsewhere in this prospectus for a description of the method used to calculate basic and diluted net income (loss) per share of common stock.

(3) Pro forma basic net income (loss) per share has been calculated assuming the conversion of all outstanding shares of convertible preferred stock, using the as-if converted method, into shares of common stock as of the beginning of the applicable period or the original issuance if later. Pro forma diluted net income (loss) per share includes the dilutive effect of employee stock options and warrants using the treasury stock method, as well as the effect of the conversion of preferred stock held by investors in FibroGen Europe into a maximum total of 2,397,505 shares of FibroGen, Inc. common stock.

	As of December 31,		As of June 30,
	2012	2013	2014
	(in thousands)		
Balance Sheet Data:			
Cash and cash equivalents	$ 38,872	$ 76,332	$ 182,662
Short-term and long-term investments	82,630	61,833	27,159
Working capital	29,125	106,164	171,683
Total assets	265,588	296,952	372,657
Deferred revenue	5,764	36,649	72,936
Lease financing obligations	92,902	96,809	96,914
Product development obligations	17,152	18,257	18,291
Senior Preferred Stock	168,436	168,436	168,436
Junior Preferred Stock	136,313	136,313	136,313
Accumulated deficit	(247,836)	(262,779)	(232,188)
Non-controlling interests	27,700	27,875	27,875
Total deficit	$ (46,252)	$ (60,833)	$ (28,571)

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our consolidated financial statements and related notes and other financial information appearing in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business, international operations and product candidates, includes forward-looking statements that involve risks and uncertainties. You should review the "Risk Factors" section of this prospectus beginning on page 16 for a discussion of important factors that could cause our actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a research-based, biopharmaceutical company focused on the discovery, development and commercialization of novel therapeutics to treat serious unmet medical needs. We have capitalized on our extensive experience in fibrosis and hypoxia-inducible factor, or HIF, biology to generate multiple programs targeting various therapeutic areas. Roxadustat, or FG-4592, is an oral small molecule inhibitor of HIF prolyl hydroxylases, or HIF-PHs, in Phase 3 clinical development for the treatment of anemia in chronic kidney disease, or CKD. FG-3019 is our monoclonal antibody in Phase 2 clinical development for the treatment of idiopathic pulmonary fibrosis, or IPF, pancreatic cancer and liver fibrosis. We have taken a global approach with respect to our product candidates, and this includes development and commercialization of product candidates in the People's Republic of China, or China.

Roxadustat, the first HIF-PH inhibitor to enter Phase 3 clinical development, acts by stimulating the body's natural pathway of erythropoiesis, or red blood cell production. Roxadustat represents a new paradigm for the treatment of anemia in CKD patients, and has the potential to offer a safer, more effective, more convenient and more accessible therapy than the current standard of care, injectable erythropoiesis stimulating agents, or ESAs. We, along with our collaboration partners Astellas Pharma Inc., or Astellas, and AstraZeneca AB, or AstraZeneca, have designed a global Phase 3 program to support regulatory approval of roxadustat in both NDD-CKD and DD-CKD patients in multiple geographies.

FG-3019 is our fully-human monoclonal antibody that inhibits the activity of connective tissue growth factor, or CTGF, a critical common element in the progression of fibrosis and associated serious diseases. We are currently conducting an open-label Phase 2 trial in IPF; a randomized, double-blind placebo-controlled Phase 2 trial in IPF; an open-label Phase 2 trial in pancreatic cancer; and a randomized, double-blind, placebo-controlled Phase 2 trial in liver fibrosis. To date, we have retained exclusive worldwide rights for FG-3019.

We are also currently pursuing our corneal implant FG-5200 for treatment of corneal blindness resulting from partial thickness corneal damage in China.

To date, our operations have been primarily funded by net proceeds from the sale of convertible preferred stock of FibroGen, Inc. and sales of preferred stock in our majority-owned subsidiaries as well as equity investments from our collaboration partners and upfront payments, milestone payments and net research and development payments from our collaboration partners.

Since inception and through June 30, 2014, we have incurred a total of $826.8 million in research and development expenses, a majority of which relates to the development of roxadustat, FG-3019 and other HIF-PH inhibitors. We expect to continue to incur significant expenses and operating losses over at least the next several years and we expect our research and development expenses to continue to increase in the future as we advance our product candidates through clinical trials and expand our product candidate portfolio. We will not generate revenue based on product sales unless and until we or one of our partners successfully complete development of and obtain regulatory approval for one or more of our product candidates, which we expect will take a number of

years and is subject to significant uncertainty. In addition, we expect to incur significant expenses relating to seeking regulatory approval for our product candidates. We also anticipate increased expenses related to audit, legal, regulatory and tax-related services associated with operating as a public reporting company. We consider the active management and development of our clinical pipeline to be crucial to our long-term success. The process of conducting the necessary clinical research to obtain regulatory approval is costly and time consuming. Except for $116.5 million, all currently planned development and commercialization costs for roxadustat for the treatment of anemia in CKD in the United States, Europe, Japan and all other markets outside of China are paid by Astellas and AstraZeneca. All development and commercialization costs for roxadustat in China will be shared equally, and AstraZeneca will pay for all of our commercialization costs until profitability and AstraZeneca will recoup such costs out of product sales, if any. Any termination of any of our collaboration agreements would require us to fund the further development and commercialization of roxadustat in the affected territory or pursue another collaboration, which we may be unable to do, either of which could have an adverse effect on our business and operations.

The actual probability of success for each of our product candidates and clinical programs, and our ability to generate product revenue and become profitable, depends upon a variety of factors, including the quality of the product candidate, clinical results, investment in the program, competition, manufacturing capability, commercial viability, and our and our partners' ability to successfully execute our development and commercialization plans. For a description of the numerous risks and uncertainties associated with product development, see "Risk Factors".

Financial Operations Overview

Revenue

Our revenue to date has been generated primarily from our collaboration agreements with Astellas Pharmaceuticals Inc., or Astellas, and AstraZeneca AB, or AstraZeneca. The following tables summarize the sources of our revenue for the years ended December 31, 2012 and 2013, and the six months ended June 30, 2013 and 2014:

	Year Ended December 31,		Six Months Ended June 30,	
	2012	2013	2013	2014
	(in thousands)		(unaudited, in thousands)	
Astellas-Related party:				
License	$ 12,845	$ 9,826	$ 4,395	$ 6,460
Milestone	50,000	12,500	12,500	—
Collaboration Services	2,275	3,335	1,628	1,618
Total Astellas	$ 65,120	$ 25,661	$ 18,523	$ 8,078
AstraZeneca:				
License	$ —	$ 72,635	$ —	$ 90,688
Milestone	—	—	—	—
Collaboration Services	—	3,843	—	9,025
Total AstraZeneca	$ —	$ 76,478	$ —	$ 99,713
Other	$ 813	$ 31	$ 9	$ 43
Total Revenue	$ 65,933	$ 102,170	$ 18,532	$ 107,834

Under our revenue recognition policy, license revenue includes amounts from upfront, non-refundable license payments and amounts allocated pursuant to the relative selling price method from other consideration received (other than substantive milestone payments) during the periods. This revenue is generally recognized as deliverables are met and services are performed. Milestone revenue includes payments from milestones which are deemed to be substantive in nature and is recognized in its entirety in the period in which the milestone is

achieved. License and milestone revenues represented 95% and 93% of total revenues for the years ended December 31, 2012 and 2013, respectively, and 91% and 90% for the six months ended June 30, 2013 and 2014, respectively.

Collaboration services include co-development services, manufacturing of clinical supplies, committee services and information sharing. Collaboration services revenues are recognized over the non-contingent performance period, ranging from 36 to 65 months. Other revenues consist of royalty payments received, which are recorded on a monthly basis as they are reported to us, and have been included with collaboration services and other revenue in the Consolidated Statements of Operations, as they have not been material for each of the years ended December 31, 2012 and 2013 and the six months ended June 30, 2013 and 2014. Collaboration services and other revenues represented 5% and 7% of total revenues for the years ended December 31, 2012 and 2013, respectively, and 9% and 10% for the six months ended June 30, 2013 and 2014, respectively.

We have not generated any revenues based on the sale of products. In the future, we may generate revenue from product sales and from collaboration agreements in the form of license fees, milestone payments, reimbursements for collaboration services and royalties on product sales. We expect that any revenues we generate will fluctuate from quarter to quarter as a result of the uncertain timing and amount of such payments and sales.

Collaboration Agreements

Our current and future research, development, manufacturing and commercialization efforts with respect to roxadustat and our other product candidates currently in development depend on funds from our collaboration agreements with Astellas and AstraZeneca as described below.

In June 2005, we entered into a collaboration agreement with Astellas for roxadustat for the treatment of anemia in Japan (“Japan Agreement”).

In April 2006, we entered into a collaboration agreement with Astellas for roxadustat for the treatment of anemia in Europe, the Commonwealth of Independent States, the Middle East, and South Africa (“Europe Agreement”).

In July 2013, we entered into a collaboration agreement with AstraZeneca for roxadustat for the treatment of anemia in the U.S. and all territories not previously licensed to Astellas, except China (“US/RoW Agreement”).

In July 2013, through our China subsidiary and related affiliates, we entered into a collaboration agreement with AstraZeneca for roxadustat for the treatment of anemia in China (“China Agreement”).

For more detailed discussions on the accounting for these agreements, see Note 3 to the consolidated financial statements. In addition, see “Business—Collaborations” for a more detailed description of our collaboration agreements.

Total cash consideration received through June 30, 2014 and potential cash consideration, other than development cost reimbursement, transfer price payments, royalties and profit share, pursuant to our existing collaboration agreements are as follows:

	Cash Received Through June 30, 2014	Additional Potential Cash Payments	Total Potential Cash Payments
		(in thousands)	
Astellas-Related party:			
Japan Agreement	$ 52,593	$ 120,000	$ 172,593
Europe Agreement	410,000	335,000	745,000
Total Astellas	$ 462,593	$ 455,000	$ 917,593
AstraZeneca:			
US/RoW Agreement	$ 192,000	$ 1,057,000	$ 1,249,000
China Agreement	28,200	348,500	376,700
Total AstraZeneca	$ 220,200	$ 1,405,500	$ 1,625,700
Total	$ 682,793	$ 1,860,500	$ 2,543,293

These collaboration agreements also provide for reimbursement of certain fully burdened research and development costs as well as direct out of pocket expenses.

Research and Development Expenses

Research and development expenses consist of third party research and development costs and the fully-burdened amount of costs associated with work performed under collaboration agreements. Research and development costs include employee-related expenses for research and development functions, expenses incurred under agreements with clinical research organizations, or CROs, other clinical and preclinical costs and allocated direct and indirect overhead costs, such as facilities costs, information technology costs and other overhead. Research and development costs are expensed as incurred. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors and our clinical sites.

The following table summarizes our research and development expenses incurred during the years ended December 31, 2012 and 2013, and for the six months ended June 30, 2013 and 2014:

Product Candidate	Phase of Development	Year Ended December 31, 2012	Year Ended December 31, 2013	Six Months Ended June 30, 2013	Six Months Ended June 30, 2014
		(in thousands)		(in thousands)	
Roxadustat	Phase 3	$36,631	$43,620	$16,897	$34,468
FG-3019	Phase 2	16,607	20,103	7,282	10,286
FG-6874	Phase 1	3,410	1,979	1,018	1,915
FG-5200	Preclinical	2,428	3,154	1,115	1,866
Other research and development expenses		15,146	16,854	6,780	10,384
Total research and development expenses		$74,222	$85,710	$33,092	$58,919

The program-specific expenses summarized in the table above include costs we directly attribute to our product candidates. We allocate research and development salaries, benefits, stock-based compensation and other indirect costs to our product candidates on a program-specific basis, and we include these costs in the program-specific expenses. The largest component of our total operating expenses has historically been our investment in research and development activities, including the clinical development of our product candidates. Since inception and

through June 30, 2014, we have incurred a total of $826.8 million in research and development expenses, a majority of which relates to the development of roxadustat, FG-3019 and other HIF-PH inhibitors. We expect our research and development expenses to continue to increase in the future as we advance our product candidates through clinical trials and expand our product candidate portfolio. The process of conducting the necessary clinical research to obtain regulatory approval is costly and time consuming. We consider the active management and development of our clinical pipeline to be crucial to our long-term success. The actual probability of success for each product candidate and clinical program may be affected by a variety of factors, including the safety and efficacy data of the product candidate, investment in the program, competition, manufacturing capability and commercial viability. Furthermore, we have entered into collaborations with third parties to participate in the development and commercialization of our product candidates, and we may enter into additional collaborations in the future. In situations in which third parties have control over the preclinical development or clinical study process for a product candidate, the estimated completion dates are largely outside of our control. We are unable to forecast with any degree of certainty which of our product candidates, if any, will be subject to collaborations in the future or how such arrangements would affect our development plans or capital requirements. As a result of the uncertainties discussed above, we are unable to determine the duration and completion costs of our research and development projects, or when and to what extent we will generate revenue from the commercialization and sale of any of our product candidates.

The duration, costs and timing of clinical studies and development of our product candidates will depend on a variety of factors. For example, if the FDA, EMA or another regulatory authority were to require us to conduct clinical studies beyond those that we currently anticipate will be required, or if we experience significant delays in enrollment in any of our clinical studies, we could be required to expend significant additional financial resources and the time to the completion of clinical development would be extended.

We intend to identify additional partnerships to further develop product candidates other than roxadustat, which may offset a portion of our research and development expenses through reimbursement from potential partners. Because of the numerous risks and uncertainties associated with drug development, we are unable to predict the timing or amount of expenses incurred or when, or if, we will be able to achieve sustained profitability.

General and Administrative Expenses

General and administrative expenses consist primarily of employee-related expenses for executive, operational, finance, legal, compliance and human resource functions. Other general and administrative expenses include facility-related costs and professional fees, accounting and legal services, other outside services, recruiting fees and expenses associated with obtaining and maintaining patents.

For the years ended December 31, 2012 and 2013, and for the six months ended June 30, 2013 and 2014, we incurred $18.9 million, $24.4 million, $9.6 million and $13.9 million, respectively, in general and administrative expenses.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support our continued research and development and potential commercialization of our product candidates. We also anticipate increased expenses, including exchange listing and Securities and Exchange Commission requirements, director and officer insurance premiums, legal, audit and tax fees, regulatory compliance programs and investor relations costs associated with being a public company. Additionally, if and when we believe the first regulatory approval of one of our product candidates appears likely, we anticipate an increase in payroll and related expenses as a result of our preparation for commercial operations, especially as it relates to the sales and marketing of our product candidates.

Interest and Other, Net

Interest Expense

In connection with our long-term lease for our corporate headquarters in San Francisco, California, which was entered into in September 2006, and the lease for our pilot plant located in Beijing Yizhuang Biomedical Park, or BYBP, which was entered into in February 2013, we recognized an asset for costs of constructing the building shells of $50.8 million and $3.1 million, respectively for these facilities and recorded a corresponding lease financing obligation. In addition, we recorded $32.5 million in reimbursements for tenant improvements in the San Francisco location and $0.5 million in rent reimbursements for BYBP.

As the monthly lease payments are made, we record interest expense and an increase or reduction in the corresponding lease financing obligation for any amounts allocated to or deficiencies being applied to the principal value of these obligations.

Interest expense includes payments made for imputed interest related to the facility lease financing obligations for the San Francisco and China properties (see Note 8 to the consolidated financial statements) and interest related to The Technology Development Center of the Republic of Finland, or TEKES, product development obligations (see Note 6 to the consolidated financial statements).

Interest Income

Interest income represents interest earned on our cash, cash equivalents and investments.

Other Income (Expense)

Other income (expense) relates to foreign currency transaction gains (losses) and remeasurement of certain monetary assets and liabilities in non-functional currency of our subsidiaries using exchange rates in effect at the end of the period into the functional currency as well as realized gains (losses) on sales of investments.

Sublease Income

We sublease approximately 34,400 square feet of space within our corporate headquarters facility to certain subtenants on a short-term basis. These subleases include invoices for base rent and reimbursement of various expenses. Sublease income is included as an offset to our facilities expenses for both general and administrative and research and development expenses. For the years ended December 31, 2012 and 2013, and the six months ended June 30, 2013 and 2014, we had sublease income of $4.3 million, $4.5 million, $2.2 million and $2.4 million, respectively.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, and expenses and the disclosure of contingent assets and liabilities in our financial statements. On an ongoing basis, we evaluate our estimates and judgments, including those related to accrued expenses and stock-based compensation. We base our estimates on historical experience, known trends and events, and various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in the notes to our financial statements appearing elsewhere in this prospectus, we believe the following accounting policies to be most critical to the judgments and estimates used in the preparation of our financial statements.

Revenue Recognition

Substantially all of our revenues to date have been generated from our collaboration agreements.

Our collaboration agreements include multiple deliverables, and we follow the guidance in Accounting Standards Codification Topic 605-25, "Revenue Recognition—Multiple-Element Arrangements," or ASC Topic 605-25 ("ASC 605-25"). ASC 605-25:

- provides guidance on how revenue arrangements with multiple deliverables should be separated and how the arrangement consideration should be allocated among the separate units of accounting;
- requires an entity to determine the selling price of a separate deliverable using a hierarchy of (i) vendor-specific objective evidence, or VSOE, (ii) third-party evidence, or TPE, or (iii) best estimate of selling price, or BESP; and
- requires the allocation of the arrangement consideration, at the inception of the arrangement, to the separate units of accounting based on relative selling price.

We evaluate all deliverables within an arrangement to determine whether or not they provide value on a stand-alone basis. Based on this evaluation, the deliverables are separated into units of accounting. The arrangement consideration that is fixed or determinable at the inception of the arrangement is allocated to the separate units of accounting based on their relative selling prices. Significant judgment may be required in determining whether a deliverable provides stand-alone value, determining the amount of arrangement consideration that is fixed or determinable, and estimating the stand-alone selling price of each unit of accounting.

To date, we have determined that the selling price for the deliverables within our collaboration agreements should be determined using BESP, as neither VSOE nor TPE is available. The process for determining BESP involves significant judgment on our part and includes consideration of multiple factors, including assumptions related to the market opportunity and the time needed to commercialize a product candidate pursuant to the relevant license, estimated direct expenses and other costs, which include the rates normally charged by contract research and contract manufacturing organizations for development and manufacturing obligations, and rates that would be charged by qualified outsiders for committee services.

For each unit of accounting identified within an arrangement, we determine the period over which the deliverables are provided and the performance obligation is satisfied. Service revenue is recognized using a proportional performance method. Direct labor hours or full time equivalents are used as the measurement of performance. Revenue may be recognized using a straight line method when performance is expected to occur consistently over a period of time.

Payments or reimbursements resulting from our research and development efforts for those arrangements where such efforts are considered as deliverables are recognized as the services are performed and are presented on a gross basis. To the extent payments are required to be made to our collaboration partners pursuant to research and development efforts, those costs are charged to research and development using the guidance pursuant to ASC 605-250, Customer Payments and Incentives, which states that cash consideration given by a vendor to a customer is presumed to be a reduction of the selling prices unless the vendor receives an identifiable benefit in exchange for the consideration that is sufficiently separable from the recipient's purchase of the vendor's products, and the vendor can reasonably estimate the fair value of the benefit.

Each of our collaboration agreements includes milestones for which we follow ASC Topic 605-28, Revenue Recognition—Milestone Method ("ASC 605-28"). ASC 605-28 establishes the milestone method as an acceptable method of revenue recognition for certain contingent event-based payments under research and development arrangements. Under the milestone method, a payment that is contingent upon the achievement of a substantive milestone is recognized in its entirety in the period in which the milestone is achieved. A milestone is an event (i) that can only be achieved based in whole or in part on either our performance or on the occurrence of

a specific outcome resulting from our performance, (ii) for which there is substantive uncertainty at the date the arrangement is entered into that the event will be achieved and (iii) that would result in additional payments being due to us. Determining whether a milestone is substantive is a matter of judgment and that assessment must be made at the inception of the arrangement. Milestones are considered substantive when the consideration earned from the achievement of the milestone (i) is commensurate with either our performance to achieve the milestone or the enhancement of the value of the item delivered as a result of a specific outcome resulting from our performance to achieve the milestone, (ii) relates solely to past performance and (iii) is reasonable relative to all deliverables and payment terms in the arrangement. Payments for achieving milestones which are not considered substantive are treated as additional arrangement consideration and are allocated following the relative selling price method previously described.

Clinical Trial Accruals

Clinical trial costs are a component of research and development expenses. We accrue and expense clinical trial activities performed by third parties based upon actual work completed in accordance with agreements established with clinical research organizations and clinical sites. We determine the actual costs through external service providers as well as confirmation with internal personnel as to the progress or stage of completion of trials or services and the agreed-upon fee to be paid for such services.

Income Taxes

We account for income taxes using an asset and liability approach. Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Operating loss and tax credit carryforwards are measured by applying currently enacted tax laws. Valuation allowances are provided when necessary to reduce net deferred tax assets to an amount that is more likely than not to be realized. As of December 31, 2012 and 2013, we provided a full valuation allowance against our net deferred tax assets.

We recognize the tax effects of an uncertain tax position only if it is more likely than not to be sustained based solely on its technical merits as of the reporting date and only in an amount more likely than not to be sustained upon review by the tax authorities. We consider many factors when evaluating and estimating our tax positions and tax benefits, which may require periodic adjustments and which may not accurately reflect actual outcomes.

As of December 31, 2013, we had net operating loss carryforwards available to offset future taxable income of approximately $115.4 million and $171.7 million for federal and state tax purposes, respectively. These carryforwards will begin to expire in 2024 for federal purposes and in 2014 for state purposes, if not utilized before these dates. We also had foreign net operating loss carryforwards of approximately $17.3 million that expire between 2014 and 2023 if not utilized.

As of December 31, 2013, we had approximately $18.4 million of federal and $13.8 million of state research and development tax credit carryforwards available to offset future taxable income. The federal credits will begin to expire in 2018 and the California research credits have no expiration dates.

Utilization of net operating losses and tax credit carryforwards may be limited by the “ownership change” rules, as defined in Section 382 of the Internal Revenue Code (any such limitation, a “Section 382 limitation”). Similar rules may apply under state tax laws. We have performed an analysis to determine whether an “ownership change” occurred from inception to December 31, 2013. Based on this analysis, management determined that we did experience historical ownership changes of greater than 50% during this period. Therefore, the utilization of a portion of our net operating losses and credit carryforwards is currently limited. However, these Section 382 limitations are not expected to result in a permanent loss of the net operating losses and credit carryforwards. As such, a reduction of our gross deferred tax asset for our net operating loss and tax credit carryforwards is not necessary prior to considering the valuation allowance. In the event we experience any subsequent changes in

ownership, the amount of net operating losses and research and development credit carryforwards useable in any taxable year could be limited and may expire unutilized.

Stock-Based Compensation

We measure and recognize compensation expense for all stock options granted to our employees, directors and non-employees based on the estimated fair value of the award on the grant date. We use the Black-Scholes valuation model to estimate the fair value of stock option awards. The fair value is recognized as expense, net of estimated forfeitures, over the requisite service period, which is generally the vesting period of the respective award, on a straight-line basis. We believe that the fair value of stock options granted to non-employees is more reliably measured than the fair value of the services received. As such, the fair value of the unvested portion of the options granted to non-employees is re-measured as of each reporting date. The resulting increase in value, if any, is recognized as expense during the requisite service period on a straight-line basis. The determination of the grant date fair value of options using an option pricing model is affected by our estimated common stock fair value and requires management to make a number of assumptions, including the expected life of the option, the volatility of the underlying stock, the risk-free interest rate and expected dividends.

Historically, for all periods prior to this initial public offering, the fair values of the shares of common stock underlying our stock-based awards were estimated on each grant date by our board of directors. In order to determine the fair value of our common stock underlying option grants, our board of directors considered, among other things, contemporaneous valuations of our common stock prepared by unrelated third-party valuation firms in accordance with the guidance provided by the American Institute of Certified Public Accountants 2004 Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, or the Practice Aid. Given the absence of a public trading market of our common stock, our board of directors exercised reasonable judgment and considered a number of objective and subjective factors to determine the best estimate of the fair value of our common stock, including:

- contemporaneous valuations of our common stock performed by unrelated third-party valuation firms as of February 29, 2012, August 31, 2012, February 15, 2013, July 31, 2013, October 31, 2013 and February 28, 2014;
- our stage of development;
- our operational and financial performance;
- the nature of our services and our competitive position in the marketplace;
- the value of companies that we consider peers based on a number of factors, including similarity to us with respect to industry and business model;
- the likelihood of achieving a liquidity event, such as an initial public offering or sale given prevailing market conditions, and the nature and history of our business;
- issuances of preferred stock and the rights, preferences and privileges of our preferred stock relative to those of our common stock;
- current business conditions and projections;
- the history of our company and our introduction of new solutions; and
- the lack of marketability of our common stock.

Common Stock Valuation Methodology

The valuations were performed in accordance with applicable elements of the Practice Aid. The Practice Aid prescribes several valuation approaches for estimating the value of an enterprise, such as the cost, market and income approaches, and various methodologies for allocating the value of an enterprise to its common stock.

The Practice Aid identifies various available methods for allocating enterprise value across classes and series of capital stock to determine the estimated fair value of common stock at each valuation date. In accordance with the Practice Aid, our board determined that the Probability-Weighted Expected Return Method (or PWERM) was the most appropriate method for determining the fair value of our common stock for the above noted valuation dates based on our stage of development and other relevant factors. The PWERM is a scenario-based analysis that estimates value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes available to us, as well as the economic and control rights of each share class.

For valuations after the completion of this initial public offering, our board of directors will determine the fair value of each share of underlying common stock based on the closing price of our common stock as reported on on the date of grant.

Results of Operations

	Years ended December 31,		Six Months ended June 30,	
	2012	2013	2013	2014
			(unaudited)	
	(in thousands)			
Revenue:				
License and milestone revenue	$ 62,845	$ 94,961	$ 16,895	$ 97,148
Collaboration services and other revenue	3,088	7,209	1,637	10,686
Total revenue	65,933	102,170	18,532	107,834
Operating expenses:				
Research and development	74,222	85,710	33,092	58,919
General and administrative	18,934	24,409	9,610	13,948
Total operating expenses	93,156	110,119	42,702	72,867
Income (loss) from operations	(27,223)	(7,949)	(24,170)	34,967
Total interest and other, net	(5,448)	(6,994)	(3,303)	(4,376)
Income (loss) before income taxes	(32,671)	(14,943)	(27,473)	30,591
Benefit from income taxes	100	—	—	—
Net income (loss)	$(32,571)	$ (14,943)	$(27,473)	$ 30,591

Comparison of the six months ended June 30, 2013 and 2014 (unaudited)

Revenue

	Six Months Ended June 30,					
	2013	% of Revenue	2014	% of Revenue	Change	% Change
	(dollars in thousands)					
Revenue:						
License and milestone revenue	$16,895	91%	$ 97,148	90%	$80,253	475%
Collaboration services and other revenue	1,637	9%	10,686	10%	9,049	553%
Total revenue	$18,532	100%	$107,834	100%	$89,302	482%

Total revenue increased by $89.3 million, or 482% for the six months ended June 30, 2014 compared to the six months ended June 30, 2013 for the reasons as more fully discussed in the sections below.

License and Milestone Revenue

	Six Months Ended June 30,					
	2013	% of License and Milestone Revenue	2014	% of License and Milestone Revenue	Change	% Change
	(dollars in thousands)					
License and milestone revenue:						
Astellas—Related party	$16,895	100%	$ 6,460	7%	$(10,435)	(62)%
AstraZeneca	—	—	90,688	93%	90,688	NM
Total license and milestone revenue	$16,895	100%	$97,148	100%	$ 80,253	475%

NM - Not Meaningful

License and milestone revenue increased by $80.3 million for the six months ended June 30, 2014 compared to the six months ended June 30, 2013. This increase was primarily driven by license revenue recognized in connection with our collaboration agreements signed in July 2013 with AstraZeneca. The amount of license revenue recognized was due principally to the receipt of a $110 million time-based payment in June 2014 and the application of the relative selling price method to each of the deliverables underlying the AstraZeneca agreement. As a result of applying the relative selling price method and assessing the timing of the provision of various deliverables (as more fully discussed in the notes to the consolidated financial statements), at June 30, 2014, approximately $19.3 million (which relates to the co-development, information sharing and committee services unit of accounting) and $14.9 million (which relates to the China unit of accounting) of this payment were deferred. The amounts related to the co-development, information sharing and committee services unit of accounting will be recognized as revenue as these services are performed through the remainder of the non-contingent development period (which was estimated as 65 months from the date the AstraZeneca agreement was signed). The amount relating to the China unit of accounting has been deferred until commercialization commences in the China market.

Collaboration Services and Other Revenue

Collaboration services revenue increased $9.0 million for the six months ended June 30, 2014, compared to the six months ended June 30, 2013, primarily due to an increase in expenses subject to reimbursement following our entry into our agreements with AstraZeneca.

Operating Expenses

	Six Months Ended June 30,					
	2013	% of Revenue	2014	% of Revenue	Change	% Change
	(dollars in thousands)					
Operating expenses:						
Research and development	$33,092	179%	$58,919	55%	$25,827	78%
General and administrative	9,610	52%	13,948	13%	4,338	45%
Total operating expenses	$42,702	231%	$72,867	68%	30,165	71%

Research and development expenses increased by $25.8 million, or 78% for the six months ended June 30, 2014 compared to the six months ended June 30, 2013. The increase was primarily due to an increase in personnel related costs of $6.6 million, of which $3.9 million related to an increase in headcount and related expenses, $1.8 million related to increased expenses under our corporate bonus program and $0.9 million related to the

establishment of a 401(k) employee contribution matching program. We also experienced an increase in outside services expenses of $10.3 million as we utilized third parties for scientific contract work for increased regulatory submissions for roxadustat and certain other of our product candidates and an increase in drug development expenses of $3.5 million due to increased supply required for roxadustat and FG-3019 trials. In addition, our overall clinical trials expenses increased $4.6 million, as a result of our increased use of CROs as well as costs for data management.

General and administrative expenses increased $4.3 million, or 45%, for the six months ended June 30, 2014 compared to the six months ended June 30, 2013. The increase was primarily due to an increase in personnel related costs of $2.1 million, of which $1.2 million related to an increase in headcount and related expenses, $0.6 million related to increased expenses under our corporate bonus program and $0.3 million related to the establishment of a 401(k) match program. In addition, professional fees increased $1.5 million due to increase in legal, audit, tax and other outside services costs. Furthermore, facilities expense increased $0.3 million due to the costs associated with our newly leased facility in China.

Interest Expense and Other, Net

	Six Months Ended June 30,			
	2013	2014	Change	% Change
	(dollars in thousands)			
Interest expense and other, net:				
Interest expense	$ 5,307	$ 5,451	$ 144	3%
Interest income	(1,840)	(1,080)	760	(41)%
Foreign currency and other (gain) loss	(164)	5	169	(103)%
Total interest expense and other, net	$ 3,303	$ 4,376	$1,073	32%

Interest expense and other, net increased $1.1 million, or 32%, for the six months ended June 30, 2014, compared to the six months ended June 30, 2013. Interest expense includes payments made for imputed interest related to the facility lease financing obligations for the San Francisco and the China properties as well as interest related to the TEKES product development obligations. Interest expense increased $0.1 million, primarily due to the newly-leased facility in China.

Interest income consists primarily of interest earned on bonds held. Interest income decreased $0.8 million for the six months ended June 30, 2014, compared to the six months ended June 30, 2013, due to a decrease in bond interest related to the maturity and call of bonds. Foreign currency and other decreased $0.2 million for the six months ended June 30, 2014, compared to the six months ended June 30, 2013, as a result of nonrecurring realized gains on the sale of investments for the six months ended June 30, 2013.

Comparison of the years ended December 31, 2012 and 2013

Revenue

	Year Ended December 31,					
	2012	% of Revenue	2013	% of Revenue	Change	% Change
	(dollars in thousands)					
Revenue:						
License and milestone revenue	$62,845	95%	$ 94,961	93%	$32,116	51%
Collaboration services and other revenue	3,088	5%	7,209	7%	4,121	133%
Total revenue	$65,933	100%	$102,170	100%	$36,237	55%

Total revenue increased by $36.2 million, or 55% for the year ended December 31, 2013 compared to the year ended December 31, 2012 for the reasons as more fully discussed in the sections below.

License and Milestone Revenue

	Year Ended December 31,					
	2012	% of License and Milestone Revenue	2013	% of License and Milestone Revenue	Change	% Change
	(dollars in thousands)					
License and milestone revenue:						
Astellas—Related party	$62,845	100%	$22,326	24%	$(40,519)	(64)%
AstraZeneca	—	—	72,635	76%	72,635	NM
Total license and milestone revenue	$62,845	100%	$94,961	100%	$ 32,116	51%

NM - Not Meaningful

License and milestone revenue increased by $32.1 million, or 51% for the year ended December 31, 2013 compared to the year ended December 31, 2012. This increase was primarily driven by license and milestone revenue recognized in connection with our collaboration agreements signed in July 2013 with AstraZeneca. Under our collaboration agreements with Astellas, we recognized revenue related to two substantive milestones in 2012 and 2013 of $50.0 million and $12.5 million, respectively.

Collaboration Services and Other Revenue

Collaboration services and other revenue increased $4.1 million, or 133% for the year ended December 31, 2013 compared to the year ended December 31, 2012, primarily due to an increase in expenses subject to reimbursement of $3.8 million following our entry into our agreements with AstraZeneca.

Operating Expenses

	Year Ended December 31,					
	2012	% of Revenue	2013	% of Revenue	Change	% Change
	(dollars in thousands)					
Operating expenses:						
Research and development	$74,222	113%	$ 85,710	84%	$11,488	15%
General and administrative	18,934	29%	24,409	24%	5,475	29%
Total operating expenses	$93,156	141%	$110,119	108%	16,963	18%

Research and development expenses increased by $11.5 million, or 15% for the year ended December 31, 2013 compared to the year ended December 31, 2012. The increase was primarily due to an increase in personnel related costs of $8.6 million, of which $3.2 million related to an increase in headcount and related expenses and $5.4 million related to increased expenses under our corporate bonus program, primarily due to the agreements signed with AstraZeneca in July 2013. We also experienced an increase in outside services expenses of $3.2 million as we utilized third parties to support increased regulatory efforts for roxadustat, and certain other of our product candidates and an increase in drug development expenses of $1.9 million due to increased supply required for roxadustat and FG-3019 trials. These increases were partially offset by a decrease in overall clinical trials expenses of $2.1 million, primarily related to the decrease in clinical investigator site costs and decreased activity for CROs.

General and administrative expenses increased $5.5 million, or 29% for the year ended December 31, 2013 compared to the year ended December 31, 2012. The increase was primarily due to an increase in personnel expenses of $3.9 million, of which $0.8 million related to an increase in headcount and related expenses and $3.1 million related to increased expenses under our corporate bonus program, primarily due to the agreements signed with AstraZeneca in July 2013. In addition, professional fees increased $1.6 million due to increased legal and outside services costs related to the execution of the AstraZeneca agreements as well as other general corporate legal expenses. Furthermore, facilities expense increased $0.2 million due to the costs associated with the newly leased facility in China.

Interest Expense and Other, Net

	Year Ended December 31,			
	2012	2013	Change	% Change
	(dollars in thousands)			
Interest expense and other, net:				
Interest expense	$10,026	$10,702	$ 676	7%
Interest income	(4,397)	(3,552)	845	(19)%
Foreign currency and other	(181)	(156)	25	(14)%
Total interest expense and other, net	$ 5,448	$ 6,994	$1,546	28%

Interest expense and other, net increased $1.5 million, or 28%, for the year ended December 31, 2013, compared to the year ended December 31, 2012. Interest expense includes payments made for imputed interest related to the facility lease financing obligations for the headquarters and China facilities as well as interest related to the TEKES product development obligations, which increased $0.7 million, primarily due to the newly-leased facility in China.

Interest income consists primarily of interest earned on bonds held. Interest income decreased $0.8 million, or 19%, for the year ended December 31, 2013, compared to the year ended December 31, 2012, due to a decrease in bond interest related to the maturity and call of bonds.

Liquidity and Capital Resources

We have historically funded our operations principally from the sale of convertible preferred stock and from the execution of certain collaboration agreements involving license payments, milestones and reimbursement for development services. To date, we have raised net proceeds of $302.7 million through the sale of FibroGen, Inc. convertible preferred stock and $27.9 million in sales of convertible preferred stock in our majority-owned subsidiaries. We have also received approximately $13.0 million of loans from TEKES. As of June 30, 2014, we had cash and cash equivalents of approximately $182.7 million. Cash is invested in accordance with our investment policy, primarily with a view to liquidity and capital preservation. Investments, consisting principally of corporate and government debt securities and stated at fair value, are also available as a source of liquidity. As of June 30, 2014, we had short-term and long-term investments of approximately $19.4 million and $7.7 million, respectively.

Cash Flows

The following table sets forth the primary sources and uses of cash for each of the periods set forth below:

	Years ended December 31,		Six Months ended June 30,	
	2012	2013	2013	2014
			(unaudited)	
	(in thousands)			
Net cash provided by (used in):				
Operating activities	$ (5,605)	$25,918	$(25,255)	$ 77,238
Investing activities	19,152	10,778	5,726	29,594
Financing activities	6,807	680	459	(537)
Effect of exchange rate changes on cash	(66)	84	13	35
Net change in cash and cash equivalents	$20,288	$37,460	$(19,057)	$106,330

Operating Activities

Net cash provided by operating activities was $77.2 million for the six months ended June 30, 2014, and consisted primarily of net income of $30.6 million adjusted for non-cash items including stock-based compensation expense of $1.5 million, depreciation expense of $1.8 million, amortization of bond premium/discount of $0.3 million and a net increase in operating assets and liabilities of $43.0 million. The significant items in the change in operating assets and liabilities include an increase in deferred revenue of $36.3 million and an increase in accounts payable and accrued expenses of $5.0 million. The increase in deferred revenue relates to the timing of upfront payments and recognition of revenues under our collaboration agreements with Astellas and AstraZeneca. The increase in accrued expenses is driven by the increase in clinical trial activity related to upcoming Phase 3 trials for roxadustat.

Net cash used in operating activities was $25.3 million for the six months ended June 30, 2013, and consisted primarily of a net loss of $27.5 million adjusted for non-cash items including stock-based compensation expense of $1.8 million, depreciation expense of $2.6 million, investment gain of $0.2 million, amortization of bond premium/discount of $0.4 million and a net decrease in operating assets and liabilities of $2.3 million. The change in operating assets and liabilities includes a decrease in accounts payable and accrued expenses of $4.9 million that was driven by a decrease in accrued clinical trial related expenses. This decrease was partially offset by changes in accounts receivable and deferred revenues related to our collaboration agreement with Astellas.

Net cash provided by operating activities was $25.9 million for the year ended December 31, 2013, and consisted primarily of a net loss of $14.9 million adjusted for non-cash items including stock-based compensation expense of $3.4 million, depreciation expense of $5.1 million, investment gains of $0.3 million, amortization of bond premium/discount of $0.8 million and a net increase in operating assets and liabilities of $31.8 million. The change in operating assets and liabilities include increases in accounts payable and accrued expenses of $9.3 million, an increase in deferred revenue of $30.9 million, a decrease in prepaid expenses and other current assets of $0.8 million, offset by increases of $0.5 million in other assets and $8.7 million in accounts receivable. The increase in accounts payable and accrued expenses was primarily due to increased accrued payroll expenses and accrued clinical trial related expenses. The increase in accounts receivable and deferred revenue relate to the timing of milestone payments and recognition of revenues under our collaboration agreements with Astellas and AstraZeneca.

Net cash used in operating activities was $5.6 million for the year ended December 31, 2012, and consisted primarily of a net loss of $32.6 million adjusted for non-cash items including stock-based compensation expense of $4.6 million, depreciation expense of $5.6 million, investment gains of $0.4 million, amortization of bond premium or discount of $0.9 million and a net decrease in operating assets and liabilities of $16.3 million. The change in operating assets and liabilities include an increase in accounts payable and accrued expenses of

$2.2 million and a decrease of $14.1 million in accounts receivable, offset by increases of $0.5 million in prepaid expenses and other current assets and $0.4 million in other assets. The increase in accounts receivable relate to the timing of milestone payments under our collaboration agreements with Astellas.

Investing Activities

Net cash provided by investing activities consisted of purchases of fixed assets, purchases of investments, and proceeds from the maturity and sale of investments.

Net cash provided by investing activities for the six months ended June 30, 2014 was $29.6 million and consisted of proceeds from maturities of investments of $33.5 million offset by $4.0 million in purchases of fixed assets. Net cash provided by investing activities for the six months ended June 30, 2013 was $5.7 million and consisted of $7.6 million in proceeds from sales and maturities of investments, offset by $1.9 million in purchases of fixed assets.

Net cash provided by investing activities for the year ended December 31, 2013 was $10.8 million and consisted primarily of proceeds from sales and maturities of investments of $17.6 million offset by $6.8 million purchases of fixed assets. Net cash provided by investing activities for the year ended December 31, 2012 was $19.2 million and consisted primarily of $22.1 million in proceeds from sales and maturities of investments, offset by $2.2 million in purchases of investments and $0.7 million in purchases of fixed assets.

Financing Activities

Net cash used in financing activities for the six months ended June 30, 2014 was $0.5 million and consisted of $1.2 million in payments in equity issuance costs (costs paid associated with the planned public offering of our securities) and $0.2 million of payments on our lease option liability, partially offset by $0.8 million in proceeds from issuance of common stock upon exercise of stock options. Net cash provided by financing activities for the six months ended June 30, 2013 was $0.5 million and consisted of $0.6 million in proceeds from a convertible promissory note and $0.2 million in proceeds from non-controlling interests, partially offset by $0.2 million of repayments on equipment loans and $0.2 million for payments on our lease option liability.

Net cash provided by financing activities for the year ended December 31, 2013 was $0.7 million and consisted of $0.6 million from our lease financing liability rent subsidy, $0.6 million in proceeds from a convertible promissory note and $0.2 million in proceeds from non-controlling interests. These amounts were partially offset by $0.3 million of repayments on equipment loans and $0.4 million on our option lease liability. Net cash provided by financing activities for the year ended December 31, 2012 was $6.8 million and consisted of $6.6 million proceeds from non-controlling interests, $0.8 million proceeds from notes receivable, and $0.2 million from issuance of common stock, offset by $0.3 million of repayments on equipment loans, and $0.4 million on our lease option liability.

During the years ended December 31, 2012 and 2013, we also drew down and fully repaid amounts on our credit facility of $17.3 million and $11.5 million, respectively.

Operating Capital Requirements

To date, we have not generated any revenue from product sales. We do not know when, or if, we will generate any revenue from product sales. We do not expect to generate significant revenue from product sales unless and until we obtain regulatory approval of and commercialize one or more of our current or future product candidates. We anticipate that we will continue to generate losses for the foreseeable future, and we expect the losses to increase as we continue the development of, and seek regulatory approvals for, our product candidates, and begin to commercialize any approved products. We are subject to all the risks related to the development and commercialization of novel therapeutics, and we may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. Upon the closing of this offering, we

expect to incur additional costs associated with operating as a public company. We anticipate that we will need substantial additional funding in connection with our continuing operations.

We believe our existing cash and cash equivalents, short-term and long-term investments and payments due under our license and collaboration agreements will be sufficient to meet our working capital and capital expenditure needs for at least the next 12 months. Our longer term liquidity requirements may require us to raise additional capital, such as through additional equity or debt financings. Our future capital requirements will depend on many factors, including our ability to meet milestones under our current collaboration agreements, and the timing of our expenditures related to clinical trials.

In addition, we may require additional capital sooner for the further development of our existing product candidates and may also need to raise additional funds sooner to pursue other development activities related to additional product candidates.

Until we can generate a sufficient amount of revenue from our product candidates, if ever, we expect to finance future cash needs through public or private equity or debt offerings. Additional capital may not be available on reasonable terms, if at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of one or more of our product candidates. If we raise additional funds through the issuance of additional equity or debt securities, it could result in dilution to our existing stockholders or increased fixed payment obligations, and any such securities may have rights senior to those of our common stock. If we incur indebtedness, we could become subject to covenants that would restrict our operations and potentially impair our competitiveness, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. Any of these events could significantly harm our business, financial condition and prospects.

Our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect. Our future funding requirements, both near- and long-term, will depend on many factors, including, but not limited to:

- the rate of progress in the development of our product candidates;
- the costs of development efforts for our product candidates, such as FG-3019, that are not subject to reimbursement from our collaboration partners;
- the costs necessary to obtain regulatory approvals, if any, for our product candidates in the United States, China and other jurisdictions, and the costs of post-marketing studies that could be required by regulatory authorities in jurisdictions where approval is obtained;
- the continuation of our existing collaborations and entry into new collaborations;
- the time and unreimbursed costs necessary to commercialize products in territories in which our product candidates are approved for sale;
- the revenues from any future sales of our products for which we are entitled to a profit share, royalties and milestones;
- the level of reimbursement or third party payor pricing available to our products;
- the costs of establishing and maintaining manufacturing operations and obtaining third party commercial supplies of our products, if any, manufactured in accordance with regulatory requirements;
- the costs we incur in maintaining domestic and foreign operations, including operations in China;
- the costs associated with being a public company; and

- the costs we incur in the filing, prosecution, maintenance and defense of our extensive patent portfolio and other intellectual property rights.

If we cannot expand our operations or otherwise capitalize on our business opportunities because we lack sufficient capital, our business, financial condition and results of operations could be materially adversely affected.

To date, we have funded certain portions of our research and development and manufacturing efforts in China and Europe through outside parties. There is no guarantee that sufficient funds will be available to continue to fund these development efforts through commercialization or otherwise.

Contractual Obligations and Commitments

Cease-Use Liability

In April 2009, in conjunction with the move of our headquarters to a new facility, we exited from one of the two buildings we formerly occupied. This facility closure was accounted for in accordance with accounting guidance related to costs associated with exit or disposal activities. Based upon this guidance, we recorded a cease-use liability equal to the net present value of the future minimum lease payments, net of expected future sublease payments, through the end of the remaining lease term. Any adjustments to the cease-use liability, due to factors such as expected future sublease payments, will be recorded in general and administrative expenses in the period those adjustments occur. A rollforward of the cease-use liability is shown below:

	Years Ended December 31,		Six Months Ended June 30,
	2012	2013	2014
		(in thousands)	(unaudited)
Beginning liability balance	$ 2,868	$ 1,861	$ 894
Payments made	(885)	(967)	(370)
Adjustments to estimates	(122)	—	—
Ending liability balance	$ 1,861	$ 894	$ 524

Contractual Obligations

At December 31, 2013, our contractual obligations were as follows:

	Payments due by period				
	Less than 1 year	1 to 3 years	3 to 5 years	More than 5 years	Total
			(in thousands)		
Contractual obligations:					
Operating lease obligations	$ 3,917	$ 555	$ —	$ —	$ 4,472
Lease financing obligations	13,286	41,356	43,562	41,382	139,586
Total contractual obligations	$17,203	$41,911	$43,562	$ 41,382	$144,058

The contractual obligations table excludes uncertain tax benefits of approximately $13.5 million that are disclosed in Note 12 in the notes to our consolidated financial statements because these uncertain tax positions, if recognized, would be an adjustment to the deferred tax assets.

Clinical Trials

As of December 31, 2013, we have several on-going clinical studies in various stages. Under agreements with various clinical research organizations, or CROs, and clinical study sites, we incur expenses related to clinical studies of our product candidates and potential other clinical candidates. The timing and amounts of these

disbursements are contingent upon the achievement of certain milestones, patient enrollment and services rendered or as expenses are incurred by the CROs or clinical trial sites. Therefore we cannot estimate the potential timing and amount of these payments and they have been excluded from the table above. Although our material contracts with CROs are cancellable, we have historically not cancelled such contracts.

Product Development Obligations

As of December 31, 2013, our FibroGen Europe subsidiary had $13.0 million of principal outstanding and $5.3 million of interest accrued related to the TEKES loans, respectively, which have been included as product development obligations in our consolidated balance sheet.

There is no stated maturity date related to these loans and each loan may be forgiven if the research work funded by TEKES does not result in an economically profitable business or does not meet its technological objectives. In addition, we are not a guarantor of the TEKES loans, and these loans are not repayable by FibroGen Europe until it has distributable funds. We do not expect FibroGen Europe to have such funds for at least the next five years. For the foregoing reasons, we cannot estimate the potential timing and the amounts of repayments (if required) or forgiveness. As a result, the TEKES loans have been excluded from the table above.

Off-Balance Sheet Arrangements

During the year ended December 31, 2013, we did not have any relationships with unconsolidated organizations or financial partnerships, such as structured finance or special purpose entities that would have been established for the purpose of facilitating off-balance sheet arrangements.

JOBS Act Accounting Election

We are an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards, and, therefore, will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Quantitative and Qualitative Disclosures About Market Risks

We are exposed to market risk in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in foreign currency exchange rates. The functional currency of our FibroGen Europe subsidiary is the local currency. Most of our revenue from collaboration agreements are denominated in U.S. dollars, and therefore our revenue is not currently subject to significant foreign currency risk. Our operating expenses are denominated in the currencies of the countries in which our operations are located, which are primarily in the United States, China, and Europe. Our consolidated results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates and may be adversely affected in the future due to changes in foreign exchange rates.

In February 2013, we entered into a long-term property lease with Beijing Economic-Technological Development Area (“BDA”) Management Committee for a pilot plant located in Beijing Yizhuang Biomedical Park of BDA. The lease financing obligation of approximately $3.1 million is payable in Renminbi and subject to fluctuation in the exchange rate with the U.S. dollar. During the year ended December 31, 2013, the effect of a hypothetical 10% change in foreign currency exchange rates would have resulted in a gain or loss on foreign currency of approximately $0.3 million.

The primary objective of our investment activities is to preserve our capital to fund our operations. We also seek to maximize income from our cash and cash equivalents without assuming significant risk. To achieve our objectives, we invest our non-operating cash and cash equivalents in high quality and highly liquid U.S. government money market funds and in other money market funds in stable economies. A portion of our investments are invested in high quality corporate bonds and may be subject to interest rate risk and could fall in value if market interest rates increase. However, because we generally hold our bonds to maturity, we believe that our exposure to interest rate risk is not significant and a 1% change in market interest rates would not have a material impact on the total fair value of our portfolio. We actively monitor changes in interest rates.

To date, we have not entered into any hedging arrangements with respect to foreign currency risk or other derivative financial instruments.

Recent Accounting Pronouncements

In April 2014, the FASB issued Accounting Standards Update ("ASU") No. 2014-08, *Reporting Discontinued Operations and Disclosures of Disposals of Components of an Entity*." The ASU amendment changes the requirements for reporting discontinued operations in Subtopic 205-20. The amendment is effective on a prospective basis for financial statements issued for fiscal years, and interim periods within those fiscal years, beginning on or after December 15, 2014. Early adoption is permitted for disposals that have not been reported in financial statements previously issued. We will apply the provisions of this ASU to any future transactions after the effective date which qualify for reporting discontinued operations.

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (Topic 606), which supersedes the revenue recognition requirements in ASC 605, *Revenue Recognition*. This ASU is based on the principle that revenue is recognized to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The ASU also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. The ASU's effective date will be the first quarter of fiscal year 2017 (for a public entity) or the first quarter of 2018 (for a non-public entity, but with earlier adoption permitted) using one of two retrospective application methods. We have not determined the potential effects of this ASU on our consolidated financial statements.

In February 2013, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2013-02, *Comprehensive Income (Topic 220): Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income* (ASU 2013-02). This accounting standard update requires an entity to provide information about the amounts reclassified out of accumulated other comprehensive income by component. This ASU is effective for reporting periods beginning after December 15, 2012. We adopted this guidance in the first quarter of 2013 and the adoption of this guidance did not have an impact on our consolidated financial statements or results of operations.

In July 2013, the FASB issued ASU No. 2013-11, *Income Taxes (Topic 740): Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists (a Consensus of the FASB Emerging Issues Task Force)* (ASU 2013-02). This newly issued accounting standard update requires a liability related to an unrecognized tax benefit to be presented as a reduction of a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward if such settlement is required or expected in the event the uncertain tax position is disallowed. We adopted this guidance in the first quarter of 2014 and the adoption of this guidance did not have an impact on our consolidated financial statements.

BUSINESS

OVERVIEW

We are a research-based, biopharmaceutical company focused on the discovery, development and commercialization of novel therapeutic agents to treat serious unmet medical needs. We have capitalized on our extensive experience in fibrosis and hypoxia inducible factor, or HIF, biology to generate multiple programs targeting various therapeutic areas. Our most advanced product candidate, roxadustat, or FG-4592, is an oral small molecule inhibitor of HIF prolyl hydroxylases, or HIF-PHs, in Phase 3 clinical development for the treatment of anemia in chronic kidney disease, or CKD. Our second product candidate, FG-3019, is a monoclonal antibody in Phase 2 clinical development for the treatment of idiopathic pulmonary fibrosis, or IPF, pancreatic cancer and liver fibrosis. We have taken a global approach to the development and future commercialization of our product candidates, and this includes development and commercialization in the People's Republic of China, or China.

We intend to leverage our extensive experience in fibrosis and HIF biology to build a successful biopharmaceutical company with a strong pipeline of products and product candidates for the treatment of anemia, fibrosis, cancer, corneal blindness and other serious unmet medical needs. Our near-term and long-term strategies include:

- Develop and, if approved, commercialize roxadustat with the assistance of our collaboration partners in the United States, Europe, China and Japan and the rest of the world, including enrolling and completing our global Phase 3 program in CKD anemia and seeking regulatory approval for roxadustat in multiple geographies, including as a Domestic Class 1.1 therapeutic in China.
- Enroll and complete our Phase 2 clinical studies of FG-3019 in IPF and pancreatic cancer, and initiate, enroll, and complete subsequent Phase 3 pivotal studies of FG-3019 in IPF and pancreatic cancer in the United States and potentially outside of the United States.
- Continue to pursue an extensive and multi-layered patent portfolio to protect our technologies and product candidates.
- Explore potential partnering opportunities for the development and commercialization of FG-3019 in certain territories.
- Develop FG-5200 for treatment of corneal blindness resulting from partial thickness corneal damage in China and elsewhere in the world.
- Strategically invest in the research and development of additional anemia indications for roxadustat, which may include chemotherapy-induced anemia, anemia relating to inflammatory diseases, myelodysplastic syndrome, or MDS, and surgical procedures requiring transfusions.
- Use our extensive HIF platform to increase our pipeline by exploring proof-of-concept with our HIF-PH selective inhibitors, such as FG-8205, and our other HIF-PH inhibitors, including FG-6874 (which has completed single and multiple ascending dose Phase 1 clinical studies in Singapore), in indications such as hematopoietic stem cell mobilization, peri-operative anemia, heart failure post-myocardial infarction, inflammatory bowel disease, diabetes, cancer and wound healing.
- Expand our efforts in fibrosis by pursuing additional indications for FG-3019, which may include Duchenne muscular dystrophy, scleroderma lung disease, liver fibrosis associated with graft rejection, non-alcoholic steatohepatitis, or NASH, diabetic nephropathy, focal segmental glomerular sclerosis, congestive heart failure, pulmonary arterial hypertension and cancers such as melanoma, ovarian, breast, and squamous cell lung carcinoma.

ROXADUSTAT FOR THE TREATMENT OF ANEMIA IN CHRONIC KIDNEY DISEASE

Roxadustat is an internally discovered HIF-PH inhibitor that acts by stimulating the body's natural pathway of erythropoiesis, or red blood cell production. Roxadustat, the first HIF-PH inhibitor to enter Phase 3 clinical development, represents a new paradigm for the treatment of anemia in CKD patients, with the potential to offer a safer, more effective, more convenient and more accessible therapy than the current standard of care, injectable erythropoiesis stimulating agents, or ESAs.

Roxadustat is currently in Phase 3 global development for the treatment of anemia in patients with chronic kidney disease, or CKD. 1,271 subjects have been enrolled in 22 completed Phase 1 and 2 clinical studies for roxadustat in North America, Europe and Asia. These studies have demonstrated roxadustat's potential for a favorable safety and efficacy profile in anemic CKD patients, both those who are dialysis-dependent, or DD-CKD, and those who are not dialysis-dependent, or NDD-CKD. According to IMS Health, 2013 global ESA sales in all anemia indications totaled $8.6 billion. While the use of ESAs to treat anemia in CKD has largely been limited to use in DD-CKD patients, we and our partners believe that, as an oral agent with a potentially more favorable safety profile, roxadustat could increase accessibility and expand the market for anemia treatment by penetrating the NDD-CKD market. In the longer term, we believe roxadustat has the potential to address non-CKD anemia markets, including chemotherapy-induced anemia, anemia related to inflammation (such as inflammatory diseases), myelodysplastic syndrome, or MDS, and surgical procedures requiring transfusions.

We, along with our collaboration partners Astellas Pharma Inc., or Astellas, and AstraZeneca AB, or Astra Zeneca, have designed a global Phase 3 program to support regulatory approval of roxadustat in both NDD-CKD and DD-CKD patients in the United States, the European Union, Japan and China. Our US and EU Phase 3 program has an aggregate target enrollment of approximately 7,000 to 8,000 patients worldwide and is the largest Phase 3 clinical program ever conducted for an anemia product candidate. Our Phase 3 program is also designed and sized for, and will incorporate major adverse cardiac events, or MACE, composite safety endpoints that we believe will be required for approval in the United States for all new anemia therapies. Our Phase 3 program will study multiple patient populations, including patients within the first four months of initiating dialysis, or incident dialysis, and non-incident, or stable, dialysis patients and will include multiple NDD-CKD studies comparing roxadustat against placebo control.

Background of Anemia in CKD

Anemia is a serious medical condition in which patients have insufficient red blood cells and low levels of hemoglobin, or Hb, a protein in red blood cells that carries oxygen to cells throughout the body. Anemia is associated with increased risks of hospitalization, cardiovascular complications, need for blood transfusion, exacerbation of other serious medical conditions and death. In addition, anemia frequently leads to significant fatigue, cognitive dysfunction, and decreased quality of life. The more severe the anemia, as measured in lower Hb levels, the greater the health impact on patients. Severe anemia is common in patients with CKD, cancer, MDS, inflammatory diseases, and other serious illnesses. Even when it accompanies prevalent and serious diseases, anemia is often not effectively treated.

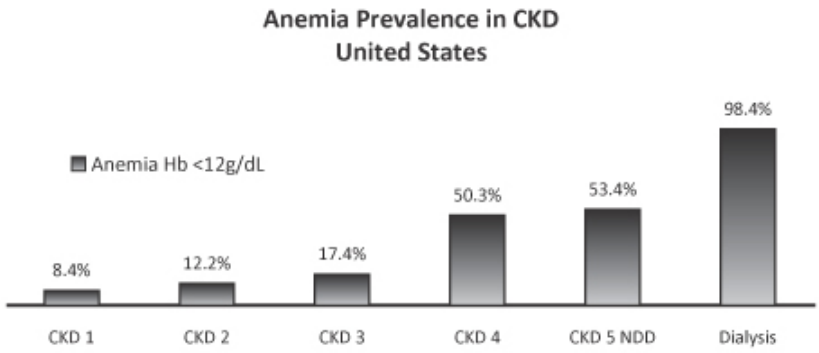
Anemia is particularly prevalent in patients with CKD, which is a critical healthcare problem and is most commonly caused by diabetes and hypertension in the United States and Europe. CKD affects over 200 million people worldwide and anemia significantly increases healthcare costs for those patients. CKD is generally a progressive disease characterized by the gradual loss of kidney function that may eventually lead to kidney failure, also known as end stage renal disease, or ESRD. Patients with ESRD require renal replacement therapy—either dialysis treatment or kidney transplantation. CKD accompanied by anemia is associated with worse health outcomes than CKD alone, including more rapid progression of CKD and increased death rate. There are 5 stages of CKD which are primarily defined by a measure of the filtration function of the kidney (GFR).

Stages of CKD and Prevalence in the United States

Stages of CKD	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
	Normal or increased GFR† (>90) with other evidence of kidney damage	Mild decrease in GFR (60-89) with other evidence of kidney damage	Moderate decrease in GFR (30-59)	Severe decrease in GFR (15-29)	Established renal failure, GFR<15
Prevalence in the US* (millions)	6.4	7.0	17.3	1.1	0.6 0.43 on dialysis 0.15 non-dialysis

* US prevalence is estimated for adults 20 years of age or older
† GFR: Glomerular Filtration Rate (ml/min/1.73m²)
Sources: The prevalence of stage 1 through stage 4 CKD was calculated based on estimates by Kidney Disease Improving Global Outcomes (2012 guideline), 2011 estimates by the U.S. Renal Data System (USRDS) using data from the National Health and Nutrition Examination Survey (NHANES) 2005-2010 and 2011 data from the U.S. Census Bureau. The prevalence of stage 5 CKD was calculated based on 2011 data from the USRDS using data from NHANES 2005-2010 and 2011 data from the U.S. Census Bureau.

The prevalence rate of anemia in patients with Hb<12 g/dL is set forth below.



Sources: The prevalence of anemia in stage 1 through stage 4 CKD and stage 5 NDD-CKD were derived from Stauffer and Fan, Prevalence of Anemia in Chronic Kidney Disease in the United States, PLoS ONE (2014). The prevalence of anemia in patients undergoing dialysis was derived from Goodkin et al, Naturally Occurring Higher Hemoglobin Concentration Does Not Increase Mortality among Hemodialysis Patients, J Am Soc Nephrol (2011).

In the United States, according to the USRDS, a majority of dialysis eligible CKD patients are currently on dialysis. According to USRDS data as of 2011, approximately 430,000 patients were receiving dialysis in the United States, of whom approximately 80% were being treated with ESAs for anemia. Despite the presence of anemia in stages 3 and 4 CKD patients, in clinical practice, patients typically do not receive ESA treatment for their anemia until they initiate dialysis. In many CKD patients, the disease progresses gradually over decades, and, therefore, patients can spend years suffering from the symptoms and negative health impacts of anemia before they receive treatment. Many of these patients die from cardiovascular events before they initiate dialysis.

Limitations of the Current Standard of Care for Anemia in CKD

Current therapies to treat anemia in CKD include injectable ESAs, intravenous iron, or IV iron, oral iron and blood transfusions. ESAs are the current standard of care for effectively treating anemic CKD patients and are administered intravenously or subcutaneously, typically in conjunction with IV iron. ESAs currently on the market are all synthetic recombinant versions of human erythropoietin, or EPO, a hormone that stimulates erythropoiesis and increases Hb levels by binding to receptors on red blood cell precursors in the bone marrow.

The introduction of the first ESA in 1989 was viewed as a major advance in the treatment of anemia in CKD because it significantly decreased the need for blood transfusions. Since then, ESAs have become one of the most commercially successful drug classes. However, because ESAs were never studied relative to placebo in large randomized clinical trials prior to approval, it was not until years later that their safety profile became better elucidated. Studies published in 2006 to 2009 demonstrated the safety risks of higher ESA doses used to target Hb levels of 13 to 15 g/dL, prompting physicians to balance serious safety concerns against the efficacy of ESAs. The safety concerns observed with injectable ESAs in these studies included an increased risk of cardiovascular adverse events and death as well as a potentially increased rate of tumor recurrence in patients with cancer.

The emergence of the safety issues resulted in several changes to ESA drug labeling. This combination of safety concerns and labeling changes, in addition to the subsequent reimbursement changes, described below, was followed by a decline in ESA sales revenues beginning in 2007. While we believe this decline in ESA sales is primarily due to complete suspension of use of ESAs in anemias associated with cancer, and restrictions on use in chemotherapy induced anemia, we believe the decline in sales is also partly due to the progressive decline in ESA dose administered to CKD patients. Compared to the average ESA dose at the end of 2006, the mean monthly ESA dose in patients on hemodialysis dropped by 6%, 19% and 37% by the end of 2009, 2010 and 2011, respectively (USRDS ESRD Atlas 2013).

Safety Issues of ESAs

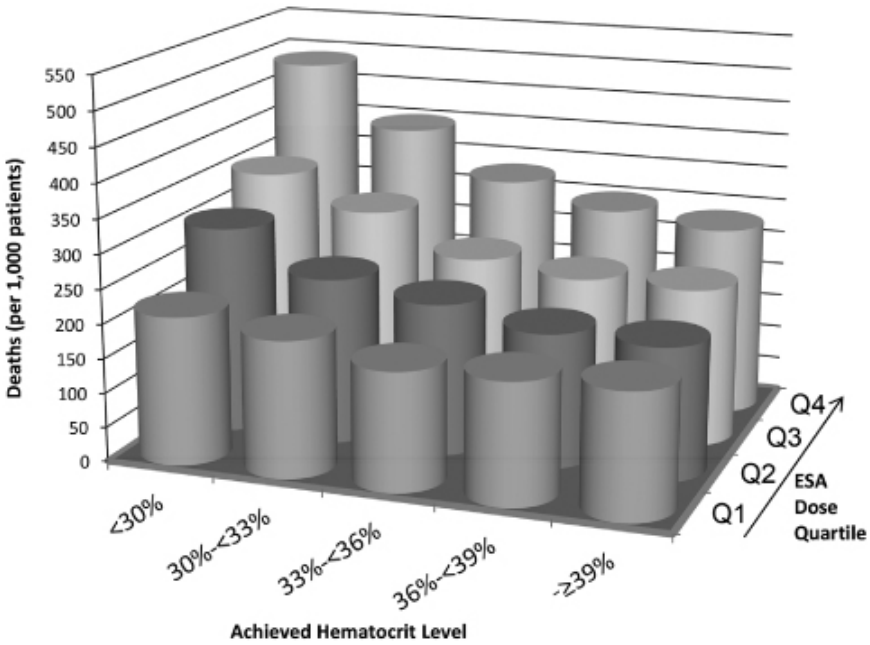
Several large clinical trials were designed to demonstrate that targeting higher as opposed to lower Hb levels results in better outcomes. However, they instead generated data showing that targeting higher Hb levels with ESAs resulted in an increase in adverse events, including cardiovascular adverse events. These adverse events were initially observed in 1998 in the NHCT (Normal Hematocrit Cardiac Trial) in CKD patients on dialysis, where the high Hb level treatment arm targeted Hb levels of 13 to 15 g/dL. Additional safety concerns emerged following the CHOIR (Correction of Hemoglobin in Outcomes and Renal Insufficiency), CREATE (Cardiovascular Risk Reduction by Early Anemia Treatment with Epoetin Beta), and TREAT (Trial to Reduce Cardiovascular Events with Aranesp Therapy) studies in NDD-CKD patients, which were published between 2006 and 2009.

Secondary analyses of NHCT, CHOIR and TREAT, as well as subsequent observational studies in dialysis patients, suggest that these safety concerns, particularly the increased cardiovascular risk associated with ESAs, may result from the high ESA doses used to target higher Hb levels rather than the achieved Hb levels themselves. For example, a secondary analysis of CHOIR showed that patients who achieved the desired Hb level with the lowest amounts of ESA have the lowest risk of adverse cardiovascular outcomes as measured by composite endpoints consisting of hospitalization for heart failure, heart attack, stroke, and death. Patients who were treated with the highest ESA doses and, particularly those who achieved the lowest Hb levels, had the greatest risk for these events. In addition, observational studies in patients undergoing dialysis highlighted these risks with high ESA doses and also indicated that higher Hb levels achieved with lower ESA doses were associated with better outcomes.

For example, in an analysis of data from the USRDS of 94,569 hemodialysis patients, increased mortality was found in patients with increased epoetin alfa dose. Patients who achieved the highest hematocrit level (which is a measure of the percentage of volume of whole blood made up of red blood cells; under typical conditions, Hb level can be

estimated as one-third the hematocrit level) and received the lowest ESA doses (lowest dose quartile, Q1) had the lowest mortality rate, and, at any particular ESA dose quartile, patients with higher hematocrit levels tended to have lower mortality levels, according to Zhang et al (Am J Kidney Dis 44:866-876) as illustrated in the chart below.

Unadjusted 1-Year Mortality Rates (per 1000)
by Hematocrit and ESA dosing quartile



Warnings about these risks have been incorporated into guidelines and position papers from major kidney societies and thought leaders. Kidney Disease: Improving Global Outcomes, or KDIGO, a non-profit foundation established in 2003 and operated by the National Kidney Foundation, committed to improving global clinical guidelines for kidney patients, for example, states that, "[t]here may be toxicity from high doses of ESA, as suggested, though not proven, by recent post-hoc analyses of major ESA randomized controlled trials, especially in conjunction with the achievement of high Hb levels. Therefore, in general ESA dose escalation should be avoided." In addition, the European Renal Best Practices Group specified in a recent position statement that caution should be used in ESA therapy in patients with specific risk factors.

Limited Effectiveness of ESAs in Certain Patient Populations

Hb responses to ESA doses are on a continuum with some patients responding with a satisfactory Hb increase to a small ESA dose and others responding very poorly to very high doses. In addition, patients' responsiveness to ESAs can change over time and as a result of circumstances such as acute illness or surgery. In an attempt to reach target Hb level, ESA doses are increased in treatment-resistant patients, or hyporesponders, which can result in up to a 40-fold difference in ESA doses between the most ESA-resistant and the most ESA-responsive DD-CKD patients. Even with high doses of ESAs and concomitant IV iron, some of these hyporesponders are unable to reach target Hb levels.

Hyporesponsiveness is a significant problem in incident dialysis patients, for whom ESA doses are typically high, and is associated with a combination of critically low kidney function and accompanying illnesses, such as infections and chronic inflammation. Incident dialysis patients are generally more anemic, and have a higher risk of death, than patients who have been on dialysis for many months.

A major cause of ESA hyporesponsiveness is an underlying chronic inflammatory state that exists in many CKD patients. Chronic inflammation has a suppressive effect on erythropoiesis in CKD via two main mechanisms. Firstly, pro-inflammatory cytokines such as tumor necrosis factor alpha, or TNF-alpha, and interleukin-6, or IL-6, have been implicated in the suppression of erythropoiesis through inhibition of the response of erythroid progenitor cells to EPO. Secondly, pro-inflammatory cytokines such as IL-6 elevate the levels of hepcidin, the major hormone that regulates iron metabolism. The consequence of elevated hepcidin levels is a reduction in iron absorption from the gastrointestinal tract, or GI tract, and the trapping of iron in cellular stores. Together this leads to inadequate availability of iron to keep pace with the demands of the bone marrow for erythropoiesis, despite adequate total body iron stores. This condition is referred to as functional iron deficiency.

In the presence of inflammation, even high doses of ESAs may be ineffective to achieve target Hb levels, and to the extent Hb levels are raised, the risks associated with the higher ESA doses required may outweigh the benefits of any increased Hb levels.

Requirement for IV Iron to Support ESA Activity and Associated Safety Risks

IV iron supplementation is used to support anemia correction in a majority of hemodialysis patients treated with ESAs in the United States. ESA labeling indicates that physicians should evaluate the iron status in all patients before and during CKD anemia treatment and maintain iron repletion. Many CKD patients have deficient iron stores, or absolute iron deficiency, and cannot absorb enough iron from diet or oral iron supplements to correct this deficiency. Physicians administer IV iron to ensure patients are iron replete prior to initiating ESA treatment and continue IV iron to mitigate iron depletion caused by ESA-mediated erythropoiesis.

Additionally, many CKD patients who have adequate iron stores suffer from functional iron deficiency. IV iron is administered in an attempt to address this shortage of available iron in these CKD patients, resulting in many patients having elevated body iron stores. While IV iron can help correct anemia when used with ESAs, published studies have suggested acute and chronic risks of both morbidity and mortality associated with the use of IV iron. The acute risks of IV iron supplementation include hypersensitivity reactions (which can be life-threatening and the warning of anaphylaxis risk appears in every IV iron product package insert in the United States), infection, as well as less severe but more common side-effects, such as skin problems, hypotension and GI tract symptoms. In addition to acute side-effects, there may also be chronic adverse effects on organ systems related to the cumulative deposits of iron resulting from the volume of iron administered.

Using data from 12 countries obtained over the past twelve years, Bailie et al. demonstrated a direct dose risk relationship between the amount of IV iron administered per month to dialysis patients and the risk of hospitalization and death (Kidney International (2014)). The study identified that, even after controlling for other risk factors and adjusting for different practice patterns globally, dialysis patients receiving greater than 300 mg of IV iron per month had a greater risk of hospitalization or death than those receiving less than 300 mg. Mortality was 13% greater among those receiving between 300 and 400 mg of IV iron per month and 18% greater among those receiving greater than 400 mg of IV iron per month. Furthermore, hospitalization risk was 12% greater among those who received greater than 300 mg per month. The current paradigm of administrating greater doses of IV iron to decrease ESA doses in light of this recently described associated risk underscores the significant unmet need in the treatment of anemia.

Elevated Blood Pressure

ESAs have long been associated with increased blood pressure, including new onset hypertension and exacerbation of pre-existing hypertension. As a result, ESA labeling carries a warning for the potential for increased blood pressure with ESA usage. Hypertension has been shown to accelerate CKD progression and significantly increase the risk of death in CKD patients due to the increased risk of heart attack or stroke.

Increased Thromboembolism and Vascular Access Thrombosis

ESA use has been associated with thromboembolic events, including stroke, vascular access thrombosis (where the dialysis access shunt is blocked due to blood-clotting), blood clots in the leg, which may in part be due to

increases in circulating platelet levels. As a result, ESA labeling carries a warning for an increased risk of thromboembolic events.

FDA Restrictions on ESA Usage

In response to safety concerns elucidated in the large clinical studies described above, the US Food and Drug Administration, or the FDA, steadily increased restrictions on the use of injectable ESAs from 2007 through 2011. During 2007, following the NHCT, CHOIR and CREATE studies and several oncology studies, the FDA mandated the inclusion of a boxed warning, or "Black Box" warning, in the package insert for ESAs. A Black Box warning is the strongest warning that the FDA can require in the package insert of prescription drugs. In June 2011, the FDA required further modification to the package insert for ESAs. The current boxed warning states that ESAs increase the risk of death, myocardial infarction, or heart attack, stroke, venous thromboembolism, thrombosis of vascular access and tumor progression or recurrence. In addition, the package insert changes include more conservative dosing guidelines for the use of injectable ESAs in anemic CKD patients. Specifically, the FDA removed the prior target Hb range of 10 to 12 g/dL and recommends that physicians initiate treatment of CKD patients when the Hb level is less than 10 g/dL and reduce or interrupt ESA dosing if the Hb level approaches or exceeds 10 g/dL for NDD-CKD patients and 11 g/dL for DD-CKD patients. In addition, physicians are advised to use only the lowest dose needed to avoid red blood cell transfusions.

Reimbursement Challenges Associated with ESAs

In addition to the safety concerns and labeling changes for ESAs, the reimbursement applicable to dialysis, including associated drugs such as ESAs, has also changed significantly in recent years, which made ESAs less economically attractive for providers to administer. Prior to January 2011, CMS reimbursed dialysis centers and other healthcare providers for use of ESAs at average selling price plus a premium to their cost, which enabled providers to realize a profit on the administration of ESAs, regardless of the quantity dosed. Under the Medicare Improvements for Patients and Providers Act, or MIPPA, a basic case-mix adjusted composite, or bundled, payment system commenced in January 2011 and transitioned fully by January 2014 to a single reimbursement rate for drugs and all services furnished by renal dialysis centers for Medicare beneficiaries with end-stage renal disease. Specifically, under MIPPA the bundle now covers drugs, services, lab tests and supplies under a single treatment base rate for reimbursement by CMS based on the average cost per treatment, including the cost of ESAs and IV iron doses, typically without adjustment for usage.

ESAs administered to NDD-CKD patients have long been reimbursed under Medicare Part B, which requires providers to purchase and store ESAs in advance of being reimbursed, and in many healthcare practices, the amount reimbursed does not cover the cost of ESA administration. For many of these providers, including in nephrology practices where purchase and storing is most common, due to label changes and related reduction in patients available for treatment, ESA administration in NDD-CKD has become economically unattractive. Furthermore, non-nephrologists generally have elected not to provide ESAs. Accordingly, ESA treatment has been limited outside of dialysis centers.

Inconvenience of ESAs

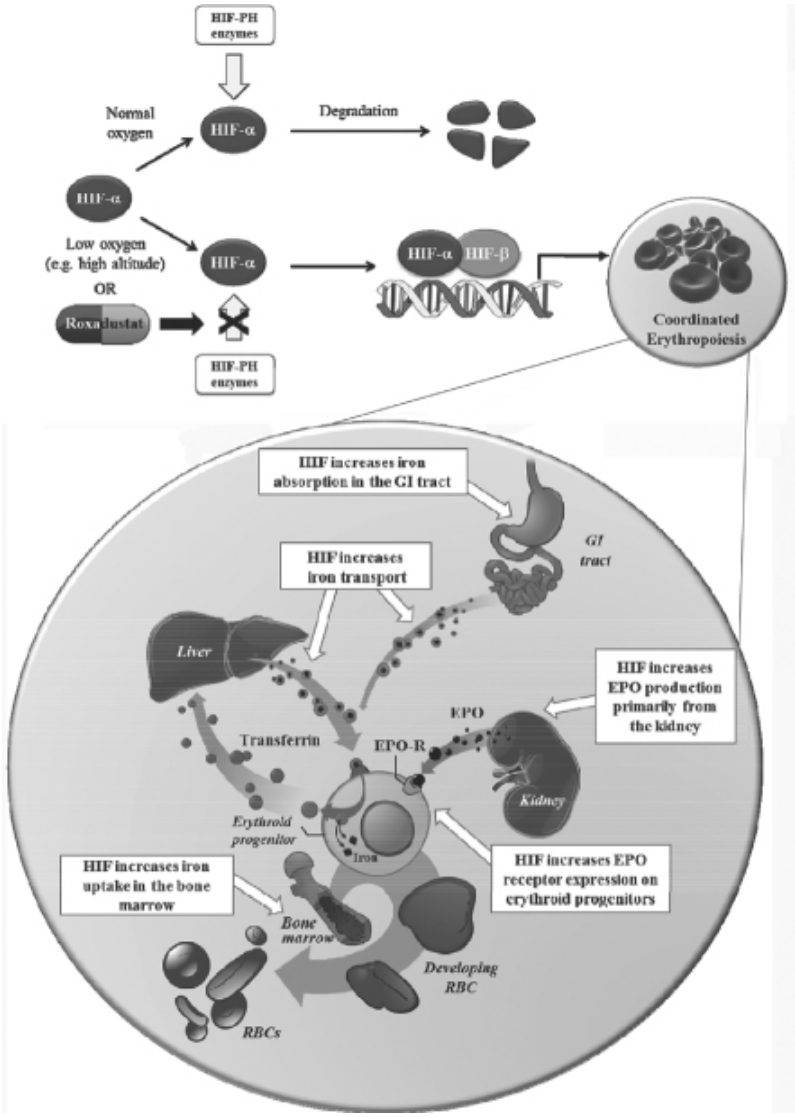
In addition to safety, labeling, reimbursement and efficacy limitations, ESAs must be administered intravenously or subcutaneously, often with IV iron in order for ESAs to be effective at treating to target Hb levels. ESAs are therefore inconvenient for the NDD-CKD population, the peritoneal dialysis population, for whom treatment is often administered at home, and other non-CKD anemia patients who are not already regularly visiting a hospital or dialysis center.

Our Solution

We believe that there is a significant need for a safer, more effective, more convenient and more accessible alternative to injectable ESAs for the treatment of anemia in CKD patients. In addition, we believe there is a significant opportunity for treatment of anemia in markets not effectively addressed by ESAs, such as in the NDD-CKD population and non-CKD anemia markets.

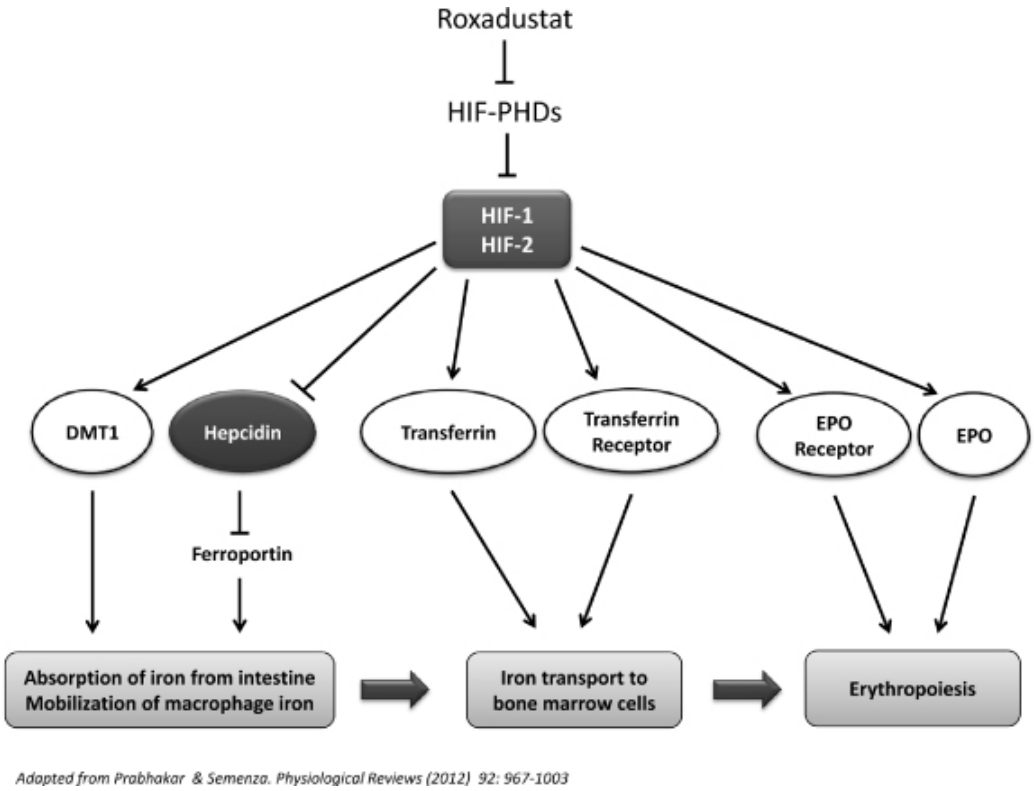
Roxadustat—A Novel, Orally Administered Treatment for Anemia

Roxadustat is an orally administered small molecule that corrects anemia by a different mechanism of action from that of ESAs. As a HIF-PH inhibitor, roxadustat activates a response that is naturally activated when the body responds to reduced oxygen levels in the blood, such as when a person adapts to high altitude. The response activated by roxadustat involves the regulation of multiple, complementary processes to promote erythropoiesis and increase the blood's oxygen carrying capacity. This coordinated erythropoietic response includes both the stimulation of red blood cell progenitors, by increasing the body's production of EPO, and an increase in iron availability for Hb synthesis. Patients taking roxadustat typically have EPO levels within or near the physiologic range naturally experienced by people adapting to hypoxic conditions such as at high altitude, following blood donation or impaired lung function, such as pulmonary edema. By contrast, ESAs act only to stimulate red blood cell progenitors without a corresponding increase in iron availability, and are typically dosed at well above the natural physiologic range of EPO. The sudden demand for iron stimulated by ESA-induced erythropoiesis can lead to functional or absolute iron deficiency. We believe these high doses of ESAs are a main cause of the significant safety issues that have been attributed to this class of drugs. In contrast, the differentiated mechanism of action of roxadustat, which involves induction of the body's own natural pathways to achieve a more complete erythropoiesis, has the potential to provide a safer and more effective treatment of anemia, including in the presence of inflammation, which normally limits iron availability.



Our HIF-PH inhibitor technology relies on the natural mechanism by which the body responds to low oxygen levels. HIF is a transcription factor comprised of a HIF-alpha and a HIF-beta subunit, both of which are required to stimulate erythropoiesis. Under normal oxygen conditions, the HIF-alpha subunit is targeted for rapid degradation through the activity of a family of HIF-PH enzymes. However, under low oxygen conditions, the HIF-PH enzymes cannot function and HIF-alpha accumulates. HIF-alpha then combines with HIF-beta, and the newly formed HIF complex initiates transcription of a number of

genes involved in the erythropoietic process, which ultimately leads to increased oxygen delivery to tissues. Roxadustat works by reversibly inhibiting the HIF-PH enzymes, thus mimicking this coordinated natural erythropoietic response through genes transcribing the proteins shown below involved in iron absorption, mobilization and transport as well as stimulation of red blood cell progenitors.



Adapted from Prabhakar & Semenza. Physiological Reviews (2012) 92: 967-1003

Our discovery and development of roxadustat resulted from years of experience working with prolyl hydroxylase enzymes, such as those that regulate HIF, and a deep understanding of the complexities of HIF biology. We have explored therapeutic activation of HIF to treat anemia from an integrated perspective with a focus on applying our HIF-PH inhibitor technology to produce coordinated effects on erythropoiesis and iron homeostasis and metabolism. As part of these progressive efforts, we have explored the ability of our HIF-PH inhibitor technology to increase sensitivity to endogenous EPO by increasing EPO receptor expression on red blood cell progenitors. We have investigated multiple effects of HIF-PH inhibitors on iron metabolism, including their ability to regulate genes that can increase iron bioavailability. We have also shown that administration of HIF-PH inhibitors can decrease expression of hepcidin, the key hormone that regulates iron metabolism. Hepcidin is elevated under conditions of chronic inflammation, leading to reduced iron availability for erythropoiesis. Based on our gene expression and hepcidin data, we believe HIF-PH inhibitors can increase intestinal iron absorption and enhance the mobilization and uptake of iron. In addition, we have shown that HIF-PH inhibitors can improve transferrin saturation (a measure of circulating iron available for erythropoiesis) and can correct anemia associated with chronic inflammation by overcoming the hepcidin-mediated sequestration of iron that cannot be overcome by ESA therapy.

Based on our knowledge of HIF biology, we selected roxadustat from our extensive library of compounds from various chemical classes of HIF-PH inhibitors, including heterocyclic carboxamides and 2-oxoglutarate mimetics. Roxadustat was selected based on our belief that stabilizing the two main forms of HIF in the cell, HIF-1 and HIF-2, leads to a more complete erythropoietic response.

Although HIF-PH inhibitor programs have been subsequently initiated at several other companies, we expect to remain the leader in the development of HIF-PH inhibitors for anemia, with more patients dosed and more studies conducted with roxadustat than with any other HIF-PH inhibitor.

Potential Advantages of Roxadustat for Treatment of Anemia in CKD

We believe that roxadustat has the potential to offer several safety, efficacy, reimbursement, and convenience advantages over ESAs.

Potential Safety and Efficacy Advantages

Our clinical trials to date have shown that roxadustat can treat anemia in CKD with much lower circulating EPO levels than with treatment by ESAs, mitigate the need for IV iron and treat anemia in the presence of inflammation, thereby offering potential safety and efficacy benefits over ESAs. We have incorporated several endpoints into our Phase 3 studies to further elucidate and demonstrate these and other potential clinical benefits of roxadustat.

Potential Cardiovascular Benefits

The CKD patient population is at high risk for cardiovascular events such as heart attacks and strokes. One known side effect of ESAs is elevation of blood pressure, which is particularly dangerous in this high risk patient population. In contrast, we did not observe increases in blood pressure in patients treated with roxadustat beyond the background levels observed for the comparable placebo-treated patients in a NDD-CKD Phase 2 trial. However, these data should be cautiously assessed due to the limited number of patients exposed. The NDD-CKD patients treated with roxadustat three times weekly for more than 12 weeks had a modest decrease in blood pressure in a subgroup analysis of our Phase 2b NDD-CKD study.

In our Phase 2 studies, we did not observe a safety signal for thromboembolic risk. In contrast to the platelet increase with ESA treatment, platelet counts reported in roxadustat-treated patients did not increase, as those with platelet levels in the top 25th percentile at baseline saw their platelet levels decrease towards normal levels while those with platelet levels in the lower 75th percentile at baseline saw their platelet levels remain stable. This finding supports our belief in a potential safety benefit over ESAs since the platelet increase with ESAs could be a contributing factor in the thromboembolic risk associated with ESAs.

In addition, in our Phase 2 clinical trials, we observed reductions in total cholesterol and an improvement in average HDL / LDL ratio. Since many CKD patients have high cholesterol levels, which contribute to cardiovascular-related morbidity and mortality, the improvement in the average HDL / LDL ratio observed with roxadustat treatment could confer a benefit to patients.

Based on our preclinical and clinical data generated to date, we believe roxadustat could offer cardiovascular benefits to a CKD patient population that typically has cardiovascular-related co-morbidities and is at a high risk for cardiovascular events.

Potential for Anemia Correction with Moderate EPO Levels

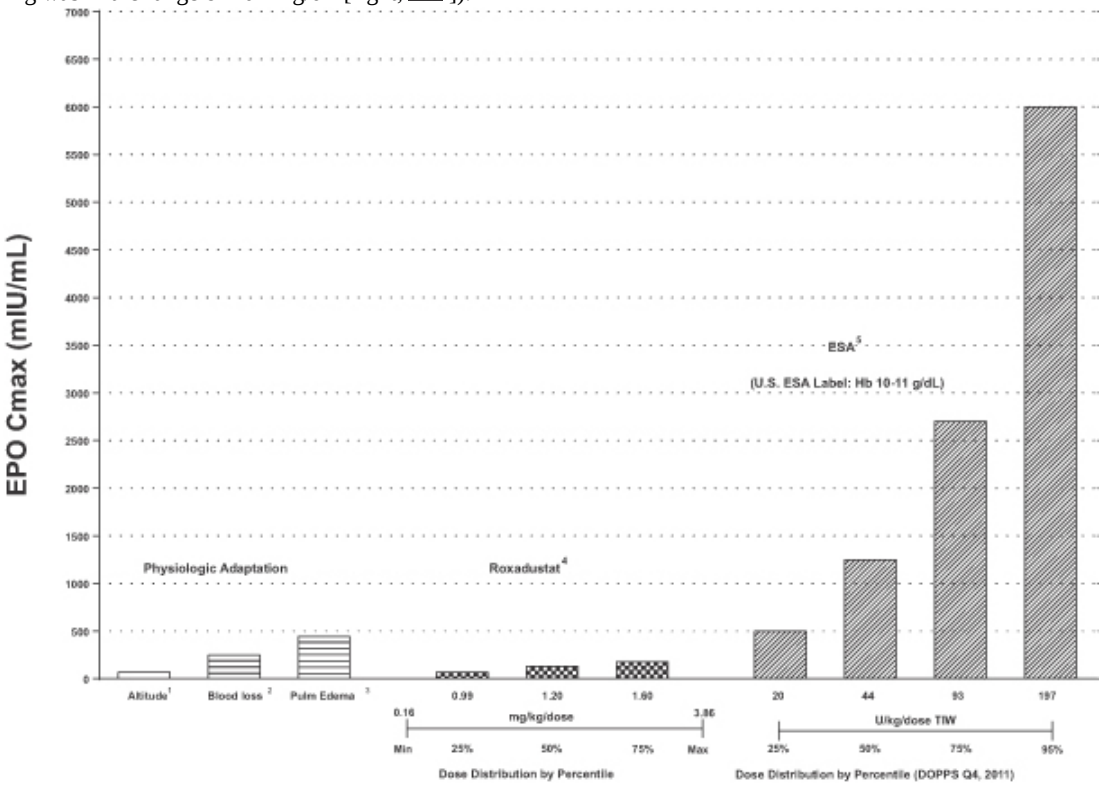
Randomized trials have suggested that high doses of ESAs administered in an attempt to achieve a target Hb level may cause the safety issues associated with ESA therapy. These high doses result in serum EPO levels much higher than physiological range. In contrast, the level of endogenous EPO elevation among patients treated with roxadustat is typically within or near the range observed when ascending to a higher elevation or giving blood. Treating anemia while maintaining lower circulating EPO levels may mitigate, or even avoid, the risks from ESA therapy, including cardiovascular events and death.

The following graph depicts:

1) the circulating endogenous EPO levels in natural physiologic adaptations, such as adjustment to high altitude, blood loss, or pulmonary edema [left, ▭];

2) transient peak endogenous EPO levels estimated for CKD patients who achieved a Hb response to therapeutic doses of roxadustat in our phase 2 clinical studies [middle, ▩];

3) the estimated peak circulating recombinant EPO levels resulting from IV ESA doses in distributions reported by the Dialysis Outcomes and Practice Patterns Study, or DOPPS, for the fourth quarter of 2011 in the United States (after bundling was initiated and when the Hb target in ESA labeling was in the range of 10-11 g/dL [right, ▨]).



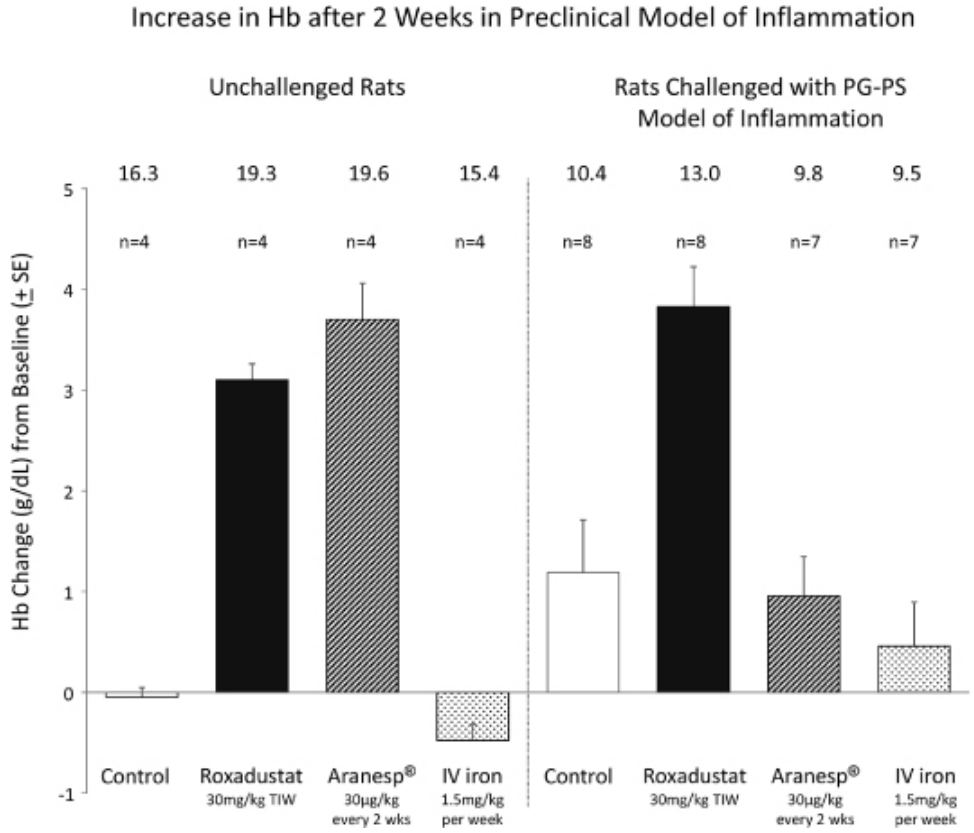
[1]Milledge & Cotes (1985) J Appl Physiol 59:360; [2]Goldberg et al. (1993), Clin Biochem 26:183, Maeda et al. (1992) Int J Hematol 55:111; [3]Kato et al. (1994) Ren Fail 16:645; [4]The transient peak endogenous EPO concentrations, or Cmax, data for roxadustat was derived from a subset of 243 patients who achieved a Hb response to roxadustat in our Phase 2 studies for whom we believe doses depicted approximated therapeutic doses. Hb target ranges for these patients were above the Hb levels specified in the current ESA package insert for CKD patients. Only doses in those patients whose Hb responded in Phase 2 studies are reflected in the figure. The subset of patients included 134 NDD-CKD patients treated to thrice-weekly, twice-weekly, or weekly doses of roxadustat for >16 weeks. The subset also included 109 DD-CKD patients, including incident dialysis patients whose anemia was corrected with therapeutic doses, and stable dialysis patients who received maintenance doses. EPO levels were not measured in all patients; instead EPO Cmax levels were estimated based on data derived from a more limited number of patients in whom EPO levels were measured at various roxadustat doses and among whom there was substantial variation in measured EPO levels. Accordingly, individual patients who received roxadustat may have realized EPO Cmax levels significantly above or below these estimated levels. Moreover, the estimates reflected in the graph may not be reflective of actual EPO Cmax levels or ranges that will be realized in larger populations of patients receiving roxadustat in our Phase 3 clinical trials. [5]EPO C_{max} was computed from ESA dose distributions based on Flaherty et al. (1990) Clin Pharmacol Ther 47:557.

Potential for Anemia Correction for Patient Populations that are Hyporesponsive to ESAs

Incident dialysis patients and patients who have chronic inflammation are often hyporesponsive to ESAs, which necessitates the use of higher doses of ESAs to increase Hb levels, thus increasing both safety risk and treatment

cost. In contrast, the dose of roxadustat may not need to be increased in incident dialysis patients or to overcome the suppressive effects of inflammation on erythropoiesis, which we believe may confer significant safety and efficacy benefits.

As a result of roxadustat's different mechanism of action, the ability of roxadustat to stimulate erythropoiesis does not appear to be impaired by chronic inflammation. In a preclinical model of inflammation induced by peptidoglycan-polysaccharide (PG-PS) polymers, roxadustat increased Hb levels and mean corpuscular volume (MCV), whereas Aranesp®, an ESA, and IV iron did not increase Hb or MCV. In contrast, the same doses of roxadustat and Aranesp® were both effective at raising Hb levels in the unchallenged rats (without inflammation). In addition, the ESA actually decreased MCV in the unchallenged rats, as compared to the control.



Our preclinical studies indicate that roxadustat can overcome the direct suppressive effects of inflammatory cytokines on erythropoiesis. In addition, roxadustat can reduce hepcidin levels, thus increasing absorption of iron from the GI tract and the release of iron from intracellular stores and mitigating the functional iron deficiency associated with chronic inflammation.

Furthermore, in our Phase 2 studies, patients' Hb response to roxadustat was independent of the degree of underlying inflammation, as assessed by circulating levels of C-reactive protein, or CRP, a well-recognized marker of inflammation. Incident dialysis patients have the highest levels of mortality of all dialysis patients. The incident dialysis period is also the period during which mean ESA doses are generally highest. To the extent the increased levels of mortality are associated with high ESA doses, roxadustat may offer a benefit to incident dialysis patients. The median roxadustat dose in our dialysis Study 053 was 1.3 mg/kg; the endogenous EPO levels usually associated with this dose level are comparable to the physiologic range naturally experienced by

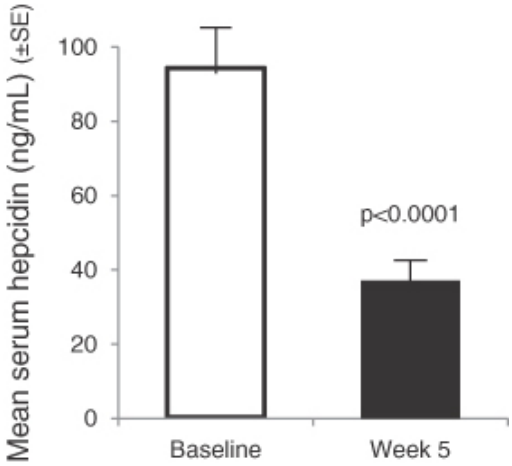
people adapting to high altitude or following blood donation. See additional information on endogenous EPO levels under the heading “Potential for Anemia Correction with Moderate EPO Levels”.

Potential for Reduced Hepcidin Levels and Anemia Correction Without IV Iron

An important differentiator of roxadustat from ESAs is that roxadustat is expected to correct anemia and maintain Hb without IV iron supplementation. Patients with chronic illness, such as CKD, often suffer from absolute iron deficiency or functional iron deficiency. We believe that elevated levels of hepcidin, the major hormone that regulates iron metabolism, contributes to both absolute and functional iron deficiency.

Our Phase 2 clinical trials have shown that roxadustat can significantly reduce hepcidin levels in patients with DD-CKD and NDD-CKD. The following figure shows a reduction in serum hepcidin level of approximately two thirds, observed at week 5, in 52 incident dialysis patients treated with roxadustat.

Reduction of Serum Hepcidin Levels (Study 053) in Incident Dialysis Patients



In addition, we believe roxadustat increases the levels of proteins involved in iron uptake, release and transport. Data from our Phase 2 clinical trials indicate that oral iron supplementation alone is adequate to correct anemia during treatment with roxadustat, in contrast to ESAs which typically require IV iron supplementation. Additionally, our data indicate that unlike ESAs, roxadustat treatment does not require that patients be iron replete before initiating therapy.

Avoiding IV iron helps to avoid the significant safety risks associated with IV iron described above, and, because the cost of oral iron is significantly less than the cost of IV iron, could also confer significant costs savings.

Potential Reimbursement and Convenience Advantages

Potentially Differentiated Reimbursement Framework

ESAs are included in the MIPPA bundled payment system in the DD-CKD setting and reimbursed under Medicare Part B in the NDD-CKD setting. Based on our roxadustat data to date, we believe roxadustat has the potential to correct anemia through a differentiated mechanism of action and different therapeutic effects that create the potential to displace multiple drugs in current use (such as ESAs and IV iron), or those in development (such as agents for suppression of hepcidin). Although the bundle currently covers ESAs or oral equivalents of ESAs or other IV products encompassed by the bundle, due to the differentiated nature of roxadustat and a lack of definition in the regulations on oral equivalency, for which there may be a CMS determination later this year, it is unclear whether roxadustat will be included in or excluded from the bundle. Under MIPPA, agents that have no IV equivalent in the bundle are currently expected to be excluded from the bundle until 2024. We believe that there may be commercial benefits in either event but are unable to predict the potential benefits until further guidance from CMS becomes available.

In the NDD-CKD setting, we expect that roxadustat, an oral treatment, should be subject to Medicare Part D, which would allow physicians to prescribe roxadustat without the financial and reimbursement risk associated with purchasing and storing injectable ESAs. We believe that this should encourage significantly greater usage outside of the dialysis setting.

Potential Reduction of Other Medications

In addition to potentially eliminating the need for IV iron, based on our Phase 2 clinical trial results to date, we believe that roxadustat has the potential to reduce the use of other medications frequently required in some CKD anemia patients, such as anti-hypertensives, anti-coagulants, and statins.

Oral Administration

Many physicians that treat CKD patients, particularly cardiologists, endocrinologists, and internists, do not typically stock or administer ESAs. An easily accessible oral agent that is dispensed by pharmacies could significantly increase the number of physicians treating anemia in patients with CKD and therefore the number of patients receiving treatment.

In addition, the oral administration of roxadustat potentially offers a significant convenience advantage for CKD patients who have yet to initiate dialysis and are therefore not regularly visiting a dialysis center. Patients can more easily self-administer medicine in any setting, rather than being subject to the inconvenience and restrictions of regular visits to physicians' offices or infusion centers for treatment with ESAs.

Potential Pharmacoeconomic Advantages

Based on our Phase 2 clinical trial results to date, we believe that roxadustat's potential pharmacoeconomic advantages over ESA therapy may include safety (with a potential decrease in cardiovascular events and lower associated treatment costs), lower administrative cost, reduction or elimination of IV iron and potentially other medications. If we can demonstrate any of these pharmacoeconomic advantages in our Phase 3 studies, they may help support reimbursement worldwide, including Europe and China.

The Market Opportunity for Roxadustat

We believe that there is a significant opportunity for roxadustat to address markets currently served by injectable ESAs. According to IMS Health, 2013 global ESA sales in all indications totaled $8.6 billion, driven primarily by $6.2 billion in the United States and Europe. We believe that a substantial portion of ESA sales are for CKD anemia. For example, in the U.S., EPOGEN, which is primarily used in the DD-CKD patient population, had 2013 sales of approximately $2 billion. We further believe that the number of patients requiring anemia therapy will grow steadily as the global CKD population and access to dialysis care continue to expand, particularly in China and other emerging markets including the rest of Asia, Latin America, Eastern Europe, the Middle East and the Commonwealth of Independent States.

Furthermore, we believe that there is a significant opportunity for roxadustat to address patient segments that are currently not effectively served by ESAs, such as anemia in the NDD-CKD patient population, which is substantially larger than the DD-CKD patient population. Diabetes and hypertension are the leading causes of secondary CKD. Although we estimate approximately 36% of diabetic and 20% of hypertensive CKD patients are anemic (Hb<12g/dL), we believe the majority of these patients are currently untreated for anemia since they are under the care of non-nephrology specialists, such as endocrinologists, diabetologists, cardiologists and internists, where ESA therapies are not readily available.

We also believe that roxadustat may provide a safer option to re-establish the chemotherapy induced anemia market, which was once a market of comparable size to the DD-CKD anemia market. Other non-CKD anemias, including anemia related to inflammatory diseases, MDS and surgical procedures requiring transfusions, which are not addressed adequately with currently available therapies, could form another opportunity.

OUR DEVELOPMENT PROGRAM FOR ROXADUSTAT

As of August 31, 2014, there have been 1,772 subjects enrolled in more than 30 roxadustat clinical studies in North America, Europe and Asia, of which 1,385 subjects have been exposed to roxadustat. We have treated some of these patients for 24 weeks in Phase 2 studies, and several patients for 2.5 years in a safety extension study.

We along with our partners, Astellas and AstraZeneca, have designed our global Phase 3 program to support regulatory approval of roxadustat in both NDD-CKD and DD-CKD patients in the United States, the European Union, Japan and China. Our US and EU Phase 3 program has an aggregate target enrollment of approximately 7,000 to 8,000 patients worldwide and is the largest Phase 3 clinical program ever conducted for an anemia product candidate. Our U.S. Phase 3 program is also designed and sized for, and will incorporate MACE composite safety endpoints that we believe will be required for approval in the United States for all new anemia therapies. Our Phase 3 program will study multiple patient populations, including incident dialysis patients and stable dialysis patients and will include multiple NDD-CKD studies comparing roxadustat against placebo controls. A part of this large Phase 3 program is also designed to support approval in the EU. We currently expect to complete patient enrollment in our U.S. and European studies by or in the first half of 2016, and that data for U.S. Phase 3 NDD-CKD studies will be reported in 2017.

We have a separate roxadustat clinical development program for China and we currently plan to initiate Phase 3 studies in the first half of 2015 through FibroGen China. In addition, Astellas is developing roxadustat in Japan as part of a Japan-specific development program and is currently conducting Phase 2 studies there.

Our Phase 2 Program

We have completed six roxadustat Phase 2 studies, three in NDD-CKD patients and three in DD-CKD patients, to assess the efficacy of roxadustat to both correct anemia (“correction”) and maintain the Hb response (“maintenance”). Data from these studies have been published and presented at various medical conferences. Two of the six completed Phase 2 studies were conducted in China. The efficacy and safety data generated from our China studies were consistent with our U.S. Phase 2 studies and further contributed to the promising efficacy and safety results to date.

The data from our completed Phase 2 studies demonstrated that roxadustat achieved a clinically meaningful increase in Hb levels in anemic NDD-CKD and DD-CKD patients and maintained Hb levels in DD-CKD patients who were converted from ESA therapy. Roxadustat corrected anemia without the need for IV iron supplementation and exhibited an acceptable safety profile. Specifically, our Phase 2 studies achieved the following objectives:

- Identified optimal roxadustat dosing regimens for anemia correction and maintenance of Hb response.
- Demonstrated roxadustat’s potential to treat anemia in both NDD-CKD and DD-CKD patients, including incident dialysis patients, the most unstable and high risk CKD patient population.
- Generated substantial safety data, indicating that roxadustat is well tolerated, appears safe and could offer an improved cardiovascular profile relative to ESAs. Including our Phase 1, 2 and 3 studies 1,385 subjects have been exposed to roxadustat.
- Demonstrated that roxadustat may be able to treat anemia without the need for IV iron supplementation.
- Demonstrated that roxadustat can reduce hepcidin levels and potentially treat anemia in a significant subset of patients with inflammation.

The following chart summarizes the design of our completed studies in DD-CKD and NDD-CKD patients and indicates the primary objectives of each study.

Completed Phase 2 Studies

Study Number, Study Location	CKD Patient Population	Study Objective	Number of Roxadustat Patients	Number of Comparator Patients		Total Number of Patients in Study	Treatment Duration (Weeks)	Dose Frequencies
				Placebo	ESA			
FGCL-4592-017 US	Non-dialysis	Correction, PK	88	28		116	4	TIW, BIW
FGCL-4592-041 US	Non-dialysis	Correction & Maintenance	145			145	16;24	TIW, BIW, QW
FGCL-4592-047 China	Non-dialysis	Correction	61	30		91	8	TIW
FGCL-4592-040 US	Stable Dialysis	Conversion & Maintenance	117	4	40	161	6;19	TIW
FGCL-4592-053 Russia, US, Hong Kong	Incident Dialysis	Correction	60			60	12	TIW
FGCL-4592-048 China	Stable Dialysis	Conversion, PK	74		22	96	6	TIW
Total			**545**			**669**		

QW = weekly; BIW = twice weekly; TIW = three times weekly

The following chart summarizes the design of our ongoing Phase 2 studies and indicates the primary objectives of each study.

Ongoing Phase 2 Studies

Study Number, Location	CKD Patient Population	Study Objective	Number of Roxadustat Patients	Number of Comparator Patients		Total Target Number of Patients in Study	Treatment Duration (weeks)	Dose Frequencies
				Placebo	ESA			
1517-CL-0303* Japan	Non-dialysis	Correction	75	25		100	24	TIW, QW
1517-CL-0304* Japan	Dialysis	Maintenance	90		30	120	24	TIW
FGCL- 4592-059 US	Non-dialysis & Dialysis	Long Term Safety & Maintenance	15			15	260+	TIW, BIW, QW

*Studies1517-CL-303 and -304 are being conducted by Astellas

QW = weekly; BIW = twice weekly; TIW = three times weekly

Study 017: Dose Escalating Study in NDD-CKD patients

Study 017 established proof of concept for roxadustat by showing a significant increase in Hb in a dose-dependent manner, and provided data on the relationship between roxadustat dose and Hb response. This formed the basis for the dosing rules that we applied in subsequent studies of longer duration and in a larger number of patients.

This study, a randomized, single-blind, placebo-controlled, dose-escalation study, was the first Phase 2 study to assess the safety and efficacy of a range of roxadustat doses in the correction of anemia in NDD-CKD stage 3 and 4 patients, over four weeks of treatment, and a 12-week safety follow-up period. A total of 116 patients (of which 96 were evaluable) were randomized sequentially into four weight-based dose cohorts: 1 mg/kg, 1.5 mg/kg, 2 mg/kg, and 0.7 mg/kg, respectively. Roxadustat was administered either twice weekly or three times weekly.

Weight Based, Three Times Weekly and Twice Weekly Dosing Leads to Hb Improvement. We tested 4 different roxadustat weight-based doses administered for four weeks with Hb measurements over a six week period. As shown in the table below, all of the patients in the highest weight-based dose cohort met the criteria for response in that they achieved Hb rise $\geq$ 1 g/dL in four weeks. As roxadustat achieved 100% Hb response at the 2 mg/kg dose, higher doses were not pursued in this study despite the absence of dose limiting toxicity. Roxadustat was well tolerated without any safety concerns.

Significant, Dose Dependent Increases in Hb. As shown in the table below, the dose-dependent change in Hb from baseline in roxadustat patients was statistically significant from placebo by Day 8 ($p=0.025$) and remained so at each assessment through Week 6 ($p=0.0001$ at Day 22; $p<0.0001$ at Day 26–29/end of treatment).

A p-value is a statistical measure of the probability that the difference in two values could have occurred by chance. The smaller the p-value, the greater the statistical significance and confidence in the result. Typically, results are considered statistically significant if they have a p-value less than 0.05, meaning that there is less than a one-in-20 likelihood that the observed results occurred by chance. The FDA requires that sponsors demonstrate the effectiveness and safety of their product candidates through the conduct of adequate and well-controlled studies in order to obtain marketing approval. Typically, the FDA requires a p-value of less than 0.05 to establish the statistical significance of a clinical trial, although there are no laws or regulations requiring that clinical data be statistically significant, or that require a specific p-value, in order for the FDA to grant approval.

Hb Responses to a Range of Roxadustat Doses in FGCL-4592-017

		0.7 mg/kg		1 mg/kg		1.5 mg/kg		2 mg/kg	
	Placebo	BIW	TIW	BIW	TIW	BIW	TIW	BIW	TIW
N	23	10	12	5	5	10	11	9	11
Mean Maximum Change in Hb	0.44	0.82	1.22	1.12	0.81	1.74	2.03	1.93	2.16
Standard Error of the Mean	0.11	0.28	0.37	0.26	0.45	0.32	0.26	0.22	0.25
% Hb Responder	13%	30%	58%	60%	40%	80%	91%	100%	100%
Median Time to Response (Days)	NA	NA	26.5	42	NA	24.5	14	21	14

BIW = twice weekly; TIW = three times weekly

Standard error of the mean, or SE, is a statistical measure of the amount that an observed mean may be expected to differ by chance from the true mean. For a population that follows a normal distribution, 68% of observed means will be within one standard error of the mean.

Dose-Dependent Reduction in Hepcidin Levels. Roxadustat reduced serum hepcidin levels in a dose-dependent fashion.

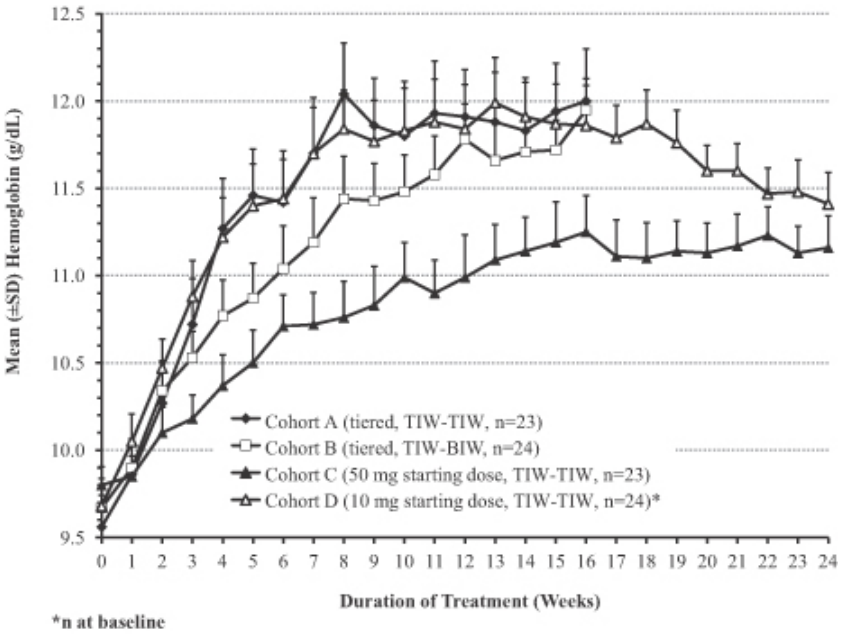
Study 041: Study for Optimization of Starting Dose and Dose Titration in NDD-CKD Patients

Study 041 demonstrated that both tier-weight and fixed starting doses can initiate anemia correction. In tier-weight based dosing for this study, we used starting doses based on the patient's body weight category: high, middle or low. This randomized, open-label Phase 2 study was designed to evaluate the efficacy and safety of roxadustat over 16 to 24 weeks in 145 NDD-CKD patients (of which 143 were efficacy evaluable), and to evaluate the effects of dosing regimens in order to determine an optimized approach to anemia correction. In this trial, we tested six different starting dose regimens: three fixed doses, and three tier-weight doses. In fixed dosing, all patients in the same cohort were given the same starting dose.

We tested both three times weekly and twice weekly dosing frequencies for anemia correction, similar to Study 017, and further demonstrated that Hb levels can be maintained using 3 dosing frequencies (three times weekly, twice weekly and weekly) once target Hb ³ 11 g/dL was achieved. We also studied various dose adjustment rules, with dose adjustment decisions made from 5 weeks onward, and every 4 weeks thereafter, to seek the best dose titration scheme.

Hb Correction. We met the primary efficacy endpoint of cumulative number (%) of patients with a Hb response, defined as an increase in Hb ³ 1.0 g/dL from baseline and Hb ³ 11.0 g/dL at the end of treatment. Regardless of the starting dose or dose titration scheme, 92% of patients collectively from all cohorts achieved an Hb increase of at least 1 g/dL from baseline. These data suggest the doses studied are of adequate range for anemia correction. The following figure shows mean Hb levels for four dose groups.

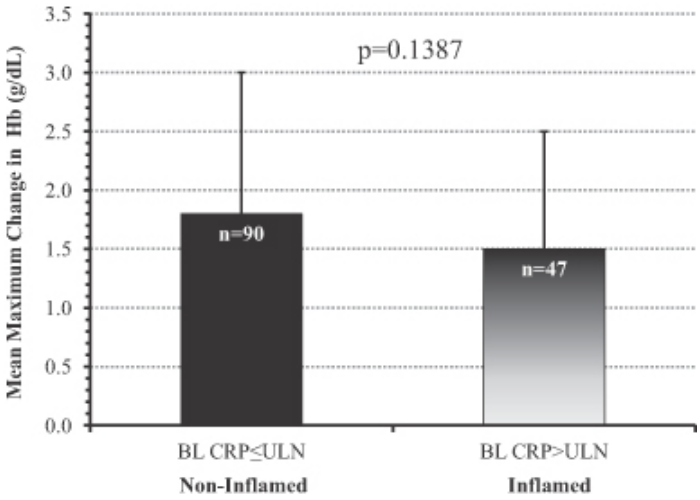
FGCL-4592-041 Hb Response Over Various Dosing Regimens



BIW = twice weekly; TIW = three times weekly
Two dose cohorts for fixed dosing (n=25, 70 mg TIW-BIW- Once a week) and tier-weight dosing (n=24, TIW-Once a week), which produced results consistent with the fixed and tier-weight dosing approaches depicted, are excluded for simplicity of presentation.

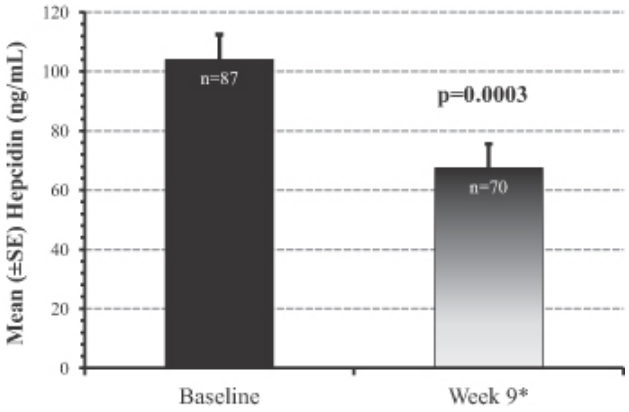
Hb Correction was Independent of Inflammation Status. In this study, in a post-hoc analysis, we observed that the magnitude of increases in Hb in response to roxadustat treatment was comparable for both patients with inflammation (elevated CRP levels) and without inflammation (normal CRP levels).

FGCL-4592-041 Mean (± SE) Maximum Change in Hb (g/dL) in 12 Weeks



This stands in contrast to treatments with ESAs, where elevated CRP is frequently associated with lower Hb response to ESAs. We observed a 30% reduction in mean hepcidin level from baseline with eight weeks of roxadustat treatment (p=0.0003), which supports our belief in roxadustat's ability to overcome inflammation and to maintain iron availability for erythropoiesis.

FGCL-4592-041 Mean (± SE) Serum Hepcidin Level (ng/mL)



Hb Correction Without IV Iron and in Patients Who Have Low Iron Levels at Study Initiation. In connection with the conduct of the study, we also evaluated several iron parameters to assess roxadustat's ability to improve Hb without the use of IV iron. At baseline, 49% of the efficacy evaluable patients did not have sufficient iron levels in the body to qualify for initiation of ESA treatment under current practice guidelines and would have been excluded from participation in all prior ESA Phase 3 trials. These patients would not be considered iron replete and are typically first treated with IV iron prior to ESA treatment initiation in an effort to ensure an adequate response to ESA and to minimize the risk of iron depletion. Of all patients in this study receiving roxadustat, only 38% were taking oral iron supplements. A mean Hb increase of 1.8 g/dL was achieved in the first 16 weeks of treatment without IV iron supplementation. There was no evidence for iron depletion as CHr, reticulocyte hemoglobin content or the amount of Hb in newly formed red blood cells, was maintained. Furthermore, there was evidence for

improved iron utilization with increases in the MCV and increase in mean corpuscular hemoglobin concentration (MCHC) over the first 16 weeks of treatment with roxadustat from baseline ($p=0.0018$ and $p<0.0001$, respectively); both MCV and MCHC typically decrease when there is iron deficiency.

Despite the minimal use of oral iron and lack of IV iron usage, patients who were not iron replete had similar Hb responses at Week 16 as patients who were iron replete.

Reduction in Cholesterol Levels. In a post-hoc analysis of all cohorts, total cholesterol decreased during treatment with roxadustat. Mean reductions in total cholesterol were greater for patients with abnormally high cholesterol levels (> 200mg/dL). Decreases in cholesterol levels were independent of whether patients were taking statins or other lipid lowering agents. Furthermore, the HDL/LDL ratio improved with roxadustat treatment in the subgroup of patients in whom lipid profiles were conducted.

Improvement in Quality of Life. Finally, in an analysis of exploratory endpoints we observed improved quality of life in patients treated with roxadustat using a standard questionnaire called the SF-36 HRQOL. The largest positive changes from baseline occurred in the Vitality subscale (>4 points, $p<0.0001$) and Physical Component (>1.6 points, $p<0.005$) subscales of the questionnaire. We believe these data demonstrate that by correcting patients' anemia, roxadustat may improve quality of life.

Study 040: ESA Conversion Study in DD-CKD Patients

Study 040 was designed to evaluate the short- and long-term dosing of roxadustat in patients on hemodialysis, or HD, treatment. These results established a conversion dose relationship between ESAs and roxadustat that will be used for Phase 3 trials. Roxadustat maintained Hb without the use of IV iron, which is generally required for the treatment of anemia by ESAs.

This randomized, single-blind study was the first roxadustat study in patients on HD treatment. Part 1 was a six week open-label Phase 2 dose ranging study in 54 patients (of which 42 were efficacy evaluable) to evaluate the impact of 4 sequential doses of roxadustat on dialysis patients' Hb levels over six weeks upon switching from epoetin alfa, in comparison to those continuing prior epoetin alfa doses. Part 2 was a 19 week treatment study in 90 patients (of which 83 were efficacy evaluable) to establish optimal conversion doses and dose adjustments. Patients included had previously demonstrated a wide range of ESA-responsiveness. Study 040 met its primary endpoint in Part 1 of maintaining Hb in patients previously treated with epoetin alfa at Week 6, indicating that roxadustat can replace ESAs in DD-CKD. Study 040 also met its primary endpoint in Part 2 of maintaining Hb at Week 19, indicating that roxadustat may be effective at long-term maintenance of Hb. IV iron was prohibited in both roxadustat treated patients and ESA treated control patients during this study.

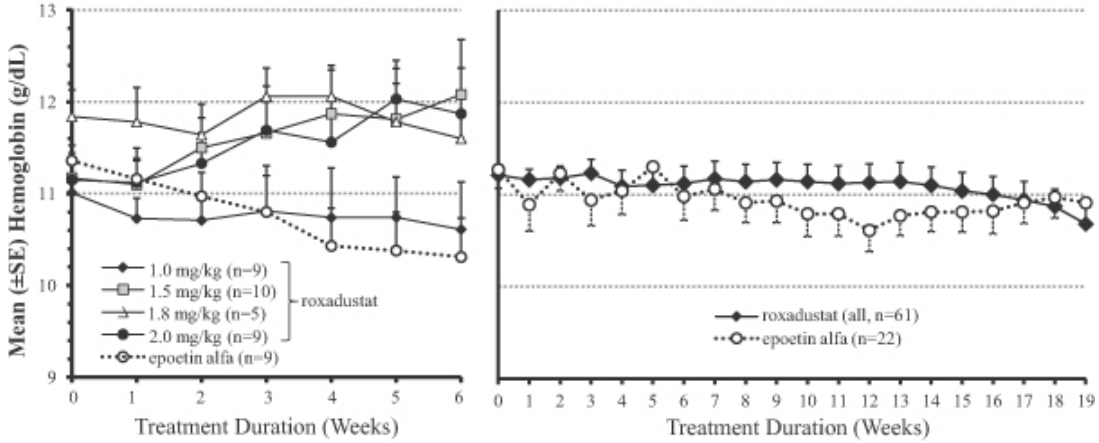
Maintenance of Hb Levels Following Conversion from ESAs. In Part 1 of this study (six week treatment), 41 patients were randomized to one of four roxadustat dose cohorts, and 13 were randomized to continue on epoetin alfa treatment. The primary endpoint was maintaining an Hb level equal to or above 0.5 g/dL below baseline Hb by the end of six weeks. As shown in the figure below, roxadustat had a dose-response effect for maintaining Hb levels. The lowest roxadustat dose cohort of 1.0 mg/kg was comparable to epoetin alfa with maintenance in 44% of roxadustat patients and 33% of the control arm, patients who continued treatment with epoetin alfa (but who were required to stop concomitant treatment with IV iron). Roxadustat doses of 1.5 mg/kg or higher were better than epoetin alfa at maintaining Hb, with 79.2% overall maintenance and with 80% maintenance at the 1.5 mg/kg roxadustat dose, 80% maintenance at the 1.8 mg/kg roxadustat dose and 77.8% maintenance at 2 mg/kg roxadustat dose.

In Part 2 of the study (19 week treatment), 67 patients (with baseline ESA dose requirements ranging from 7 to 164.5 U/kg three times weekly) were randomized to seven cohorts of roxadustat (with various starting doses) and 23 patients were randomized to continue on epoetin alfa. Hb correction in the roxadustat treated patients pooled across all treatment cohorts was maintained over the 19 week treatment period and was comparable to epoetin alfa. The average roxadustat dose requirement for Hb maintenance was approximately 1.70 mg/kg three times weekly.

In Part 1, which was dose ranging, we observed an increase in Hb level at doses of 1.5 to 2.0 mg/kg TIW as shown in the figures below. In Part 2, which was to establish the optimal conversion dose, we observed similar Hb maintenance between roxadustat and epoetin alfa.

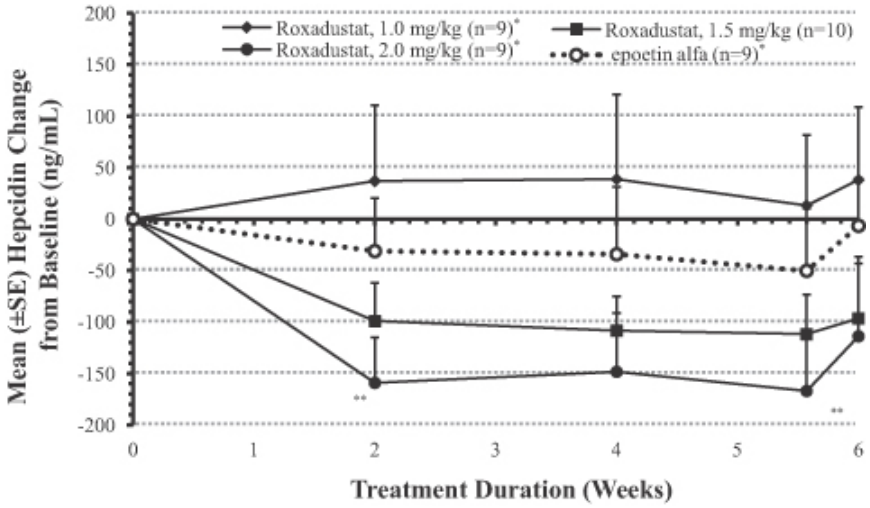
FGCL-4592-040 Mean: (± SE) Hemoglobin Over Time During Anemia Treatment with Roxadustat or Epoetin Alfa in Dialysis Patients

Part 1 (6 Weeks Dosing) **Part 2 (19 Weeks Dosing)**



In addition, in an exploratory analysis of this study we observed a dose dependent decrease in hepcidin in Part 1 of this study.

FGCL-4592-040: Change in Hepcidin Level from Baseline (ng/mL)

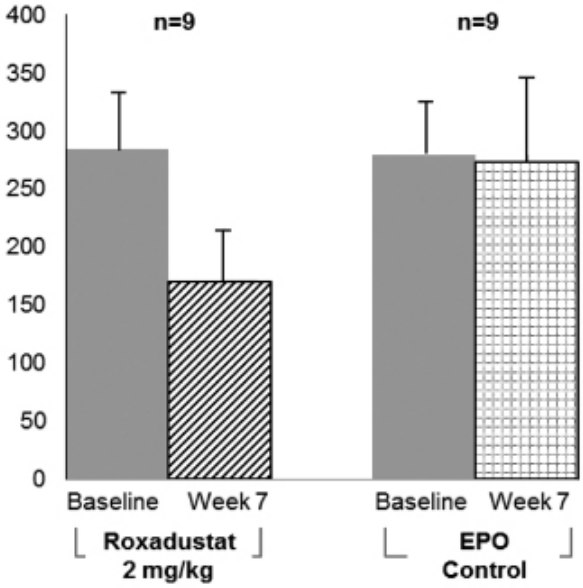


* n at baseline

** $p<0.05$ (comparing hepcidin change from baseline between the 2.0 mg/kg roxadustat group and the epoetin alfa group).

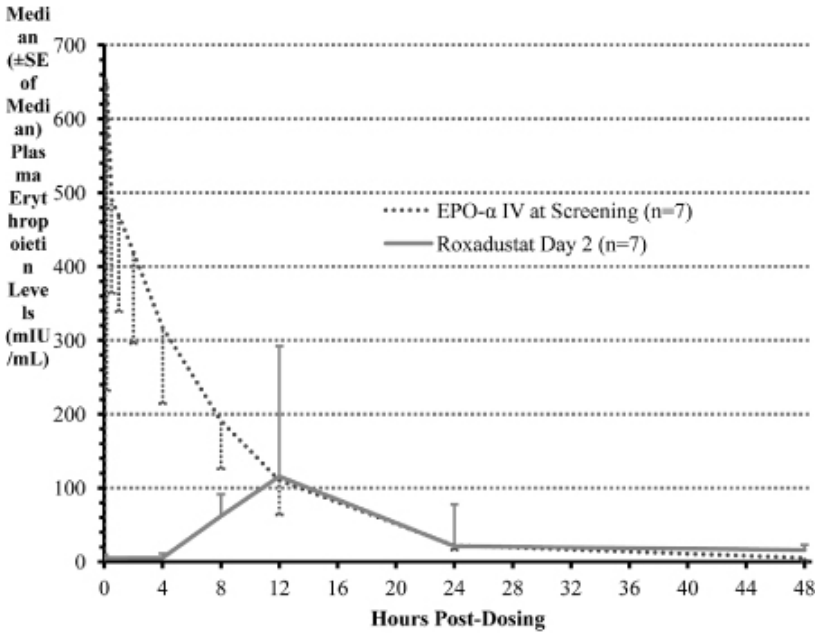
DD-CKD patients who switched from ESA treatment to treatment with 2.0 mg/kg roxadustat had significantly greater reduction in serum hepcin level than those who continued ESA treatment (p=0.038).

FGCL-4592-040 Mean (± SE) Serum Hepcidin Level (ng/mL)



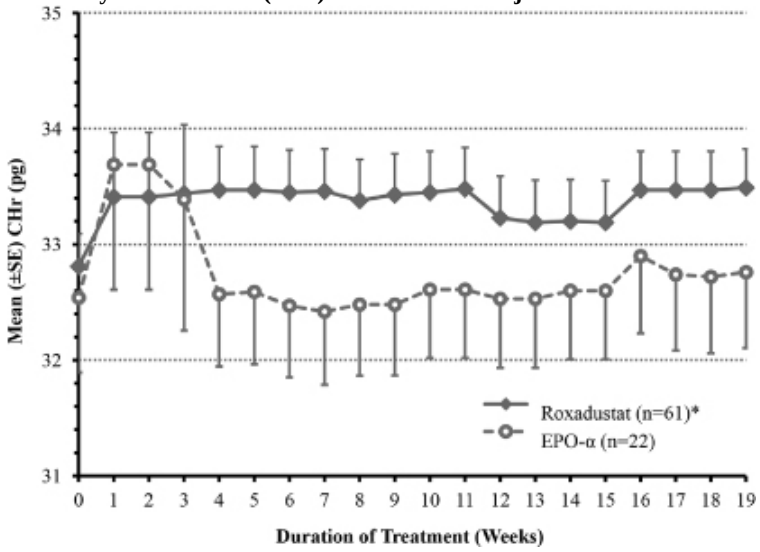
Roxadustat Doses are Associated with Lower Circulating EPO Levels than Epoetin Alfa. The following chart shows the result of six patients who were highly responsive to epoetin alfa and participated in a substudy in which their EPO levels during treatment with roxadustat were compared to EPO levels when the patients were receiving epoetin alfa prior to randomization. Their mean peak EPO concentration after an average dose of 44 U/kg was significantly higher when patients were receiving epoetin alfa relative to when they were receiving a mean roxadustat dose of 1.3 mg/kg as illustrated below. This observation is consistent with the mechanisms of action of ESA and roxadustat, respectively, and we believe the lower EPO exposure observed with roxadustat offers potential safety benefits.

FGCL-4592-040: Mean (+SE) Plasma Erythropoietin Levels During Treatment With Roxadustat Compared With Prior Epoetin Alfa Dosing In the Same Patients (n=6)



Maintenance of Adequate Iron Supply. The concentrations of Hb within newly formed red blood cells, or CHr, is a measure of iron availability for erythropoiesis. In an exploratory analysis of this study, without IV iron supplementation (which was prohibited in this study), CHr was maintained during roxadustat treatment but declined in patients who continued treatment with epoetin alfa. This finding indicates that unlike epoetin alfa, roxadustat allows endogenous stores of iron to provide an adequate supply to newly forming red blood cells without any IV iron supplementation.

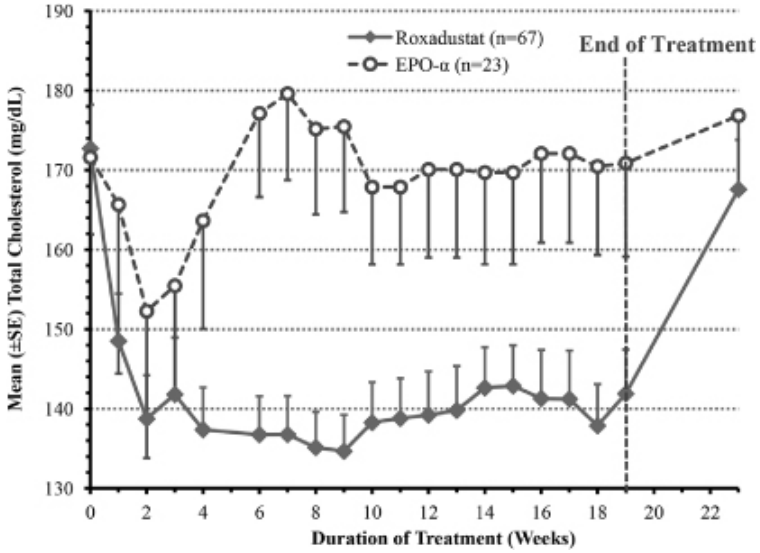
FGCL-4592-040: Mean Reticulocyte Hb Content (CHr) Over Time in Subjects Treated with Roxadustat and Epoetin Alfa



* n at baseline

Reduction in Total Cholesterol. Consistent with our Phase 2 studies in NDD-CKD patients, we observed in a post-hoc analysis that roxadustat reduced total cholesterol levels in stable dialysis patients, and this effect appeared durable throughout the 19 week treatment period as depicted below.

FGCL-4592-040: Mean (±SE) Total Cholesterol Over Time During Treatment of Dialysis Patients with Roxadustat or epoetin alfa-Treated



Study 053: Correction of Anemia in Incident Dialysis Patients

Incident dialysis patients are at increased risk of serious cardiovascular events and death as compared to stable dialysis patients. The mortality rate among dialysis patients is highest during the first few months of dialysis initiation, and on average, patients also require the highest doses of ESA in this period. These patients typically have high levels of systemic inflammation and require IV iron supplementation for ESA to be effective.

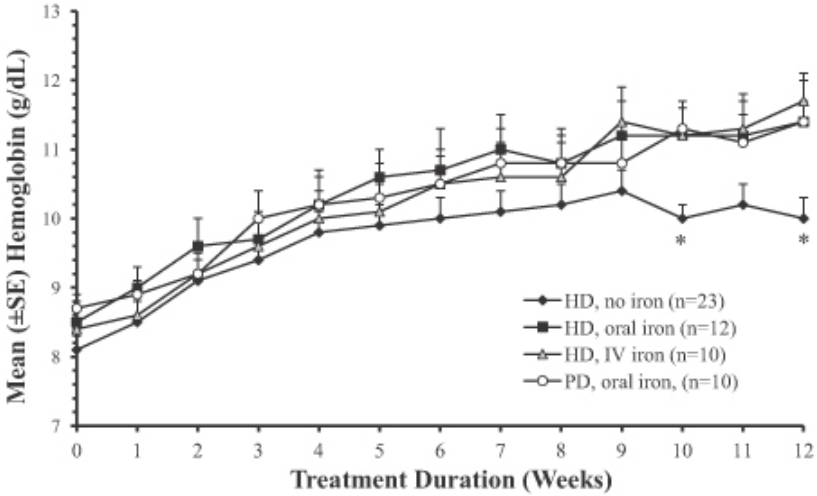
This randomized, open-label study was designed to evaluate the safety and efficacy of roxadustat for correction of anemia in 60 incident dialysis patients (of which 55 were efficacy evaluable) who were on dialysis for at least two weeks and not more than four months and had not been treated with ESAs, and to compare the treatment responses to roxadustat under the different iron supplementation conditions. All treatment groups in Study 053 met their primary endpoint in increasing Hb level during treatment: each cohort achieved maximum mean Hb increases from baseline, ranging between 2.8 g/dL to 3.5 g/dL, resulting from 12 weeks of roxadustat treatment. While roxadustat corrected anemia without iron supplementation, oral iron enabled an optimal Hb response. More importantly, oral iron was as effective as IV iron for Hb correction by roxadustat. In contrast, ESA therapy requires IV iron supplementation in this patient population.

This study also showed that roxadustat can correct anemia regardless of the patient's level of inflammation as measured by CRP. At Week 12, the median weekly dose of roxadustat was 4.0 mg/kg in this trial of incident dialysis patients and is similar to the median weekly dose of 4.45 mg/kg at Week 12 in Study 040, our trial of roxadustat in stable dialysis patients. In contrast, ESA therapy typically involves higher doses at the time of dialysis initiation.

The 48 HD patients were randomized to one of the three iron supplementation options: oral iron, IV iron or no iron. Included in the 60 patients were 12 peritoneal dialysis, or PD, patients who received oral iron. This study incorporated the same tier-weight based dosing regimen utilized in Study 041.

Hb Correction in Incident Dialysis Patients Without IV Iron Administration. All three cohorts of roxadustat treated HD patients (no iron, oral iron or IV iron supplementation) and PD patients (oral iron) achieved a significant increase in the maximum Hb change from baseline, the primary efficacy endpoint. Most importantly, the maximum increase in Hb was not significantly different between roxadustat treated HD patients supplemented with oral iron (3.4 g/dL) and those supplemented with IV iron (3.5 g/dL). In contrast, a published study of ESAs in this patient population showed that patients supplemented with oral iron achieved a Hb response comparable to no iron supplementation and significantly lower Hb response than those supplemented with IV iron. These Phase 2 data demonstrate that roxadustat, unlike ESAs, may eliminate the need for IV iron and thus avoid the side effects of IV iron in DD-CKD patients.

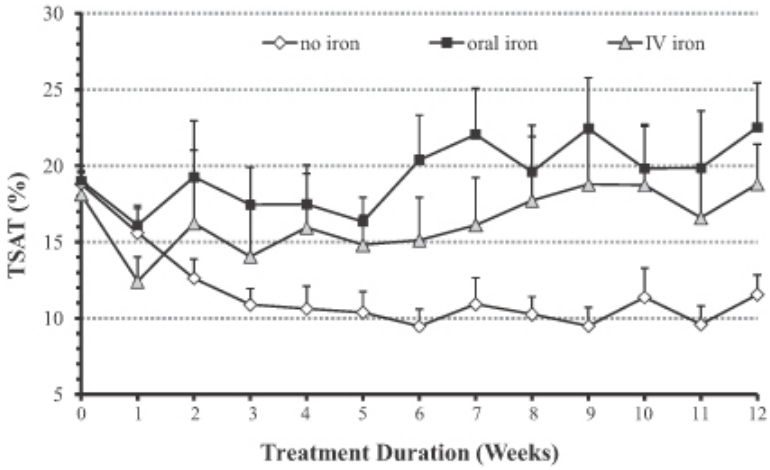
FGCL-4592-053: Hemoglobin Over Time During Anemia Correction with Roxadustat in Incident Dialysis Patients, with No Iron, Oral Iron, or IV Iron Supplementation



Note: Hb = hemoglobin; HD = hemodialysis; PD = peritoneal dialysis; n= number of patients
Note: *p<0.05 compared to IV iron and oral iron

Maintenance of Iron Stores. In an exploratory analysis of this study, transferrin saturation, or TSAT, a marker of iron stores, was well maintained during this period of intensive production of red blood cells with oral iron alone, indicating that iron stores can be maintained without IV iron.

FGCL-4592-053: TSAT Over Time During Anemia Correction With Roxadustat In Incident Dialysis Patients, With No Iron, Oral Iron, or IV Iron Supplementation



Hb Correction Independent of Inflammation Status. As is typical of incident dialysis patients, about half of all patients had elevated CRP levels at baseline. In a post-hoc analysis of this study, we observed that Hb responses following roxadustat treatment were independent of baseline CRP levels. These data demonstrate that, unlike the ESAs, roxadustat has the potential to overcome the suppressive effects of inflammation on Hb responsiveness to treatment.

Significant Reduction in Hepcidin. Consistent with our other studies, in an exploratory analysis of this study we observed that patients' hepcidin levels were significantly reduced, most notably in the no iron and oral iron cohorts, by ≥ 50% from baseline, and to a lesser extent in the IV iron cohort. At follow-up (4 weeks after stopping roxadustat), hepcidin levels returned towards baseline values. Hepcidin reduction may be one of the mechanisms for overcoming the Hb suppressive effects of inflammation by making iron more available for roxadustat-induced erythropoiesis.

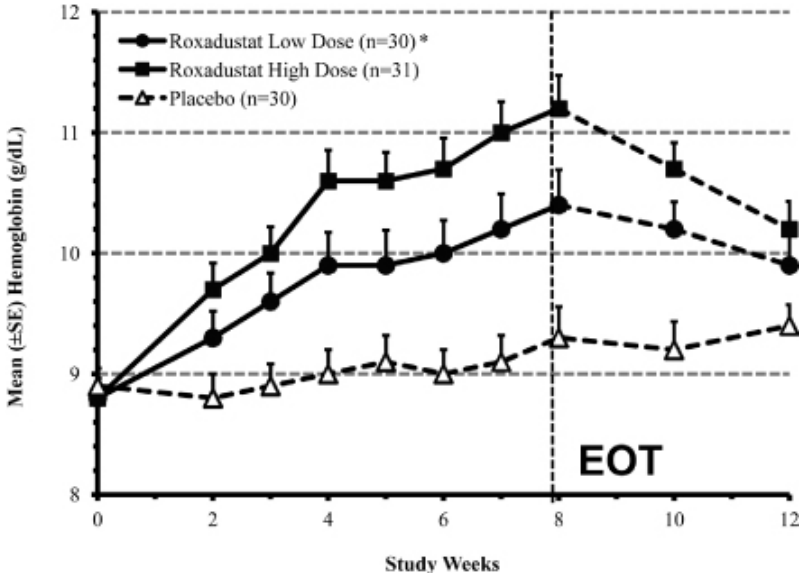
China Phase 2 Studies

In China, roxadustat is known as FG-4592. We performed two Phase 2 studies in China, one trial in NDD-CKD patients, and another trial in DD-CKD patients. In these trials, Hb correction in NDD-CKD patients and Hb maintenance in DD-CKD patients replicated the results seen in the US trials.

Study 047: Week Placebo-Controlled NDD-CKD

In this multi-center, double-blind, placebo-controlled study, 91 anemic CKD patients were randomized 2:1 to roxadustat or placebo treatment groups, respectively, in two sequential dose cohorts or placebo. Iron repletion at baseline was not required and IV iron supplementation was prohibited during the trial; oral iron supplementation was allowed during the trial, similar to the corresponding US Study 041. The study used tier-weight starting dose for four weeks after which the roxadustat dose was adjusted, depending upon the initial response to treatment. Study 047 met its primary endpoint of a mean maximum increase in Hb by Week 9 from baseline. The mean maximum Hb increases at the end of eight weeks of treatment were 1.6 g/dL and 2.4 g/dL in the low-dose and the high dose cohort, respectively, compared to 0.4 g/dL for placebo, $p < 0.0001$ for each cohort compared to placebo.

FGCL-4592-047: Hb Over Time (g/dL) in Chinese NDD-CKD Patients

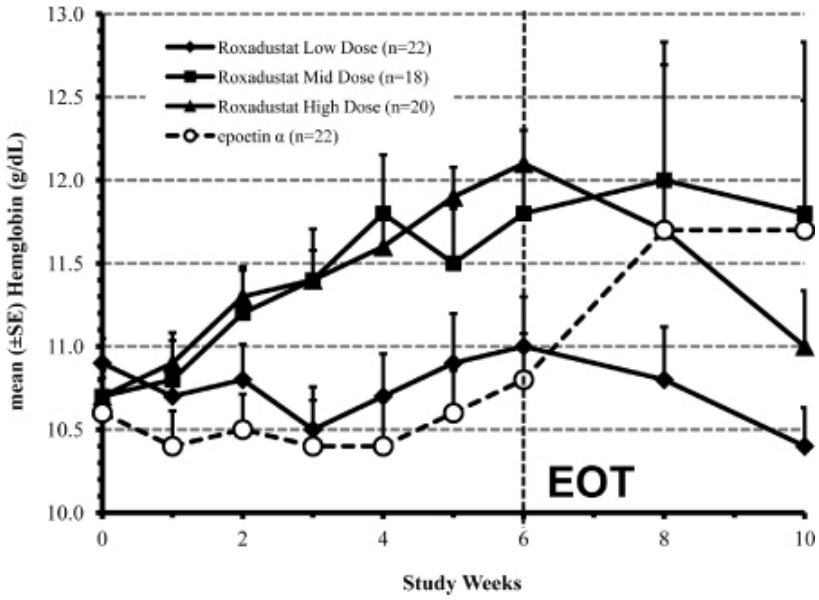


* n at baseline

Study 048: Stable Dialysis Conversion in China

In this multi-center, open-label, ESA-controlled study, 84 HD patients (of which 82 were efficacy evaluable) with Hb 9 to 12 g/dL previously maintained with ESAs were randomized 3:1 to roxadustat or epoetin alfa treatment groups, respectively, in three sequential dose cohorts of increasing starting doses of roxadustat. This study design was similar to Part 1 of Study 040. Study 048, an exploratory study, achieved its objective of number (%) of patients with successful dose conversion whose Hb levels are maintained at no lower than 0.5 g/dL below their mean baseline value during Weeks 6 and 7 (as shown in the figure below). The Hb responses to the roxadustat treatment of Chinese dialysis patients, with the low dose cohort were numerically similar to epoetin alfa, while the mid-dose and the high-dose cohorts each had a statistically significantly higher Hb response rate than epoetin alfa, p=0.008 and 0.0003, respectively. Hb responses to the roxadustat treatment of Chinese dialysis patients (as shown in the figure below) were similar to Part 1 of Study 040 in the United States.

FGCL-4592-048: Hb Over Time in Chinese Stable Dialysis Patients



Safety Summary

As of August 31, 2014, 1,385 subjects have received roxadustat in our clinical development program, including 489 healthy volunteers and 896 CKD patients (both dialysis and non-dialysis). The longest treatment exposure (10 participants in an ongoing open-label extension study) is over 2 years. A range of roxadustat doses, up to 3.0 mg/kg in DD-CKD patients and up to 5.0 mg/kg in healthy volunteers, have been administered and all roxadustat doses have been well-tolerated. The following summarizes the safety findings of our preclinical, Phase 1 and Phase 2 studies:

- *No Overall Safety Signals.* An independent data monitoring committee consisting of external experts in nephrology, hepatology, and biostatistics reviewed safety data from all US and Europe Phase 2 studies, and determined there were no safety signals. The overall frequency and type of treatment-emergent adverse events and serious adverse events, or SAEs, observed in these clinical studies reflect events that would be expected to occur in each of the NDD-CKD and DD-CKD patient populations. Safety analyses did not reveal any association between the rates of occurrence of cardiovascular events with roxadustat dose, rate of Hb rise or Hb level. The SAEs experienced in our studies identified by the

principal investigator as possibly related to roxadustat were a stroke in a patient with a prior history of multiple strokes, one incident of vomiting, and one incident of deep venous thrombosis. The most commonly reported treatment emergent adverse events in the Phase 2 studies were diarrhea, nausea, urinary tract infection, nasopharyngitis, peripheral edema, hyperkalemia, headache, hypertension and upper respiratory tract infection.

- *No Liver Enzyme Safety Signal.* Liver enzymes were monitored closely in the roxadustat Phase 2 clinical development program. No evidence of hepatotoxicity was observed in any of the roxadustat clinical trials, and the independent data monitoring committee concluded that there was no concern for hepatotoxicity to date. Liver enzymes are being monitored in Phase 3 according to current FDA guidelines, without any special requirements.
- *Extensive Evaluation of Cancer Risk.* Furthermore, to assess the potential cancer risk of roxadustat, we conducted 12 tumor studies in rodents. These studies included xenograft, syngeneic, or spontaneous tumors of lung, colon, breast, pancreas, melanoma, ovarian, renal, prostate and leukemic origin, several of which are reported to be dependent on vascular endothelial growth factor, or VEGF, a protein that can be regulated by HIF for which increased levels have potentially been linked to increased tumor growth. No effect on tumor promotion was observed with roxadustat in any of the studies. In addition, roxadustat had no effect on tumor initiation or metastasis in the studies in which these end-points were also measured. Five other HIF-PH inhibitors from our library have been evaluated in many of the same rodent tumor models as roxadustat, as well as some additional ones (35 studies of six HIF-PH inhibitors in 18 models total), with no observed effect on tumor initiation, promotion or metastasis. Finally, no significant increases in plasma VEGF levels have been observed in any of our nonclinical studies at clinically relevant erythropoietic doses of roxadustat.

  The in-life portion of our two-year rat and mouse carcinogenicity studies in roxadustat has been completed. Roxadustat treatment had no adverse effect on survival in either species. Statistical analysis and final results are expected in the second half of 2014. Two-year rodent carcinogenicity studies that were conducted with one of the other HIF-PH inhibitors evaluated in the tumor models showed no effect on mortality or incidence of tumors.

  In clinical studies to date, we and our independent data monitoring committee have not identified any evidence to suggest tumor risk in the use of roxadustat.
- *No QT Prolongation.* We conducted a Thorough QT study evaluating roxadustat doses up to 5 mg/kg (approximately four times the average maintenance dose studied in the NDD-CKD patient population). A lengthened QT interval is a biomarker for certain ventricular arrhythmias and a risk factor for sudden death. Our results demonstrate that roxadustat did not affect the QT interval in this study. Based on the extensive safety data collected to date, we believe that roxadustat has a favorable safety profile that supports its further development in Phase 3 clinical studies.

Our Global Phase 3 Program for Roxadustat

In support of our initial efforts for regulatory approval in the United States and Europe, we have initiated with our partners our global Phase 3 clinical program for roxadustat in North America, Europe and Asia Pacific, with plans for expanding to other regions. As of September 25, 2014, there have been approximately 375 patients enrolled in this Phase 3 clinical program. FibroGen China will begin a separate Phase 3 program in China in the first half of 2015, and Astellas is responsible for Phase 3 studies upon completion of Phase 2 studies in Japan. Roxadustat is the first HIF-PH inhibitor to enter Phase 3 clinical trials. We believe that our ongoing global Phase 3 program will be the largest Phase 3 program ever conducted for an anemia agent. This broad Phase 3 program is being jointly implemented with our partners, Astellas and AstraZeneca. The below chart summarizes our ongoing and planned Phase 3 clinical trials.

Ongoing and Planned Roxadustat Phase 3 Clinical Trials

	Company Sponsor	Global Regions	Comparator	Estimated # of Patients to be Enrolled	Rando-mization	Study Objective
			United States and European Approval			
Non-Dialysis						
Study 060	FibroGen	US, Asia-Pacific, Latin America	Placebo	Up to 600	2:1	Correction & Maintenance
Study 0608	Astellas	Europe	Placebo	450 to 600	2:1	Correction & Maintenance
Study 001	AstraZeneca	Global	Placebo	~2,600	1:1	Correction & Maintenance
Study 0610	Astellas	Europe	Darbepoetin alfa	570	2:1	Correction & Maintenance
NDD-CKD Total				**~ 4,000 to 4,500**		
Incident Dialysis						
Study 063	FibroGen	Global	Epoetin alfa	Up to 750	1:1	Correction & Maintenance
Stable Dialysis						
	Astellas	Europe	Epoetin alfa or Darbepoetin alfa	750	376:200:174	Correction & Conversion
	FibroGen	North America	Epoetin alfa	Up to 750	1:1	Correction & Maintenance
Study 002	AstraZeneca	Global	Epoetin alfa	1,425	1:1	Correction & Maintenance
DD Total				**~3,000 to 3,500**		
			China Approval			
Non- Dialysis	FibroGen	China	Placebo	150	2:1	Correction & Maintenance
Stable Dialysis	FibroGen	China	Epoetin alfa	300	2:1	Correction & Conversion
China Total				**450**		

Ongoing Phase 3 Studies

Study Number, Location, Enrollment Start Date	CKD Patient Population	Number of Roxadustat Patients	Number of Comparator Patients		Total Number of Patients in Study	Treatment Duration (weeks)	Dose Frequencies
			Placebo	ESA			
FGCL-4592-060 Ph 3, US, Asia, Latin America, November 2012	Non-dialysis	Up to 400	Up to 200		Up to 600	52+	TIW, BIW, QW
FGCL-4592-063 Ph 3, Global, February 2014	Incident Dialysis	Up to 375		Up to 375	Up to 750	52+	TIW
1517- CL-0608* Ph 3 Europe, October 2013	Non-dialysis	300 to 400	150 to 200		450 to 600	52+	TIW, BIW, QW
1517-CL-0610 * Ph 3 Europe, April 2014	Non-dialysis	380		190	570	52+	TIW, BIW, QW
D5740C00001 Ph 3, Global, July 2014	Non-Dialysis	~1,300	~1,300		~2,600	52+	TIW, BIW, QW
D5740C00002, Ph 3, Global, July 2014	Stable Dialysis	~712		~712	~1,425	52+	TIW

* Studies 1517-CL-0608 and -0610 are being conducted by Astellas; D5740C00001 and ‘002 are being conducted by AstraZeneca
QW = weekly; BIW = twice weekly; TIW = three times weekly

To maximize the commercial potential for roxadustat, we have incorporated several unique elements into our Phase 3 program. We are performing the first placebo-controlled Phase 3 studies in NDD-CKD patients to potentially demonstrate the benefits of anemia therapy and safety of roxadustat compared to placebo. We are also performing the largest Phase 3 study in incident dialysis anemia patients, who have the highest risk for death, and are the most difficult patients to stabilize and treat for anemia in CKD. Based on data from our Phase 2 studies, we believe that roxadustat may offer a safer alternative to ESAs for this particularly vulnerable patient population.

Primary and Secondary Endpoints of Our Phase 3 Program

With our partners, we have designed our Phase 3 studies to evaluate the following endpoints, most of which were evaluated in our Phase 2 studies.

- Primary efficacy endpoints in these trials are improvement in Hb levels from baseline in anemic patients as compared to placebo, and non-inferiority in correcting and/or maintaining Hb levels as compared to ESAs.
- The safety endpoints for U.S. approval will be major adverse cardiac events, commonly referred to as MACE, which will be pooled across multiple studies and evaluated separately in our NDD-CKD trials and our DD-CKD trials.
- We also plan to evaluate secondary endpoints, including the following:
    - IV iron usage in roxadustat-treated patients relative to ESA-treated patients with DD-CKD.
    - Red blood cell transfusion rate in roxadustat-treated relative to placebo treated patients with NDD-CKD.
    - Hypertension adverse events in roxadustat-treated patients relative to ESA-treated patients with DD-CKD, and blood pressure in roxadustat-treated patients relative to placebo-treated patients with NDD-CKD.
    - Total cholesterol, LDL-cholesterol and VLDL-cholesterol levels in roxadustat-treated patients relative to placebo-treated patients with NDD-CKD and relative to ESA-treated patients in all three anemic CKD patient populations.

- Quality of life in roxadustat-treated patients relative to placebo-treated patients with NDD-CKD.
- CKD progression in roxadustat-treated patients relative to placebo-treated patients with NDD-CKD.
- Hospitalization rate in roxadustat-treated patients relative to placebo-treated patients with NDD-CKD and relative to ESA-treated patients in all three anemic CKD patient populations.

Dosing Regimen

Our Phase 3 studies incorporate dosing regimens that were extensively tested in our six Phase 2 studies.

- *Identified Dosing Regimen.* The dosing regimens for our Phase 3 studies are designed to achieve an appropriate rate and magnitude of Hb rise. In our Phase 2 studies, we explored ranges of therapeutic doses under several dosing regimens, including both tier-weight and fixed starting doses and conversion doses. Our Phase 3 dosing strategies are based on our understanding of effective approaches, derived from our Phase 2 studies, to achieve Hb correction for patients with varying dose requirements in a manner that is optimal for both patients and physicians.
- *Dose Titration.* Our Phase 3 program will use a pre-determined sequence of dose steps, which we found to be simple to use and sufficient to correct anemia in our Phase 2 studies. In our Phase 2 anemia correction studies, only one or two cycles of dose titration were necessary to achieve Hb correction in at least 80% of patients on average.
- *Dose Frequency.* In preclinical and Phase 1 studies, we observed that intermittent dosing yielded optimal responses to roxadustat. Our Phase 2 studies indicated that three times weekly, twice weekly and weekly dosing regimens achieved Hb maintenance. We believe that intermittent dosing may help ensure a consistent and durable treatment effect, and avoid the loss of effect that may be associated with more frequent dosing.
- *Dose Conversion for Dialysis Patients Previously Treated with ESAs.* In our Phase 2 conversion study, we tested a variety of starting doses and developed a mathematical relationship between baseline ESA dose and roxadustat dose required to maintain Hb levels. We will use dose conversion tables derived from this study to formulate starting roxadustat doses in our Phase 3 trials for patients who switch to roxadustat from ESAs.

Our Phase 2 studies indicated that this dosing regimen enabled anemia correction up to 24 weeks and Hb maintenance up to 19 weeks when converting a patient from ESA.

Status with Regulatory Agencies

In the last two years, we and our collaboration partners have had interactions with regulatory agencies in multiple territories regarding the planned development and potential path to approval of roxadustat.

Most recently, we met with the FDA in May, June and July of 2014 to discuss the overall scope of our Phase 3 development program. In order to comply with FDA's recommendation, we have designed and sized our Phase 3 program for, and will incorporate MACE composite safety endpoints that we believe will be required for approval in the United States for all new anemia therapies.

We have also discussed our Phase 3 clinical development program with three National Health Authorities in the EU and obtained Scientific Advice from the European Medicines Agency, which was confirmed in writing in January 2014 with respect to the adequacy of our current clinical development program to support the indication for the treatment of anemia in NDD-CKD and DD-CKD patients. We expect the MAA submission in Europe to precede our NDA filing in the United States.

Investigational New Drug and Clinical Trial Applications

Roxadustat is being studied under one Investigational New Drug Application, or IND, and several Clinical Trial Applications, or CTAs, all with a specified indication of treatment of anemia in CKD. We submitted the IND in the United States to the FDA in April 2006. Our collaboration partner, Astellas, submitted the CTA in Japan to the Pharmaceuticals and Medical Devices Agency in June 2009. We and Astellas have submitted CTAs in Europe to the EMA, beginning in 2013.

Opportunities in Other Anemia Indications

Based on roxadustat's safety and efficacy profile to date and other potential advantages over ESAs, we believe that in addition to treating anemia in CKD, roxadustat has the potential to treat anemia associated with many other conditions, such as chemotherapy-induced anemia, anemia related to inflammatory diseases, MDS and surgical procedure requiring transfusions. We think that roxadustat, if successful, could potentially address the significant unmet need in these anemia markets.

HIF-PH Inhibitor Platform

We have been a world leader in prolyl hydroxylase inhibition since the mid-nineties. Over the past two decades, we have built a robust drug discovery platform based on our deep understanding of the inhibition of prolyl hydroxylase enzymes using small molecules. Our platform is supported not only by internal research but also by numerous academic collaborations, including a long-standing funded collaboration with a research group at the University of Oulu, Finland, headed for many years by our scientific co-founder, Dr. Kari I. Kivirikko. Dr. Kivirikko is one of the world's leading experts in collagen prolyl hydroxylases, and he remains an advisor to us.

Prior to the discovery of HIF regulation by prolyl hydroxylase activity, we had acquired compound collections from several pharmaceutical companies and assembled a diverse library of prolyl hydroxylase inhibitors to target collagen prolyl hydroxylase enzymes for fibrosis. Consequently, we were particularly well positioned to rapidly generate proof-of-concept for a number of aspects of HIF biology, and to direct medicinal chemistry efforts towards increasing potency and selectivity for the newly identified HIF-PH enzymes.

We have applied our expertise in the field of HIF-PH inhibition to develop an understanding, not only of the role of HIF in erythropoiesis, but also of other areas of HIF biology with important therapeutic implications. This consistent progression of discovery has led to findings relating to HIF-mediated effects associated with inflammatory pathways, various aspects of iron metabolism, insulin sensitivity and glucose and fat metabolism, neurological disease, and stroke. The extensive patent portfolio covering our discoveries represents an important competitive advantage.

The strength of our platform capitalizes on these internal discoveries, as well as some of the complexities of HIF biology that we and the scientific community have uncovered over the past decade. There are at least three different HIF-PH enzymes that are known to regulate the stability of HIF—these enzymes are commonly referred to in the scientific literature as PHD1, PHD2 and PHD3. Studies of genetically modified mice, in which the individual HIF-PH enzymes have been deleted, have revealed that PHD2 plays a major role in the regulation of erythropoiesis by HIF. In contrast, PHD1 and PHD3 appear to play less important roles in HIF-mediated erythropoiesis, but instead have been implicated in other important biological pathways.

We believe that inhibitors selectively targeting PHD1 or PHD3 could have important therapeutic applications beyond anemia. For example, as PHD1 has been implicated in ischemic tissue injury, it has been proposed that PHD1 inhibitors may provide a novel therapeutic approach to protect organs and tissues from ischemic damage. PHD3 on the other hand has been implicated in insulin signaling, raising the possibility that PHD3 inhibitors may have therapeutic utility in the treatment of diabetes. Despite the challenges associated with selectively inhibiting just one enzyme from a closely related family, we have made important advances in the identification of selective

HIF-PH inhibitors. We currently have active research programs focused on exploring the therapeutic utility of PHD1 selective inhibitors and PHD3 selective inhibitors. A lead candidate from our PHD1 inhibitor program, FG-8205, is currently in preclinical evaluation for use as a cardioprotective agent to prevent the onset of heart failure following a heart attack.

In addition, FG-6874, another novel HIF-PH inhibitor selected from our proprietary compound library, has recently completed Phase 1 single dose and multiple dose studies in which it was found to be well tolerated. We are planning on exploring FG-6874 for hematopoietic stem cell mobilization and certain other indications.

In September 2011, we submitted a CTA in Singapore for our HIF-PH inhibitor FG-6874; however, no indication was specified under this CTA as it was for a Phase 1 trial. While we have other HIF-PH inhibitors in preclinical evaluation, such as FG-8205, we have not submitted any INDs or CTAs with respect to such compounds at this time.

ROXADUSTAT FOR THE TREATMENT OF ANEMIA IN CHRONIC KIDNEY DISEASE IN CHINA

We believe there is a particularly significant unmet medical need for the treatment of anemia in CKD in China. Specifically, anemia is undertreated in the rapidly growing number of dialysis stage patients and anemia is not treated in non-dialysis patients including patients who are eligible for dialysis but are not treated due to a shortage of dialysis facilities, and cannot easily obtain anemia treatment outside of the dialysis system. In the context of the rapidly growing Chinese pharmaceutical market, we believe that the demand for anemia therapy will continue to grow as a result of an expanding CKD population, as well as the central government's mandate to make dialysis, which is still in the early stages of infrastructure development, more available through expansion of government reimbursement and build-out of dialysis facilities. We believe that roxadustat is a particularly promising product candidate for this market.

Addressable Patient Populations in China

Based on a cross-sectional survey performed between September 2009 and September 2010 published in the *Lancet* (Zhang, et al. *Lancet* (2012)), there are an estimated 119.5 million CKD patients in China. There were approximately 19 million patients in CKD stage 3, stage 4 and stage 5 which we have grouped into three categories: dialysis dependent CKD patients, or DD-CKD; Dialysis Eligible patients who need dialysis under treatment guidelines but are not dialyzed, or Dialysis Eligible NDD-CKD; and stages 3 and 4 patients as well as stage 5 patients who are not eligible for dialysis, or Other NDD-CKD.

DD-CKD (Dialysis)

Dialysis can be delivered in the form of hemodialysis, or HD, or peritoneal dialysis, or PD. In China, HD is mostly performed at dialysis clinics within hospitals, not at freestanding dialysis centers outside of hospitals which is the common practice in the United States. PD is self-administered at home by patients, and they visit their nephrologists on a monthly basis at the hospital for monitoring and follow-up.

Dialysis Eligible NDD-CKD

Dialysis Eligible NDD-CKD refers to patients who need dialysis under Chinese treatment guidelines but are not dialyzed. The Chinese treatment guidelines recommend initiation of dialysis at eGFR<10 mL/min/1.73 m^2 (and eGFR<15 mL/min/1.73m^2 for diabetic nephropathy patients). The Minister of Health estimated that one to two million people in China were eligible for dialysis in 2011, and of those we believe that only 300,000 to 400,000 are on dialysis. While the size of dialysis population is large and approaches that of the United States, it nevertheless falls far short of the number who require dialysis treatment. We believe that this Dialysis Eligible NDD-CKD population is characteristic of developing markets like China and is at risk for severe anemia.

Other NDD-CKD

Other NDD-CKD refers to the other sub-groups of CKD patients within non-dialysis who are earlier stage: CKD patients in stage 3 and stage 4, as well as stage 5 who are not eligible for dialysis. Many of these patients receive medical care in endocrinology, cardiology or internal medicine clinics where they are treated for their primary disease.

Unmet Medical Need

DD-CKD Patients are Under-Treated for Anemia

We believe there is chronic under-treatment for anemia within the DD-CKD patient population, as many patients do not reach target Hb levels despite ESA therapy. The consensus opinion of the expert panel assembled by the Chinese Journal of Nephrology in 2013 advocated treating to Hb 11.0 g/dL to 13.0 g/dL, whereas we believe, based on our key opinion leader Advisory Board Meeting in Shanghai in March 2013 that in clinical practice, nephrologists generally use Hb 10.0 g/dL to 12.0 g/dL as the target. However, according to the 2012 Shanghai Dialysis Registry, approximately 50% of patients in Shanghai did not exceed a Hb level of 10.0 g/dL and approximately 75% did not exceed Hb 11.0 g/dL. Over 19% of dialysis patients failed to reach a severely low Hb level of 8.0 g/dL. The Chinese Renal Data System reported that in 2011, the most recently reported data, the average Hb level of DD-CKD patients in the registry was approximately 9.1 g/dL and the percentage of patients who reached Hb levels greater than or equal to 11.0 g/dL was only about 21%.

We believe there are a number of factors that have led to under-treatment of anemia in the dialysis population, including:

- The ESA doses used are generally not sufficient to treat to target Hb levels for certain patient populations. We believe that the reasons include constraints on reimbursement for anemia treatment and fixed hospital pharmacy budgets, as well as safety and efficacy limitations of these drugs. Lower dose levels are particularly ineffective in the hypo-responsive patient population.
- The use of IV iron, which is often needed to correct Hb to target levels with ESAs, is limited due to limited reimbursement and perceived clinical risk. According to the Shanghai Dialysis Registry, in 2011, less than 9% of dialysis patients in Shanghai were treated with IV iron.
- For the PD population, where patients are not already visiting the hospital for HD and are receiving ESA treatment during dialysis, similar logistical and financial issues that impede ESA use in the NDD-CKD population discussed below apply to these patients.

Dialysis Eligible NDD-CKD and Other NDD-CKD Patients are Largely Un-Treated for Anemia

Apart from the ESAs used by the dialysis patients in China, we believe that there is a low level of use of ESAs in the non-dialysis population. Based on our clinical trial experience in China, we believe use of ESAs in this population is generally limited to “CKD Clinics” at major research hospitals in top cities where CKD patients are admitted into programs for academic research purposes. We believe there are a number of significant impediments that inhibit the use of ESAs in the outpatient setting, for patients who are not already visiting the hospital for dialysis treatment on a regular basis.

- Generally, under the Chinese healthcare system, patients do not have a personal physician but rather are seen by the physician on the schedule on the day of the visit. This limited continuity of care makes managing the potential risks of ESAs and the titration of ESA treatment needed to maintain Hb within target range particularly difficult.
- Hypertension and associated co-morbidities are top risk factors for the CKD population. Many physicians in China believe that for the outpatient NDD-CKD population, the risk of developing new or exacerbating existing hypertension from ESA with the attendant risk of worsening renal failure outweigh the benefits of treating anemia.

- Injectable drugs like ESAs present a challenge in China because even subcutaneous administration is performed at hospitals and not in the home. Frequent hospital visits for injections, for the sole purpose of receiving ESA treatment, can present a substantial logistical and financial burden on patients.
- Nephrologists are the primary prescribers of ESAs. Those CKD patients with hypertension or diabetes who are treated by other physicians, such as cardiologists and endocrinologists, are generally not treated with ESAs.
- Non-dialysis patients are covered under outpatient reimbursement, unlike dialysis patients who are covered under Severe Disease reimbursement, when available. The lower level of reimbursement coverage means a higher patient co-pay, which further limits ESA use and compliance.

We believe that these impediments have contributed to a low rate of ESA use in the NDD-CKD population in China, and that roxadustat, as an oral agent triggering the HIF mechanism of action, has the potential to make this population accessible for effective anemia treatment in CKD.

Growing Market Opportunity

Healthcare expenditures in China have more than doubled over the past five years, from $156 billion in 2006 to $357 billion in 2011. China is projected by IMS Health to become the world's second largest pharmaceutical market after the United States by 2016 (IMS Market Prognosis, May 2012). We believe several factors will continue to drive the growth of the overall pharmaceutical market in China as well as the market for the treatment of anemia in CKD. These factors include continuing urbanization, an aging population and the increasing prevalence of chronic diseases (particularly diabetes and hypertension which are common causes of CKD), and income growth. We also believe that the increasing standard of living will drive higher rates of disease awareness, leading to greater rates of diagnosis and treatment.

The strong growth in the China healthcare sector is a direct result of central government policy. In 2009, the Chinese government implemented healthcare reform that greatly expanded reimbursement coverage across population, scope, and level of coverage, and in 2011, the 12th Five Year Plan placed the biomedical industry and development of innovative medicines as a strategic priority for the country. The following table shows the growth and size of the China healthcare market:

	2006 ($US)	2011 ($US)
Total Healthcare Expenditures	$156 billion	$357 billion
Per Capita Healthcare Expenditures	$119	$261
Market Size for Pharmaceuticals	$27 billion	$71 billion
Percentage of Population with Health Insurance	43%	>95%
China in Global Ranking of Pharmaceutical Markets	9th	3rd

Source: Health care in China: Entering "uncharted waters", McKinsey & Company, healthcare systems and services practice, November 2012

Current ESA Market Size and Drivers of Market Growth in China

Total ESA sales in China were approximately $145 million in 2013, and the ESA market in China has grown at a 25% compound annual growth rate between 2006 and 2013 based on data from IMS Health.

We believe that given the limited availability of dialysis in China, dialysis is still in the early stages of development relative to the United States, and has the potential for sustained long-term growth. We believe growth of dialysis will be driven by the expansion of reimbursement and expansion of dialysis facilities. We further believe that the growing pipeline of CKD patients and expansion of reimbursement will drive growth in demand for anemia treatment in CKD patients.

- *Expansion of Reimbursement.* Reimbursement exists for the use of ESAs in the treatment of anemia in CKD and the coverage levels are expanding. Under Basic Medical Insurance, the reimbursement program for the urban population, coverage for healthcare and drugs is categorized into one of three categories: outpatient, inpatient, and Severe Disease. Both the Dialysis Eligible and Other NDD-CKD patients are reimbursed under outpatient coverage. As an example, coverage levels for outpatient are in the 60-85% range in Shanghai, depending on level of hospital visited and patient age. Dialysis patients, on the other hand, receive reimbursement under the more generous Severe Disease coverage, which is reimbursement for catastrophic healthcare expenditures. Coverage levels are set at a minimum level of 50% by policy and are as high as 85% for employees and 92% for retirees in Shanghai. We expect the availability of Severe Disease reimbursement to significantly drive the utilization of dialysis services and ESAs in the coming years.
- *Expansion of Dialysis Infrastructure.* The number of DD-CKD patients increased from approximately 70,000 in 2007 to an estimated 300,000 to 400,000 in 2013 and has grown at a compound annual growth rate of 25% to 30% per year from 2007 to 2013. Despite this substantial rate of growth, the Ministry of Health and the Chinese Society of Nephrology have publicly recognized the need for further investment in dialysis infrastructure to accommodate the expected continued growth of the patient population requiring dialysis. PD is an alternative to HD and does not require the level of capital investment in facilities and equipment that is necessary to enable HD. At the end of 2012, PD was estimated to account for 10% of the current dialysis population.
- *Demographics-Driven Growth.* Diabetes and hypertension are common causes of CKD, the rates of which have been growing in China over past two decades. China is experiencing epidemiological changes in metabolic diseases due to economic development, urbanization and an aging population. We believe the increase in diabetes and hypertension prevalence will result in increasing numbers of patients with CKD in the future.

Our China Solution

We believe that roxadustat, if approved, has the potential to address the unmet medical need for the treatment of anemia in each of the three categories of CKD patients in China. Several of the safety, efficacy, reimbursement and convenience advantages that roxadustat, our oral therapeutic, potentially offers over ESAs (see "—Our Solution—Roxadustat—A Novel, Orally Administered Treatment for Anemia") are particularly applicable in the China market.

Roxadustat May Address Chronic Under-Treatment in DD-CKD Patients

We expect roxadustat to be viewed as more attractive than ESAs, and particularly attractive within certain categories of the dialysis population—patients who are not treated to target Hb levels for any reason, patients who are hyporesponsive to ESAs, patients on PD, which is home-based, and DD-CKD patients who have not previously received ESA treatment.

- *Roxadustat May Increase Rate of Successful Anemia Treatment.* We believe that the level of ESA dosing generally used in China is not adequate to achieve target Hb levels for many dialysis patients, especially with minimal use of IV iron. The dose levels used are within a very narrow range due to clinical concerns over ESA safety at higher doses. Moreover, reimbursement limits may cap ESA dose. In contrast, assuming roxadustat is approved, we believe we can price roxadustat so that reimbursable doses of roxadustat will be sufficient to treat most patients to target Hb levels.
- *Roxadustat May Address Hyporesponsiveness.* Hyporesponsive patients, who often fail to respond to ESA treatment, in particular are often inadequately treated due to need for significantly higher doses of ESAs. Our data suggest that roxadustat may be safe and effective in this patient population without the use of high doses.

- *Roxadustat May Reduce Requirements for IV Iron.* ESAs generally require IV iron for effective anemia treatment, and IV iron use is limited in China due to limited reimbursement and perceived clinical risk. Roxadustat potentially eliminates the need for IV iron to reach treatment target.

Roxadustat May Address Lack of Access of ESA Treatment in NDD-CKD Patients

We view NDD-CKD as the segment where roxadustat, with the benefits of the HIF mechanism of action and being an orally administered small molecule, could potentially represent the only viable treatment solution for this patient population.

- *Roxadustat May Make Treatment Accessible and Feasible*. As an oral agent, roxadustat eliminates the need for frequent hospital visits which are needed for ESA administration, decreasing the overall cost and inconvenience of treatment, particularly for DD-CKD patients undergoing PD who are otherwise treated in the home, as well as Dialysis Eligible NDD-CKD and Other NDD-CKD patients.
- *Roxadustat May Have an Improved Safety Profile.* ESA treatment is associated with an increased risk of severe adverse events including hypertension, stroke, myocardial infarction and death. Our data suggest that roxadustat may not increase the risk of these events and therefore may be safer than ESAs thereby potentially removing a significant deterrent to anemia therapy in China.

Roxadustat May Add Value in Both the NDD-CKD and DD-CKD Patient Populations

- *Roxadustat May Reduce Overall Cost of Treatment Associated With Anemia.* For the equivalent reimbursement cost to the government, we believe that roxadustat may deliver a higher potential clinical benefit compared to ESAs. Roxadustat, if approved, could treat patients to target Hb level. Roxadustat could also potentially lower the use of IV iron and anti-hypertensives. Moreover, the total cost of care would be reduced by lowering loss of time and cost of hospital-based ESA injections, and eliminating the infrastructure costs necessary to store ESAs in a cold storage environment. Finally, patients would benefit by reducing the cost of travel to the hospital and the potential lost wages for hospital visits.

Commercialization

Regulatory Strategy

We plan to seek product approval from the China Food and Drug Administration, or CFDA, as a Domestic Class 1.1 drug through our China subsidiary, FibroGen China. FibroGen China submitted a CTA to the CFDA for roxadustat for the treatment of anemia in CKD in March 2013. This Domestic Class 1.1 designation allows us to use the “green channel”, which may facilitate expedited approval with access to the regulatory authorities for formal and informal dialogue about development plans. We believe the domestic pathway represents the fastest route for bringing roxadustat to market and providing patients with access to a potentially safer, more effective, more convenient and more accessible therapy.

We believe the development of roxadustat is aligned with the Chinese government’s current policies. The Chinese government is building dialysis infrastructure to address the unmet need for dialysis. We believe that anemia treatment is a critical component of any national dialysis program, and the cost of anemia treatment is an important factor in the public health burden of CKD.

FibroGen China has completed Phase 1 and Phase 2 clinical trials in China and expects to start Phase 3 clinical trials in China in the first half of 2015, with Phase 3 data expected in the second half of 2016 and, assuming the Phase 3 clinical trial is successful, possible NDA approval in China in mid-2017. However, actual dates depend on a variety of factors and are subject to numerous risks and uncertainties, including with respect to patient enrollment, safety results, manufacturing, third party contractors and government regulators, some of which are out of our control. See also “Risk Factors” beginning on page 16, and particularly those risk factors

under the heading “Risk Related to the Development and Commercialization of Our Product Candidates.” These trials have been conducted, and will continue to be conducted, in parallel with but independently of the other trials conducted in the global roxadustat development program. All available safety data from the global program will be included in the China NDA submission.

Manufacturing Certification

FibroGen China plans to secure all New Drug and Manufacturing Licenses (including a Drug Approval Code) required for commercialization of roxadustat in China. A Manufacturing License is fundamental for production and sale of drugs in China, and it is the Manufacturing License, not the New Drug License which is granted at NDA approval, that gives FibroGen China the right to market roxadustat. With the Manufacturing License, FibroGen China will have the right to sell roxadustat (issue “fa-piaos”, or invoices, for the sale) into the highly regulated pharmaceutical distribution system, and recognize revenues for such sale. FibroGen China will also have the right to negotiate pricing with the government and the right to apply for reimbursement for roxadustat.

FibroGen China is completing construction and validation of its manufacturing facility in Beijing. We received a Pharmaceutical Production Permit, which is a general manufacturing license, for the manufacturing facility in August 2014, and we expect to receive the Manufacturing Licenses that will be necessary to manufacture roxadustat in the next few years after successful completion of the registration and GMP validation campaigns. *(See “—Manufacture and Supply” and “—Government Regulation—Regulation in China”).*

Market Segmentation

We believe DD-CKD market in China is readily addressable in the near term, and we believe roxadustat has the potential to deliver a compelling value proposition in particular to certain subgroups within DD-CKD: patients who are not treated to target Hb levels for any reason, patients who are hypo-responsive to ESAs, and patients on PD, which is performed at home. In addition, we believe that roxadustat, if approved, would have the potential to be the preferred anemia treatment for newly-initiated dialysis patients who have not been previously treated with ESA. With the expected expansion of Severe Disease reimbursement, we believe that the number of DD-CKD patients will increase steadily. We believe that it could require more than a decade for China to address the treatment gap between patients who need dialysis and those who are actually dialyzed.

If roxadustat is approved, we believe the Dialysis Eligible NDD-CKD population could represent another readily accessible and potentially new market segment for anemia therapy. There is an urgent and severe unmet medical need for these very sick patients, and the current low rate of treatment within this patient group could be addressed by an approved anemia treatment such as roxadustat. We view the Other NDD-CKD population as a longer term market opportunity where the potential number of patients could be substantial.

We believe the hospital-based nature of the China healthcare system is a very attractive feature of this market as it lends itself to rapid adoption of roxadustat within nephrology practices and across specialties, unlike in the United States where dialysis is performed separately at freestanding dialysis centers and CKD is treated at widely dispersed clinics and primary care offices across the country. In China, within nephrology, the same physicians care for dialysis, Dialysis Eligible NDD-CKD and Other NDD-CKD patients. Moreover, cardiologists and endocrinologists are located at the same hospitals as nephrologists, and prescriptions from all specialties are often filled at the same hospital pharmacy; as a result, the points of sale are highly concentrated.

Reimbursement

As roxadustat is potentially a chronic use drug that addresses an unmet medical need and is intended to benefit large numbers of Chinese patients, we intend to apply for reimbursement by the Chinese government. Pricing for drugs sold without reimbursement is determined by the drug manufacturer, whereas pricing for drugs under reimbursement is determined by the government. We believe the compelling pharmaco-economic value proposition will support fair pricing for roxadustat.

AstraZeneca

We have entered into an agreement with AstraZeneca relating to roxadustat in China. Under the agreement, FibroGen China will hold all of the regulatory licenses issued by China regulatory authorities and be primarily responsible for regulatory, clinical and manufacturing activities.

AstraZeneca will conduct commercialization activities as well as serve as the national distributor for roxadustat, sourcing the distribution of roxadustat to a network of regional and local distributors. FibroGen China will be responsible for medical affairs and physician education.

We believe that the collaboration will not only help to accelerate market access and patient adoption, but also reduce our risks associated with roxadustat launch in China, as AstraZeneca has significant experience with the China market and will be paying for launch-related commercialization costs in advance and recouping 50% of these expenses from initial roxadustat profits.

Clinical Trials

Our clinical development plan is based upon an agreement with the CFDA that our NDA package will include Phase 1, 2 and 3 trials performed exclusively in China, as well as reference data from Phase 1 and Phase 2 trials performed outside of China.

Clinical Trials of Roxadustat in China

We have successfully completed Phase 1 and Phase 2 trials in China. A summary of our data and comparison to data from our trials performed outside of China is as follows:

Phase 1 Trials

We completed Phase 1 trials of single and multiple ascending doses of roxadustat. Key findings were:

- Roxadustat pharmacokinetic parameters in Chinese are similar to those in Caucasians and Japanese.
- Stimulation of endogenous erythropoietin, a marker of roxadustat pharmacodynamics, in Chinese is similar to stimulation in Caucasians and Japanese.
- Roxadustat was well tolerated and there were no negative safety signals.

Phase 2 Trials

We completed a Phase 2 double-blind placebo controlled trial in NDD-CKD patients and a Phase 2 randomized trial of roxadustat compared to epoetin alfa in DD-CKD patients. Results of these trials are very similar to results from comparable trials performed in the United States. See “Business—Our Development Program for Roxadustat.” The results of the DD-CKD trial were presented at the 2013 World Congress of Nephrology and the results of the NDD-CKD trial were presented at the 2013 American Society of Nephrology meeting. Key findings of these trials are as follows:

DD-CKD Trial Results

- Roxadustat achieved Hb maintenance in DD-CKD patients who discontinued treatment with epoetin alfa.
- In a post-hoc analysis, the data met the primary endpoint of our planned Phase 3 trial in China in this patient population.
- There were no serious adverse events after starting roxadustat and most common adverse events were muscle spasms, abdominal discomfort, decreased appetite and infections which were typical of those expected for DD-CKD patients. There were no dose-related trends or imbalances in the nature of adverse events between roxadustat and epoetin alfa groups.

NDD-CKD Trial Results

- By Week 9, roxadustat increased Hb levels significantly compared to placebo ($p<0.001$).
- In a post-hoc analysis, the data met the primary endpoint of our planned Phase 3 trial in China in this patient population.
- Serious adverse events were progression of CKD, infection and high potassium levels and the most common adverse events were infections, high potassium levels, nausea and dizziness. The percentage of patients with adverse events was similar for patients treated with roxadustat compared to patients treated with placebo. There were no imbalances in the nature of adverse events between the patient groups.

Strategy for Continued Development of Roxadustat in China

We plan to perform two Phase 3 trials in China to support approval of roxadustat for treatment of anemia in DD-CKD and NDD-CKD patients. Based on discussions with the CFDA, our planned Phase 3 trials are designed to confirm Phase 2 results. Consequently, these Phase 3 trials are similar in design and endpoints to our Phase 2 trials in DD-CKD and NDD-CKD, except that our Phase 3 trials will include a larger number of patients and will study longer dosing durations. The overall designs of our planned Phase 3 trials are as follows:

Phase 3 Trial in DD-CKD (FGCL-4592-806):

- Design: Randomized, multicenter, open-label, active control.
- Patients: CKD on dialysis.
- Number: 300.
- Control treatment: epoetin alfa.
- Randomization: 2:1 (roxadustat:epoetin alfa).
- Dosing duration: 26 weeks with option for some patients to continue dosing to Week 52.
- Primary endpoint: Hb mean change from baseline averaged over Weeks 23 to 27.

Phase 3 Trial in NDD-CKD (FGCL-4592-808):

- Design: Randomized, multicenter, double-blind, placebo controlled.
- Patients: CKD not on dialysis.
- Number: 150.
- Control treatment: placebo.
- Randomization: 2:1 (roxadustat:placebo).
- Dosing duration: 8 weeks followed by open-label treatment to week 26 and option for some patients to continue dosing to week 52.
- Primary endpoint: Proportion of patients who achieve a confirmed Hb response at any time up to and including Week 9.

In designing these trials, we had several important considerations:

- We had successful Phase 2 trials, and in post-hoc analyses our Phase 2 trial results met the primary endpoints of our planned Phase 3 trials.
- The dosing regimens in our planned Phase 3 trials are based on the dosing regimens in our China Phase 2 trials doses that met the primary endpoints.

- Dosing duration to meet the primary endpoint in the NDD-CKD Phase 3 trial is identical to the China Phase 2 trial dosing duration with additional dosing beyond eight weeks as part of this trial.
- Dosing duration to meet the primary endpoint in the DD-CKD Phase 3 trial is longer than the China Phase 2 trial dosing duration but similar to U.S. Phase 2 trial dosing duration.
- Increased number of patients in Phase 3 increases the trials' power, or ability to detect the primary endpoint.

The CFDA is currently reviewing our Phase 3 clinical trial application, and we expect to begin enrolling subjects in the first half of 2015.

Planned Phase 4 Studies

The CFDA imposes a five-year monitoring surveillance period after NDA approval on all Class 1.1 innovative drugs like roxadustat. Based on current CFDA guidelines, we believe we will need to conduct a 2,000 subject post-marketing observational study to demonstrate the long-term safety of roxadustat as well as provide additional information related to the quality and stability of the manufacturing process for roxadustat. The study design will be determined after Phase 3 data become available.

FG-5200 FOR THE TREATMENT OF CORNEAL BLINDNESS IN CHINA

Corneal blindness, defined as visual acuity of 3/60 or less, is caused by various factors, including scarring resulting from infections, such as herpes simplex, physical trauma, chemical injury and genetic diseases affecting the function of the cornea. In countries with sufficient tissue banks and skilled surgeons, the treatment for corneal blindness is the replacement of the damaged cornea with a corneal graft from donor corneas from human cadavers. Despite use of immunosuppressive drugs, graft rejection remains a serious problem, resulting in graft failure within five years in approximately 35% of cases in the United States. We are developing FG-5200 for the treatment of corneal blindness resulting from partial thickness corneal damage.

In China, there are ethical or religious beliefs, cultural norms and significant infrastructure barriers that limit organ donation or tissue banking possibilities, resulting in an extreme shortage of cadaver corneas. Alternatives to cadaver corneas, such as collagen derived from porcine tissue or fish scales, are experimental, and to our knowledge, have not yielded satisfactory results. In many cases of corneal blindness, infection and other factors lead to serious risks to the patient.

Market Opportunity

Approximately 40,000 corneal grafts were performed in the U.S. in 2011 using tissue from human cadavers. In contrast, while there are approximately 4 to 5 million patients in China with corneal blindness and an incidence of 100,000 cases of corneal blindness each year, there were only about 3,000 corneal grafts performed in China in 2007 using tissue from human cadavers. We believe the number of corneal grafts using cadaver tissue in China may decrease significantly due to recent changes in government policy.

FG-5200 as a Potential Solution to This Unmet Medical Need

FG-5200 Corneal Implant

Our expertise in fibrosis and extracellular matrix proteins has allowed us to develop processes for producing human collage types I, II and III, as well as coordinate expression of several enzymes involved in assembly of collagen. We have successfully produced a proprietary version of recombinant human collagen III that is suitable for use in cornea repair.

FG-5200, a corneal implant that we intend to apply for approval as a medical device in China, is designed to serve as an immediately functional replacement cornea as well as a temporary scaffold to allow for regeneration

of the native corneal tissue. In contrast, cadaver graft tissue is never “turned over”; in fact, only limited integration occurs over the life of the graft. Our FG-5200 implant is made of recombinant human collagen that has been formed into a highly concentrated fibrillar matrix to provide physical characteristics optimal for corneal implantation.

In animal models, FG-5200 persists for less than one year, at which time native tissue has completely regrown, including both epithelium (the outer cell layer of the cornea) and stroma. The stroma in these animal models is seen to be infiltrated with nerve fibers, leading to the reacquisition of the touch response critical to the avoidance of additional corneal damage.

Corneal implants using human donor tissue are currently being reimbursed by the government, and similar to many other implantable Class III devices in China (including stents and bone grafts), we would expect that FG-5200 could be added to the reimbursement list for medical devices, if approved.

Clinical Testing of FG-5200

An initial clinical study outside of China has been conducted to test the safety and feasibility of using a biosynthetic implant composed of recombinant human collagen for the treatment of severe corneal damage as an alternative to human donor tissue. Ten patients with advanced keratoconus, or severe corneal scarring, were implanted with the recombinant collagen implants and have been followed for more than five years. Two-year follow-up data were reported in *Science Translational Medicine* (Fagerholm et al., (2010)) and four-year follow-up data were reported in *Biomaterials* (Fagerholm et al., *Biomaterials* (2014)). Key clinical findings include the following:

- Patients with biosynthetic implants had a 4-year mean corrected visual acuity of 20/54 and gained on average more than 5 Snellen lines of vision on an eye chart.
- Nerve re-growth and touch sensitivity was closer to that of healthy corneas and significantly better in corneas with biosynthetic implants than in human donor corneas.
- Corneas with biosynthetic implants maintained a stable shape and thickness without any need for a long course of immunosuppression therapy.
- There has been no recruitment of inflammatory dendritic cells into the biosynthetic implant area and no episodes of rejection, in contrast to the control arm of human donor cornea transplantation, where a rejection episode was observed.

Using our animal models, we tested FG-5200 against the original formulation of our implants used in the clinical study described above, which contained a lower collagen concentration. The animal studies showed no difference in safety but improved epithelialization with FG-5200 due to the less intrusive suturing technique possible with the new, higher collagen content formulation.

We plan to meet with the CFDA to reach agreement on design and patient size of our clinical program for FG-5200.

FG-5200 Strategy

FibroGen China has submitted a device classification application to the CFDA to designate FG-5200 corneal implants as a Domestic Class III medical device. We have not submitted an investigational device exemption or similar application for FG-5200. We are currently focused on planning, building and certifying our corneal implant manufacturing process in China prior to initiating a pivotal study.

Subject to CFDA designation, we currently plan to manufacture FG-5200 clinical trial material in an aseptic production suite built within the same Beijing manufacturing plant in which we will manufacture roxadustat for China.

We plan to develop FG-5200 in China first. If FG-5200 is successful in China, we believe there is a future opportunity to develop FG-5200 in other Asian countries where cadaver materials are in short supply, in part because cultural norms and infrastructure and other challenges in tissue banking limit tissue donations. We also believe there is an opportunity to obtain CE Marking to facilitate entry into other markets, such as Latin America. We may develop FG-5200 in the United States and Europe as well, where cadaver corneas are available but the required immunosuppressive therapy may make FG-5200 a potentially attractive alternative.

FG-3019 FOR THE TREATMENT OF FIBROSIS AND CANCER

We were founded to discover and develop therapeutics for fibrosis. We began studying connective tissue growth factor, or CTGF, shortly after its discovery. Our ongoing internal research, efforts with collaboration partners and the work of other investigators have consistently demonstrated elevated CTGF levels in pathologic fibrotic conditions characterized by sustained production of extracellular matrix, or ECM, elements that are key molecular components of fibrosis. Our accumulated discovery research efforts indicate that CTGF is a critical common element in the progression of serious diseases associated with fibrosis.

From our library of fully-human monoclonal antibodies that bind to different parts of the CTGF protein and block various aspects of CTGF biological activity, we selected FG-3019, for which we have exclusive worldwide rights. We believe that FG-3019 blocks CTGF and inhibits its central role in causing diseases associated with fibrosis. Our data to date indicate that FG-3019 is a promising and highly differentiated product with broad potential to treat a number of fibrotic diseases and cancers. We are currently conducting Phase 2 trials in idiopathic pulmonary fibrosis, or IPF, pancreatic cancer and liver fibrosis. FG-3019 has received orphan drug designation in IPF in the United States.

Based on its ability to block CTGF, FG-3019 may be a treatment for a broad array of fibrotic disorders of nearly every organ system. In animal studies of FG-3019, such as radiation-induced pulmonary fibrosis in mice, we have demonstrated that FG-3019 is capable of reversing fibrosis. In clinical trials, we have used advanced medical imaging technology to quantify changes in fibrosis throughout the lungs. Our data to date using these measures demonstrate that FG-3019 may stabilize and in some instances reverse pulmonary fibrosis and improve pulmonary function in IPF patients.

Certain cancers have a prominent ECM component that contributes to metastasis and progressive disease. Specifically, ECM is the connective tissue framework of an organ or tissue; all tumors have ECM. In the case of fibrotic tumors, ECM is more pronounced and there is more fibrosis than in other tumor types. In mouse models of pancreatic cancer, FG-3019 treatment has demonstrated reduction of tumor mass, slowing of metastasis and improvement in survival. In an open-label Phase 2 study of FG-3019 plus gemcitabine and erlotinib, FG-3019 demonstrated a dose-dependent improvement in one year survival rate.

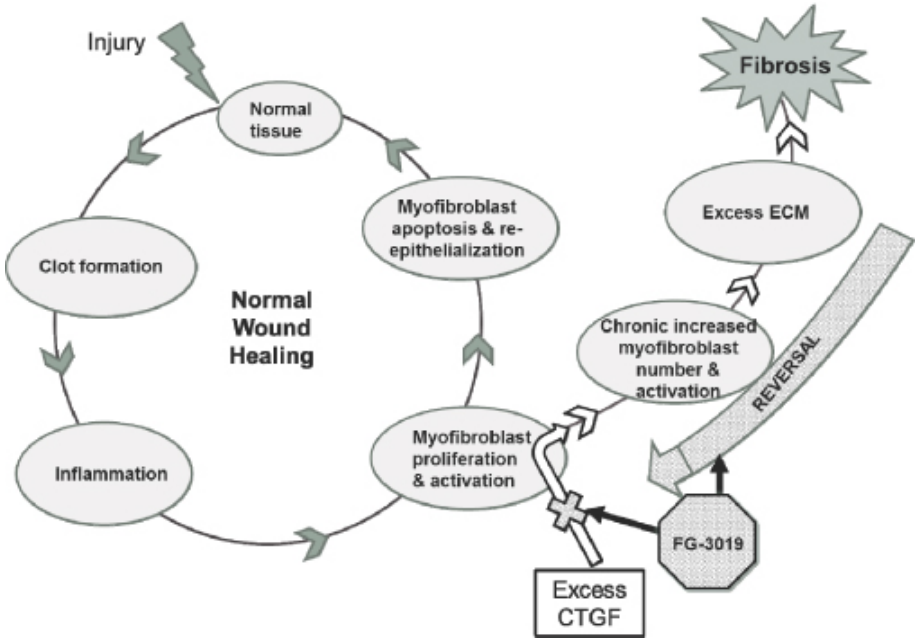
Results to date indicate that FG-3019 has broad potential to address unmet needs for the treatment of fibrotic diseases and cancers. Specifically, given the preclinical and clinical data in pulmonary fibrosis and pancreatic cancer, our primary focus for clinical development of FG-3019 is additional Phase 2 clinical trials in metastatic pancreatic cancer and IPF. We are also conducting exploratory clinical trials with FG-3019 in liver fibrosis secondary to viral infection.

Overview of Fibrosis

Fibrosis is an aberrant response of the body to tissue injury that may be caused by trauma, inflammation, infection, cell injury, or cancer. The normal response to injury involves the activation of cells that produce collagen and other components of the ECM that are part of the healing process. This healing process helps to fill in tissue voids created by the injury or damage, segregate infections or cancer, and provide strength to the recovering tissue. Under normal circumstances, where the cause of the tissue injury is limited, the scarring process is self-limited and the scar resolves to approximate normal tissue architecture. However, in certain disease states, this process is prolonged and

excessive and results in progressive tissue scarring, or fibrosis, which can cause organ dysfunction and failure as well as, in the case of certain cancers, promote cancer progression.

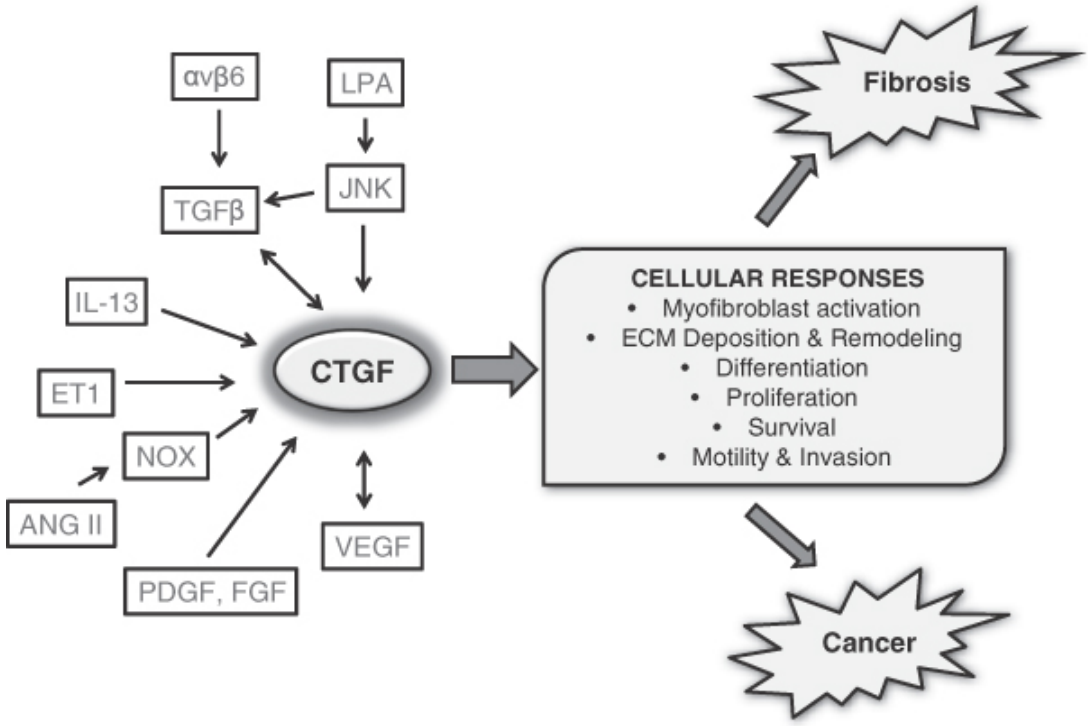
Excess CTGF Causes Fibrosis. FG-3019 Blocks CTGF and Reverses Fibrosis



Excess CTGF levels are associated with fibrosis. CTGF increases the abundance of myofibroblasts, a cell type that drives wound healing, and stimulates them to deposit ECM proteins such as collagen at the site of tissue injury. In the case of normal healing of a limited tissue injury, myofibroblasts eventually die by programmed cell death, or apoptosis, and the fibrous scarring process recedes. In fibrotic conditions, excess CTGF results in chronic activation of myofibroblasts, which leads to chronic ECM deposition and fibrosis (see figure above).

Multiple biological agents and pathways have been implicated in the fibrotic process (Wynn J Pathol (2008)). Many fibrosis pathways converge on CTGF (see figure below), which the scientific literature demonstrates to be a central mediator of fibrosis (Oliver et al, J Inv Derm (2010)). In the case of cancer, the sustained tumor-associated fibrotic tissue promotes tumor cell survival and metastasis. The figure below shows the commonality of cellular mechanisms that may result in fibrosis and cancer.

Most Biological Factors Implicated in Fibrosis Work Through CTGF



CTGF is a secreted glycoprotein produced by fibroblasts, endothelium, mesangial cells and other cell types, including cancers, and is induced by a variety of regulatory modulators, including TGF-b and vascular endothelial growth factor, or VEGF. CTGF expression has been demonstrated to be up-regulated in fibrotic tissues. Thus, we believe that targeting CTGF to block or inhibit its activity could stop or reverse tissue fibrosis. In addition, since CTGF is implicated in nearly all forms of fibrosis, we believe FG-3019 has the potential to provide clinical benefit in a wide range of clinical indications that are characterized by fibrosis.

Until recently, it was believed that fibrosis was an irreversible process. It is now generally understood that the process is dynamic and potentially amenable to reversal. Based on studies in animal models of fibrosis of the liver, kidney, muscle and cardiovascular system, it has been shown that fibrosis can be reversed. It has also been demonstrated in humans that fibrosis caused by hepatitis virus can be reversed (Chang et al. Hepatology (2010)). Additionally, we have generated data in human and animal studies that lung fibrosis can be reversed in some instances upon treatment with FG-3019. We do not believe that there is clinical evidence that therapies currently on the market directly prevent or reverse fibrosis in human disease. While certain other companies are working on topical inhibition of CTGF, we are not aware of other products in development that target CTGF inhibition for deep organ fibrosis and cancer.

Clinical Development of FG-3019—Overview

We have performed clinical trials of FG-3019 in IPF, pancreatic cancer, liver fibrosis and diabetic kidney disease. We are currently conducting an extension study for an open-label Phase 2 trial in IPF; a randomized, double-blind placebo-controlled Phase 2 trial in IPF; an open-label Phase 2 trial in pancreatic cancer; and a randomized, double-blind, placebo-controlled Phase 2 trial in liver fibrosis. In ten Phase 1 and Phase 2 clinical

studies involving FG-3019 to date, including more than 340 patients who were treated with FG-3019 (146 patients dosed for more than 6 months), FG-3019 has been well-tolerated across the range of doses studied, and there have been no dose-limiting toxicities seen thus far.

In IPF, we completed a Phase 1 single dose trial, and subsequently advanced the program to an ongoing open-label Phase 2 trial of FG-3019 in 89 patients, which has completed its one year treatment period and based on encouraging results is now in an extension phase. We are also conducting a randomized, double-blind, placebo-controlled Phase 2 trial. Both Phase 2 trials are designed to evaluate the effects of FG-3019 on pulmonary function, extent of fibrosis and health-related quality of life.

In pancreatic cancer, we performed an open-label, dose-finding Phase 2 trial in a total of 75 patients with advanced pancreatic cancer. We recently began a randomized, active-control, neoadjuvant Phase 2 trial combining FG-3019 with nab-paclitaxel plus gemcitabine in approximately 40 patients with locally advanced pancreatic cancer. We anticipate interim data from this study in the second half of 2015. We also expect to begin a randomized Phase 2 trial of FG-3019 in metastatic pancreatic cancer patients in the first half of 2015. However, actual dates depend on a variety of factors and are subject to numerous risks and uncertainties, including with respect to patient enrollment, safety results, manufacturing, third party contractors, and government regulators, some of which are out of our control. See also “Risk Factors” beginning on page 16, and particularly those risk factors under the heading “Risks Related to the Development and Commercialization of Our Product Candidates.”

We are conducting a Phase 2 clinical trial with FG-3019 in liver fibrosis associated with hepatitis B, or HBV, in Hong Kong and Thailand, where the prevalence of HBV is high. A small pilot clinical study in liver fibrosis associated with hepatitis C, or HCV, associated fibrosis is also being conducted in Hong Kong.

Early clinical development included studies in diabetic kidney disease. Although no adverse outcomes were observed, we decided not to pursue this indication at this time based on the difficulty of the regulatory path and the extensive clinical trials likely to be required for approval for the treatment of diabetic kidney disease.

The table below provides a summary of our clinical trials involving FG-3019:

Completed and Ongoing FG-3019 Clinical Trials

Study, Study #	Study Design	Dose (mg/kg)	Frequency	Treatment Duration (weeks)	Subjects
Phase 1—IPF, FGCL-MC3019-002	Open-label, dose-escalation	1, 3, or 10	Single		21
Phase 2—IPF, FGCL-3019-049	Open-label, dose-escalation	15 or 30	Every 3 weeks	45 weeks	89*
Phase 2—IPF, FGCL-3019-067	Double-blind, placebo-controlled (1:1)	30 mg/kg	Every 3 weeks	45 weeks	Target 136**
Phase 2—Pancreatic Cancer, FGCL-MC3019-028	Open-label, dose-escalation	3, 10, 15, 25, 35, or 45 17.5 or 22.5	Every other week Weekly	Until disease progression 1 to 89 weeks	75
Phase 2—Pancreatic Cancer, FGCL-3019-069	Open-label, active control (1:1)	35	Cycle 1 = Days 1, 8 and 15 Subsequent Cycles = Every other week	24 weeks	Target 40**
Phase 2—HBV- Liver Fibrosis, FGCL-3019-801	Double-blind, placebo-controlled (2:1)	15 or 45	Every 3 weeks	45 weeks	Target 120**
Phase 2—HCV- Liver Fibrosis, FGCL-3019-802	Open-label	30	Every 3 weeks	45 weeks	Target 15**
Phase 1—Diabetic Kidney Disease, FGCL-MC3019-003	Open-label, dose-escalation	3 or 10	Days 0, 14, 28 and 42	6 weeks	24
Phase 2—Diabetic Kidney Disease, FGCL-3019-029	Double-blind, placebo-controlled (1:1:1)	5 or 10	Every 2 weeks Every 4 weeks	12 weeks 12 weeks	38
Phase 2—Diabetic Kidney Disease, FGCL-3019-032	Double-blind, placebo-controlled	3 or 10	Biweekly	26 weeks	46

* Study 049 completed its one year treatment period and, based on encouraging results, is now in an ongoing extension phase.
** Currently enrolling.

Idiopathic Pulmonary Fibrosis

Understanding IPF and the Limitations of Current Therapies

IPF is a form of progressive pulmonary fibrosis, or abnormal scarring, that destroys the structure and function of the lungs. As tissue scarring progresses in the lungs, transfer of oxygen into the bloodstream is increasingly impaired. Average life expectancy at the time of confirmatory diagnosis of IPF is estimated to be between 3 to 5 years, with approximately two-thirds of patients dying within five years of diagnosis. Thus, the survival rates are comparable to some of the most deadly cancers. The cause of IPF is unknown but is believed to be related to unregulated cycles of injury, inflammation and fibrosis.

Patients with IPF experience debilitating symptoms, including shortness of breath and difficulty performing routine functions, such as walking and talking. Other symptoms include chronic dry, hacking cough, fatigue, weakness, discomfort in the chest, loss of appetite and weight loss. Over the last decade, refinements in diagnosis criteria and enhancements in high-resolution computed tomography, or HRCT, imaging technology have enabled more reliable diagnosis of IPF and clearer distinction from other interstitial lung diseases.

The U.S. prevalence and incidence of IPF are estimated to be 44,000 to 135,000 cases, and 21,000 new cases per year, respectively, based on Raghu et al. (Am J Respir Crit Care Med (2006)) and on data from the United Nations Population Division. We believe that with the availability of technology to enable more accurate diagnoses, the number of individuals diagnosed per year with IPF will continue to increase. In 2011, Decision Resources Group estimated that there will be approximately $4.6 billion in sales of IPF drugs in the United States and Europe in 2020.

There are currently no approved pharmaceutical treatments for IPF in the United States. Only lung transplantation currently provides a meaningful extension of life for patients with IPF. Patients are typically treated with corticosteroids and immunosuppressive agents. However, none of these agents have been clinically proven to improve survival or quality of life. Pirfenidone has been approved in Europe, Canada and Japan and has been resubmitted for approval in the United States. According to the FDA advisory committee submission by its sponsor, pirfenidone has been shown to have a modest effect on slowing the progression of IPF as measured by forced vital capacity, or FVC, in a minority (less than 15%) of patients. We believe that FG-3019 has the potential to stabilize or reverse lung fibrosis and if approved, improve the prognosis for patients with IPF.

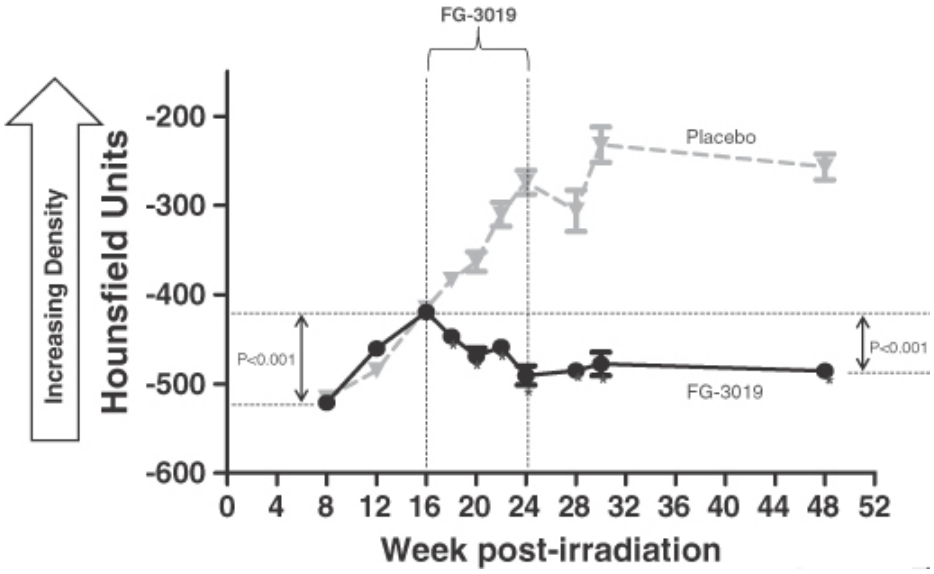
Reversal of Lung Damage in Preclinical Models with FG-3019 in Pulmonary Fibrosis

While there are no established animal models for IPF, we selected the mouse model of radiation-induced lung damage from a variety of other models because we believe that it most closely approximates the process of lung fibrosis seen in humans. We conducted a proof of concept study of FG-3019 using this model as summarized in the figures below.

In this model, a single irradiation of the thorax causes lung tissue damage that over time results in progressive fibrosis. Lung density, indicative of tissue damage, was monitored by HRCT and began to increase eight to 12 weeks after irradiation.

Sixteen weeks after irradiation, measured lung density was significantly elevated and continued to increase in the placebo-treated animals until reaching a plateau at Week 30. Therapeutic treatment with FG-3019 began at Week 16. Significant decreases in lung fibrosis were measurable at Week 18 and it continued to decrease over the eight weeks of FG-3019 treatment through Week 24.

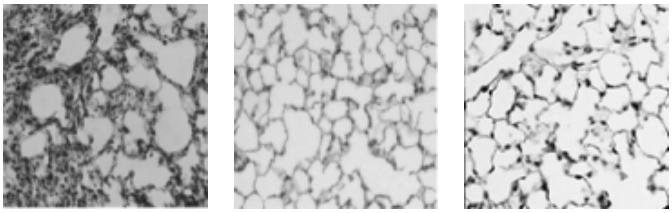
FG-3019 Treatment Starting 16 Weeks After Irradiation Reverses Lung Fibrosis in Mice as Measured by HRCT (Mean ± SE)



* indicates FG-3019-treated lung density is significantly different (p£ 0.05) from placebo-treated

Rapid reversal of lung damage was confirmed by examining tissue histology which showed substantial changes within two weeks of initiating treatment. Prior to FG-3019 treatment (Week 16) lung histology showed lung damage characterized by increased cellularity and tissue remodeling. After two weeks of treatment with FG-3019 (Week 18), damage had been reversed and the structure of the lung more closely resembled that of a non-irradiated or normal mouse. The figure below is representative of the typical pattern of structural changes observed in the mice in this study.

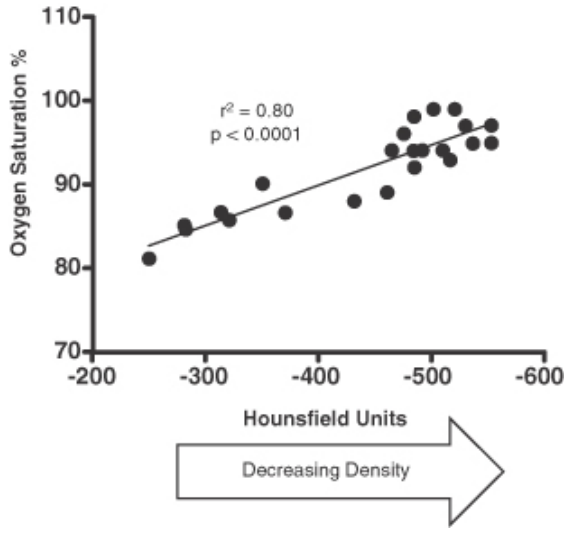
Two Weeks After FG-3019 Treatment: Structural Changes Could be Seen by Lung Histology in Mice



Week 16 Pre-Treatment	Week 18 2 Weeks after starting FG-3019 Treatment	Normal

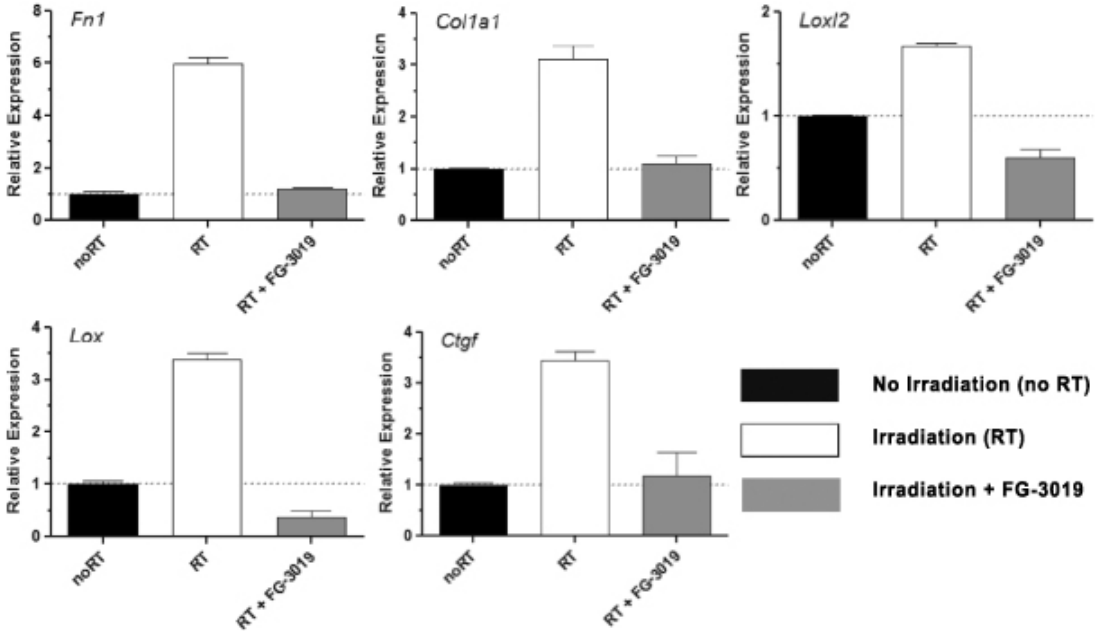
As shown below, reduced lung density consistently correlated with improved lung function, as measured by blood oxygenation.

Improvement of Lung Fibrosis Corresponds with Improvement in Lung Function in Mice



Gene expression changes were also examined at Week 18, two weeks after initiation of treatment with FG-3019. Irradiation induced increased expression of genes involved in ECM deposition, such as fibronectin, collagen type 1 alpha 1, lysyl oxidase, CTGF and lysyl oxidase-like 2. FG-3019 treatment was shown to reduce expression of these genes, as illustrated below.

Examples of Changes in Gene Expression by mRNA Microarray Analysis (mean ± SE) after FG-3019 Treatment in Mice



Clinical Trials of FG-3019 for IPF

Study 002 was a Phase 1 open-label study to determine the safety and PKs of escalating single doses of FG-3019. Patients with a diagnosis of IPF by clinical features and surgical lung biopsy received a single IV dose of FG-3019 at 1, 3, or 10 mg/kg. A total of 21 patients were enrolled in the study; 6 patients received a dose of 1 mg/kg, 9 patients received 3 mg/kg, and 6 patients received 10 mg/kg. FG-3019 was well tolerated across the range of doses studied; and there were no dose-limiting toxicities. Treatment emergent adverse events that were considered to be related or possibly related to FG-3019 were mild and self-limited, consisting of pyrexia, cough and headache.

We completed the initial one-year treatment portion of Study 049, a Phase 2 open-label, dose-escalation study to evaluate the safety, tolerability, and efficacy of FG-3019 in 89 patients with IPF. FG-3019 was administered at a dose of 15 mg/kg in Cohort 1 (53 patients) and 30 mg/kg in Cohort 2 (36 patients) by IV infusion every 3 weeks for 45 weeks. Nineteen patients from Cohort 1 participated in the current 1 year extension of dosing. Efficacy endpoints are pulmonary function assessments, extent of pulmonary fibrosis as measured by quantitative imaging and measures of health-related quality of life.

HRCT is typically used to diagnose IPF based on visual assessments of computed tomography, or CT, images of lung fibrosis. We used quantitative HRCT to measure changes in fibrosis in this Study 049. We used software to quantify whole lung fibrosis from the compilation of 1 mm HRCT sections of the entire lung. The computer algorithm, which our vendor validated, provides an overall determination of the percentage of the lung that contains individually the three characteristic forms of IPF fibrosis, including reticular IPF fibrosis which is expected to make the most dynamic contribution to overall lung fibrosis.

The extent of lung fibrosis as measured by quantitative HRCT has been shown to be accurate and reproducible (Kim et al. Eur Radiol (2011)). Recent publications based on similar quantitative HRCT methods have identified an association between worsening pulmonary fibrosis and mortality in IPF (Maldonado et al. Eur Resp J (2014); Oda et al. Respiratory Research (2014)). However, HRCT has not been used by the FDA to establish efficacy in IPF.

Eighty-nine patients in Study 049 received at least one dose of FG-3019. We defined disease severity in terms of baseline pulmonary function, measured as the FVC percent of the predicted value for a healthy matched person of the same age, or FVC percent predicted. Severe disease was FVC percent predicted < 55%, moderate disease was FVC percent predicted between 55% and 80%, and mild disease was FVC percent predicted >80%.

In Cohort 1, we enrolled patients with a wide range of disease severity to assess safety and efficacy across the full spectrum. Baseline FVC percent predicted for Cohort 1 was 43% to 90%, with a mean of 62.8%. In contrast, other IPF clinical trials, such as those for pirfenidone and nintedanib, have enrolled patients who on average had mild to moderate disease (mean FVC percent predicted 73.1% to 85.5%). Fourteen patients in Cohort 1 withdrew, and ten of the 14 had severe disease.

In order to enroll IPF patients similar to those in other IPF trials, we amended the protocol for Cohort 2 to include only patients with mild to moderate disease (FVC ³ 55% predicted). Baseline FVC percent predicted for Cohort 2 was 53% to 112%, with a mean of 72.7%. Based on this definition of disease severity, 37 patients in Cohort 1 and 32 patients in Cohort 2 had mild to moderate disease, and only those patients were evaluated in terms of changes in fibrosis and changes in pulmonary function.

Disease Severity in Enrolled and Evaluated Patients Treated with FG-3019 in FGCL-3019-049

		Cohort 1				Cohort 2			
		Severe	Moderate	Mild		Severe	Moderate	Mild	
	FVC % Predicted	< 55%	55% to 80%	> 80%	Total	< 55%	55% to 80%	> 80%	Total
		N				N			
Total	**Enrolled**	16	34	3	53	4	22	10	36
	Complete	5	30	3	38	1	17	10	28
Evaluated	**Enrolled**		34	3	37		22	10	32
	Complete		30	3	33		17	10	27

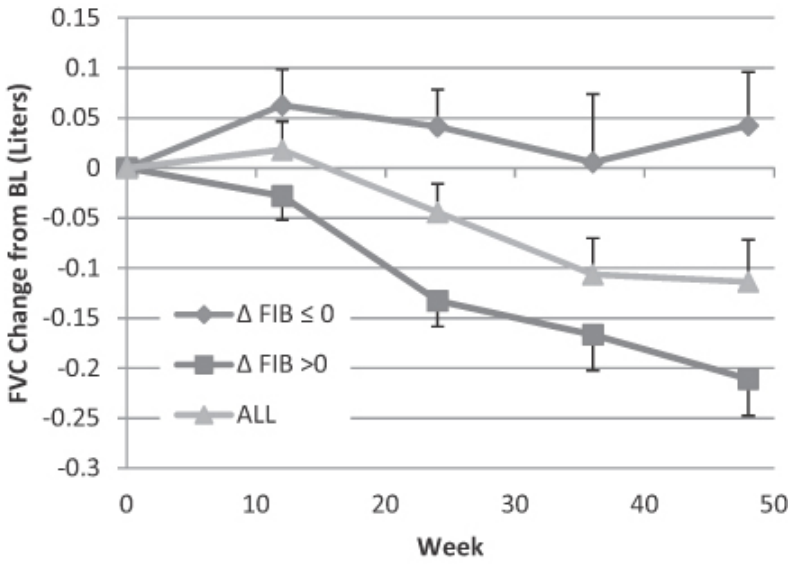
The table below provides a summary of the observed quantitative change in fibrosis for patients in Cohorts 1 and 2 with mild to moderate disease as measured by HRCT. Twenty-seven percent of these patients had improved fibrosis at Week 48. We believe that this is the first trial to demonstrate reversal of fibrosis in IPF. Stable fibrosis has been considered the only achievable favorable outcome in IPF. The table below sets forth the number of patients who showed stable or improved fibrosis at Weeks 24 and 48 compared to the amount of fibrosis at the start of the trial.

Changes in Fibrosis in Patients with Mild to Moderate IPF Treated with FG-3019 in FGCL-3019-049

	Stable or Improved Compared to Baseline		Improved Compared to Baseline		Improved Compared to Week 24
	Week 24	Week 48	Week 24	Week 48	Week 48
Cohort 1	20/35 (57%)	14/33 (42%)	11/35 (31%)	12/33 (36%)	8/33 (24%)
Cohort 2	11/26 (42%)	9/27 (35%)	4/26 (15%)	4/26 (15%)	8/26 (31%)
Combined	31/61 (51%)	23/60 (38%)	15/61 (25%)	16/59 (27%)	16/59 (27%)

Fibrosis improvement or stabilization in patients with mild to moderate disease as measured by HRCT correlated with improvement or stabilization of pulmonary function measured by FVC ($p<0.001$; $r=-0.54$ Cohorts 1 and 2 combined). The figure below shows FVC changes up to Week 48 for patients with stable or improved fibrosis versus patients with worsening fibrosis. Patients with stable or improved fibrosis showed improved pulmonary function, on average, which was significantly different or better than patients with worsening fibrosis who showed a substantial decline in FVC ($p= 0.008$ at Week 24; $p= 0.004$ at Week 48, Cohorts 1 and 2 combined). Patients with worsening fibrosis had pulmonary function that was similar to the annual decline in pulmonary function for typical IPF patients.

Categorical Analysis of FVC Change from Baseline (BL) (mean ±SE) in FGCL-3019-049



Eighty-nine patients had at least one adverse event. The most common reported events were cough, fatigue, shortness of breath, upper respiratory tract infection, sore throat, bronchitis, nausea, dizziness and urinary tract infection. To date, there have been 45 SAEs in 31 patients, none of which were considered to be related to study treatment. Adverse events observed to date are consistent with typical conditions observed in this patient population.

In aggregate, the data from the Phase 2 open-label, dose-escalation study indicate that a subset of FG-3019 treated IPF patients experienced improvements in lung fibrosis with commensurate improvement in pulmonary function and a potential for prolonged benefit with continued treatment. These results are consistent with the mouse disease model results which showed that FG-3019 treatment can reverse lung fibrosis and result in improved pulmonary function. We believe that our patient data showing correlated improvements in both fibrosis and lung function in some patients have not been seen in previously published IPF clinical studies.

Clinical Development Plan for FG-3019 in IPF

Study 067 is an ongoing Phase 2, randomized, double-blind, placebo-controlled study to evaluate the safety and efficacy of FG-3019 in approximately 136 IPF patients with mild to moderate disease (baseline FVC percentage predicted between 55% and 90%). Patients are being randomized (1:1) to 30 mg/kg of FG-3019 or placebo, every 3 weeks, for 45 weeks. As with our open-label Phase 2 trial, Study 049, the primary efficacy endpoint for Study 067 is change in FVC from baseline. Secondary endpoints are extent of pulmonary fibrosis as measured by quantitative HRCT, other pulmonary function assessments and measures of health-related quality of life. The study is currently enrolling and we plan to meet with the FDA to discuss the further development of FG-3019, including the potential to explore higher doses and more frequent dosing, which may further improve efficacy. We anticipate reporting data from this study in the second half of 2016. However, the actual date will depend on a variety of factors and are subject to numerous risks and uncertainties, including with respect to patient enrollment, safety results, manufacturing, third party contractors and government regulators, some of which are out of our control. See also “Risk Factors” beginning on page 16, and particularly those risk factors under the heading “Risks Related to the Development and Commercialization of Our Product Candidates.”

Pancreatic Cancer

Understanding Pancreatic Cancer and the Limitations of Current Therapies

Pancreatic ductal adenocarcinoma, or pancreatic cancer, is the fourth leading cause of cancer deaths in the United States. U.S. prevalence of pancreatic cancer is estimated to be 44,000. According to the National Cancer Institute, in 2014 there are projected to be approximately 46,000 new cases of pancreatic cancer and approximately 39,000 deaths from the disease in the United States. According to the World Health Organization, or WHO, and based on data from the United Nations Population Division, there were approximately 79,000 new cases of pancreatic cancer and approximately 78,000 deaths in the EU in 2012. The National Cancer Center of Japan estimated that in 2010 (latest year available) there were 32,330 new cases of pancreatic cancer. In 2013, Decision Resources Group estimated that there will be approximately $1.3 billion in sales of pancreatic cancer drugs in 2022.

Pancreatic cancer is aggressive and typically not diagnosed until it is largely incurable. Most patients are diagnosed after the age of 45, and according to the American Cancer Society, 94% of patients die within five years from diagnosis. The majority of patients are treated with chemotherapy, but pancreatic cancer is highly resistant to chemotherapy. Approximately 15% to 20% of patients are treated with surgery; however, even for those with successful surgical resection, the median survival is approximately two years, with a five year survival rate of 15% to 20% (Neesse et al. Gut (2011)). Radiation treatment may be used for locally advanced diseases, but it is not curative.

The duration of effect of approved anti-cancer agents to treat pancreatic cancer is limited. Gemcitabine demonstrated improvement in median overall survival from approximately four to six months, and erlotinib in combination with gemcitabine demonstrated an additional ten days of survival. Nab-paclitaxel in combination with gemcitabine was recently approved by the FDA for the treatment of pancreatic cancer, having demonstrated median survival of 8.5 months. These drugs illustrate that progress in treatment for pancreatic cancer has been limited, and there remains a need for substantial improvement in patient survival and quality of life. The approved chemotherapeutic treatments for pancreatic cancer target the cancer cells themselves. Tumors are composed of cancer cells and associated non-cancer tissue, or stroma, of which ECM is a major component. In certain cancers such as pancreatic cancer, both the stroma and tumor cells produce CTGF which in turn promotes the proliferation and survival of stromal and tumor cells. CTGF also induces ECM deposition that provides advantageous conditions for tumor cell adherence and proliferation, and promotes metastasis, or tumor cell migration, to other parts of the body.

Pancreatic cancers are generally resistant to powerful chemotherapeutic agents, and there is now growing interest in the use of an anti-fibrotic agent to diminish the supportive role of stroma in tumor cell growth and metastasis. The anti-tumor effects observed with FG-3019 indicate that it has the potential to inhibit tumor expansion through effects on tumor cell proliferation and apoptosis as well as reduce metastasis.

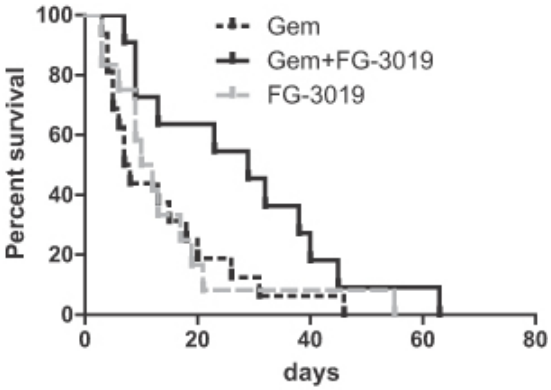
Preclinical Models of FG-3019 for Pancreatic Cancer

We tested FG-3019 in mouse models of pancreatic cancer, where it has demonstrated reduction of tumor mass and metastasis in several models, including the genetically engineered KPC mouse model. This is a preferred model for studying pancreatic cancer because all KPC mice spontaneously develop pancreatic cancer that closely approximates many features of the human disease, including similar genetic mutations, expression of CTGF, extensive stroma, metastases and ascites, or abdominal fluid, formation. KPC mouse tumors, like human pancreatic cancer tumors, are highly resistant to anti-cancer therapies. We performed two short-term studies of tumor responses to treatment and a long-term study of survival which were all conducted with staggered enrollment as mice developed tumors of sufficient size.

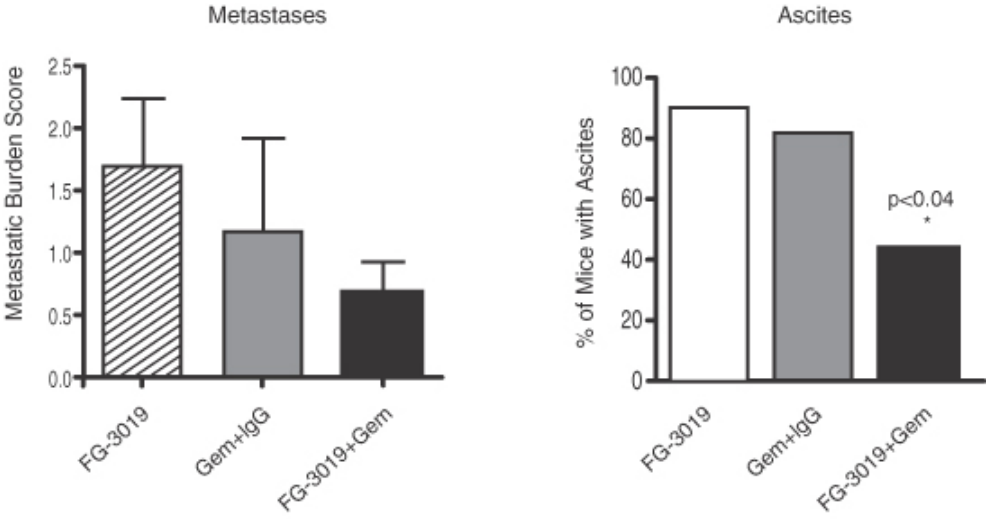
After initiation of treatment, mice randomized to FG-3019 alone survived for 11 days, which is comparable to the historical experience with gemcitabine alone of 7.5 days. The combination of FG-3019 plus gemcitabine increased survival to 29 days.

In additional studies, malignant hemorrhagic ascites were significantly reduced and liver metastases were reduced (although the reduction was not statistically significant) with the combination of FG-3019 plus gemcitabine. Both FG-3019 and FG-3019 plus gemcitabine increased tumor cell apoptosis significantly compared to gemcitabine alone. Our data suggest that FG-3019 may increase tumor cell apoptosis and improve survival in mice by inhibiting expression of XIAP, or X-linked inhibitor of apoptosis. XIAP is one of a family of proteins whose function is to inhibit apoptosis. Elevated expression of XIAP promotes cell survival and is one mechanism by which tumor cells can become resistant to chemotherapeutic agents. FG-3019 decreased XIAP levels significantly whereas gemcitabine did not decrease XIAP levels. The combination of FG-3019 and gemcitabine was even more effective as shown in the figure below.

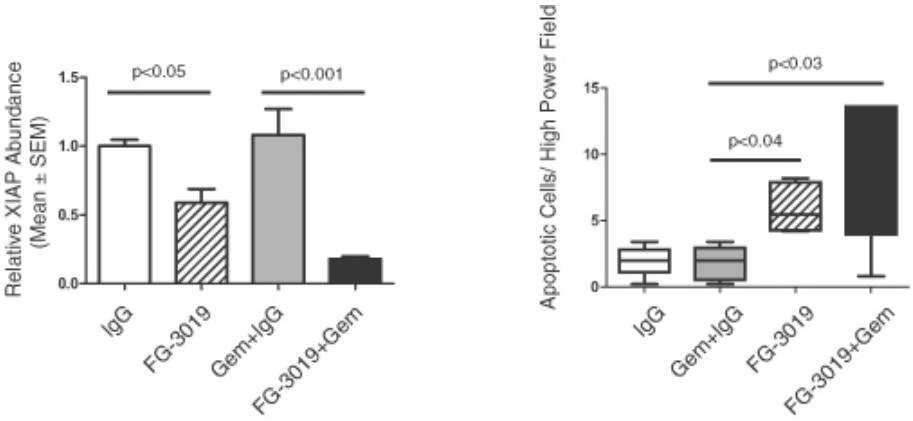
FG-3019 Plus Gemcitabine Treatment Increased Survival (11-13 Mice per Group) in the KPC Mouse Model



FG-3019 Plus Gemcitabine Treatment Reduced Metastasis and Ascites in the KPC Mouse Model (mean ±SE) (*Indicates Statistically Significant Difference from Gemcitabine + IgG)



FG-3019 Plus Gemcitabine Treatment Reduced Expression of Tumor Pro-Survival Gene XIAP and Increased the Number of Apoptotic Cells in the KPC Mouse Model



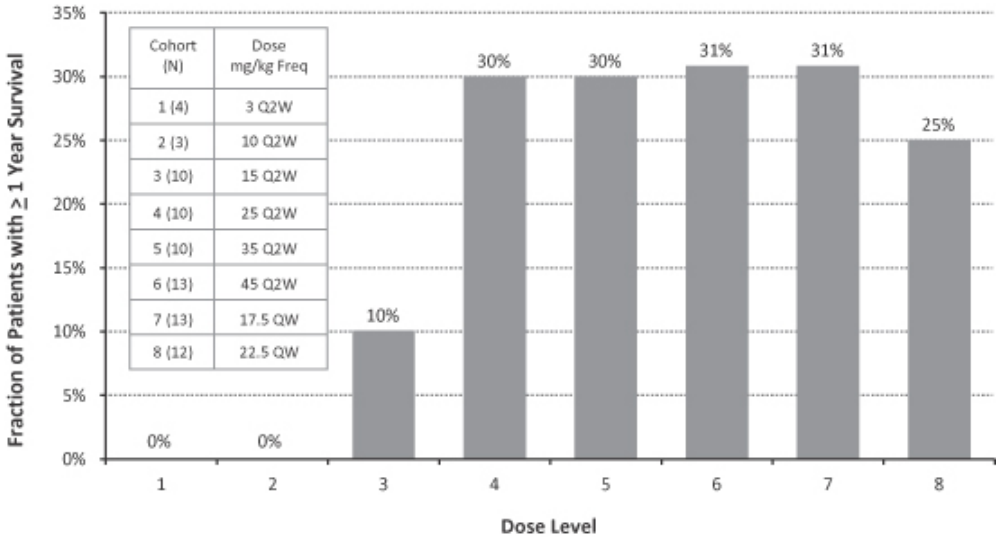
Median inter-quartile ranges and maximum and minimum observations

Clinical Trials of FG-3019 for Pancreatic Cancer

We completed an open-label Phase 2 (FGCL-MC3019-028) dose finding trial of FG-3019 combined with gemcitabine plus erlotinib in patients with previously untreated locally advanced (stage 3) or metastatic (stage 4) pancreatic cancer. The trial tested FG-3019 doses of 3 mg/kg, 10 mg/kg, 15 mg/kg, 25 mg/kg, 35 mg/kg and 45 mg/kg administered every two weeks, and FG-3019 doses of 17.5 mg/kg and 22.5 mg/kg administered weekly after a double loading dose. On Day 15, treatment began with gemcitabine 1000 mg/m^2 weekly for three weeks in a four week cycle and erlotinib 100 mg daily. Treatment continued until progression of the cancer or the patient withdrew for other reasons. Patients were then followed until death. Tumor status was evaluated by CT imaging every eight weeks until disease progression to assess changes in tumor mass.

Seventy-five patients were enrolled in this study with 66 (88%) having stage 4 metastatic cancer. The study demonstrated a dose-related increase in survival, as described in the figure below. At the lowest doses, no patients survived for even one year while at the highest doses up to 31% of patients survived one year.

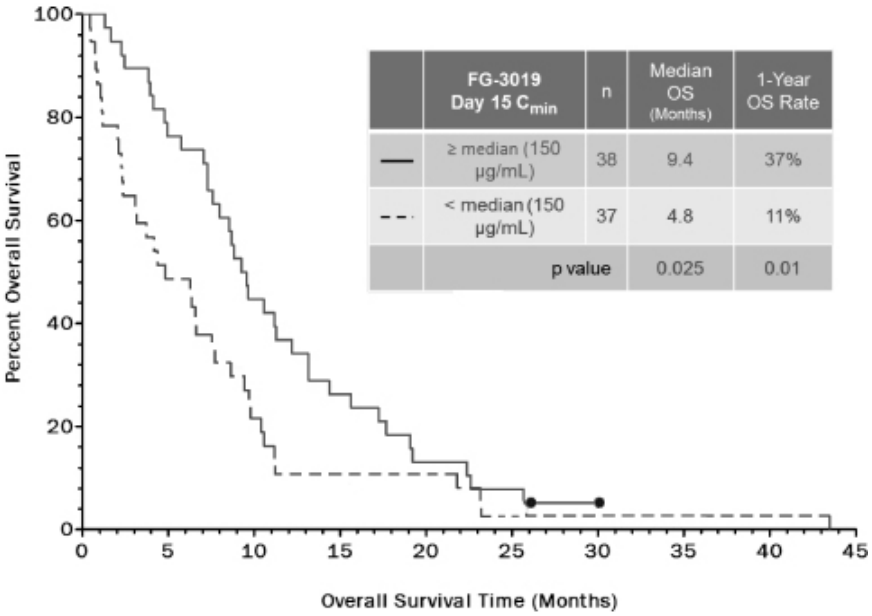
Effect of FG-3019 Dose on One Year Survival in Pancreatic Cancer



* QW = weekly; Q2W = twice weekly

A post-hoc analysis found that there was a significant relationship between survival and trough levels of plasma FG-3019 measured immediately before the second dose (Cmin), as illustrated below. Cmin greater than or equal to 150 µg/mL was associated with significantly improved progression-free survival (p=0.01) and overall survival (p=0.03) versus those patients with Cmin less than 150 µg/mL. For patients with Cmin $\geq$ 150 µg/mL median survival was 9.4 months compared to median survival of 4.8 months for patients with Cmin < 150 µg/mL. Similarly, 37% of patients with Cmin $\geq$ 150 µg/mL survived for longer than one year compared to 11% for patients with Cmin < 150 µg/mL. These data suggest that sufficient blockade of CTGF requires FG-3019 threshold blood levels of approximately 150 µg/mL in order to improve survival in patients with advanced pancreatic cancer.

Increased Pancreatic Cancer Survival Associated with Increased Plasma Levels of FG-3019



The Kaplan-Meier plot provides a representation of survival of all patients in the clinical trial. Each vertical drop in the curve represents a recorded event (death) of one or more patients. When a patient's event cannot be determined either because he or she has withdrawn from the study or because the analysis is completed before the event has occurred, that patient is "censored" and denoted by a symbol (—) on the curve at the time of the last reliable assessment of that patient.

In the study, the majority of adverse events were mild to moderate, and were consistent with those observed for erlotinib plus gemcitabine treatment without FG-3019. There were 99 treatment emergent SAEs; six of which were assessed as possibly related, and 93 as not related to study treatment. We did not identify any evolving dose-dependent pattern, and higher doses of FG-3019 were not associated with higher numbers of SAEs or greater severity of the SAEs observed.

In both the KPC mouse study and in this clinical trial, FG-3019 treatment had a substantial effect on survival with no apparent increase to the toxicity of the chemotherapeutic regimen.

Clinical Development Plan for FG-3019 in Pancreatic Cancer

For pancreatic cancer, we have recently begun enrolling an open-label, randomized (1:1) Phase 2 trial (FGCL-3019-069) of FG-3019 combined with gemcitabine plus nab-paclitaxel chemotherapy versus the chemotherapy regimen alone in patients with marginally inoperable pancreatic cancer that has not been previously treated. Approximately 40 patients are expected to be treated for up to 6 months and the number may be increased based on preliminary results. The overall goal of the trial is to determine whether the FG-3019 combination can convert inoperable pancreatic cancer to operable cancer. Tumor removal is the only chance for cure of pancreatic cancer, but only 15% to 20% of patients are eligible for surgery. The use of an anti-fibrotic agent in combination with chemotherapy may shrink the tumor size enough to enable surgical removal free from major blood vessels. The patients will then be followed for disease progression and overall survival. We will also perform numerous studies of the effects of treatment on gene and protein expression using pre-treatment and post-treatment tumor biopsies.

We also plan to perform a randomized (1:1) Phase 2 trial of FG-3019 combined with gemcitabine and nab-paclitaxel compared to the chemotherapy regimen alone to assess disease progression and survival in approximately 240 patients with previously untreated metastatic pancreatic cancer. The overall goal is to confirm our open-label Phase 2 data that suggest combinations of FG-3019 and chemotherapy may increase survival. We plan to open this study for enrollment in the first half of 2015.

Liver Fibrosis

Understanding Liver Fibrosis and the Limitations of Current Therapies

Fibrosis in the liver is caused primarily by hepatitis virus infection, obesity associated disorders such as non-alcoholic steatohepatitis, or NASH, and excessive consumption of alcohol. Repetitive injury to the liver from these causes leads to worsening fibrosis culminating in liver cirrhosis, organ failure and increased risk of hepatocellular carcinoma. There are no approved pharmaceutical treatments for liver fibrosis in the United States. Treating the underlying cause of disease may stabilize or reverse fibrosis, but only liver transplantation can treat fibrosis that has advanced to cirrhosis.

Despite advances in HBV and HCV antiviral therapy, reversal of fibrosis is slow, and largely observed in patients with mild to moderate fibrosis. Nonetheless, a significant proportion of hepatitis patients have pre-cirrhotic or cirrhotic liver fibrosis and treatments that address the fibrotic process itself would provide benefit for patients with approaching liver failure. Aside from weight loss, there are no available treatments for NASH. The American Liver Foundation estimates a prevalence of 0.9 to 2.5 million cases in the United States for advanced NASH. As in other forms of fibrosis, elevated tissue and plasma levels of CTGF have correlated with disease severity.

According to the World Health Organization, about 240 million people worldwide are chronically infected with HBV and approximately 130 to 150 million people are chronically infected with HCV. NASH and non-alcoholic fatty liver disease are associated with obesity and are becoming increasingly important causes of cirrhosis. NASH has been estimated to affect 5% to 7% of the general population (Starley et al. Hepatology (2010)).

Clinical Development of FG-3019 for Liver Fibrosis

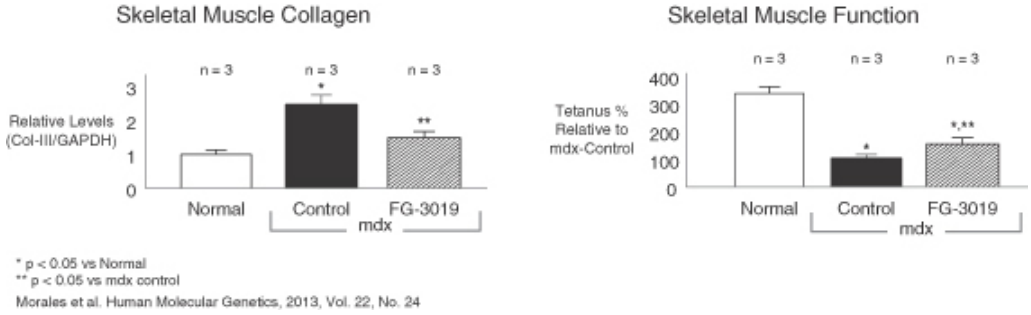
A randomized, placebo-controlled Phase 2 clinical trial is currently being conducted with FG-3019 in 120 patients with HBV-associated liver fibrosis in Hong Kong and Thailand, where the prevalence of HBV is high. The primary endpoint of the trial is change in fibrosis as assessed in liver biopsies. Efficacy data comparing low and high doses of FG-3019 compared to placebo are expected in 2015. A small pilot clinical study in HCV is also being conducted in Hong Kong.

Our future clinical development strategy for liver fibrosis is under active consideration. The need and opportunity for an anti-fibrotic therapy to prevent cirrhosis associated with hepatitis and NASH patients are sizable. However, there is no regulatory consensus on study end-points because clinical manifestations of liver disease do not become apparent until fibrosis is advanced. As with HRCT for pulmonary fibrosis, the imaging technologies are improving for assessment of liver fibrosis, and we are evaluating their applicability to clinical trials for liver fibrosis. There are active efforts by the FDA and liver medical societies to focus on clinical trial design for liver fibrosis and address this challenge. Liver biopsies, the gold standard for measuring liver fibrosis, have significant risks and sample only a small portion of the liver. In a manner similar to our approach to IPF where we assess lung fibrosis by quantitative HRCT, we are currently exploring other non-invasive measurements of overall liver fibrosis, such as magnetic resonance elastography.

FG-3019 for Duchenne Muscular Dystrophy

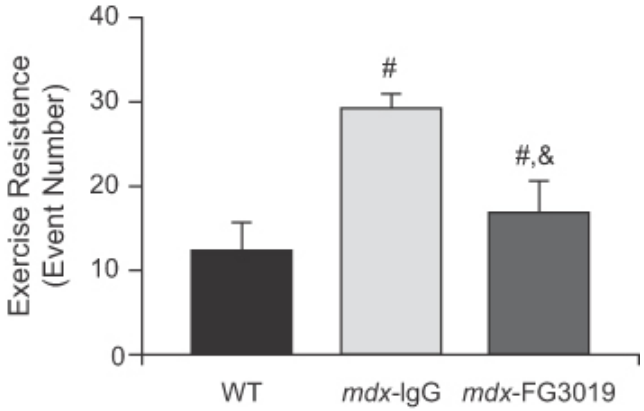
In the United States, 1 in 3,500 boys have Duchenne muscular dystrophy, or DMD, and there are currently no approved disease-modifying treatments. Most children, despite taking steroids to mitigate progressive muscle loss, are wheelchair bound by age 12, and median survival is age 25. DMD is caused by absence of the dystrophin protein resulting in abnormal muscle structure and function and buildup of fibrosis in muscle, leading to diminished mobility, pulmonary function and cardiac function. Constant myofiber breakdown results in persistent activation of myofibroblasts and altered production of ECM resulting in extensive fibrosis in skeletal muscles of DMD patients. Desguerre et al. (2009) showed that muscle fibrosis was the only myo-pathologic parameter that significantly correlated with poor motor outcome as assessed by quadriceps muscle strength, manual muscle testing of upper and lower limbs, and age at ambulation loss.

Higher CTGF levels correlate with more skeletal muscle fibrosis, and increased CTGF mRNA levels have been found in human DMD muscle and in the mdx mouse model, an accepted model of DMD. It has also been shown in mdx mice that increased CTGF expression occurs concurrently with the progression of cardiac fibrosis, or cardiomyopathy, and precedes the onset of overt cardiac dysfunction. Vial et al (2008) published results indicating that CTGF induced several ECM constituents and had an inhibitory effect on muscle cell differentiation by decreasing nuclear translocation of myogenin and myosin. CTGF treatment of myoblasts induced their de-differentiation, or failure to become mature muscle cells. These data suggest that in muscle tissue, CTGF directly impacts not just fibrosis but muscle cell phenotype. Morales (2011) showed that CTGF over-expression in tibialis anterior muscle of normal mice induced extensive skeletal muscle damage. CTGF over-expression induced fibrosis and caused a decrease of the specific isometric contractile force of the muscle. When CTGF over-expression stopped, the pathology was reversed. As compared with the mdx mouse model of DMD, both mdx mice with hemizygous CTGF gene deletion (causing a reduction of CTGF levels), and mdx mice treated with FG-3019 performed better in an exercise endurance test, had better muscle strength in isolated muscles and reduced skeletal muscle impairment, apoptotic damage and fibrosis. The figures below show decreased fibrosis (as measured by collagen) and increased muscle strength (as measured by relative tetanus %) in the FG-3019 treated mdx mice as compared to the mdx control mice.



* p < 0.05 vs Normal
** p < 0.05 vs mdx control
Morales et al. Human Molecular Genetics, 2013, Vol. 22, No. 24

The figure below shows the results in a 5-minute treadmill exercise tolerance test performed by Morales, Hum Mol Genet-Suppl Data (2013). The FG-3019-treated mdx mice stopped fewer times to rest than the untreated mdx mice (mdx-Control), and were more similar to normal mice.



In a 2009/2010 study, which we used in support of our patent titled “Methods for Treatment of Muscular Dystrophy” issued in 2014, Brandan et al. found that there was a tendency of FG-3019 to increase contraction of the diaphragm muscle in a limited number of FG-3019-treated mdx mice on an electromyographic test, as compared with untreated mdx mice. These results suggest the potential for improvement of respiratory function using this therapeutic approach.

We currently plan to conduct a clinical trial with FG-3019 to assess its ability to impact muscle pathology and improve muscle function in DMD patients. We have plans to work with the TREAT-NMD Advisory Committee for Therapeutics to refine clinical trial design and optimize target patients and appropriate endpoint measures.

FG-3019 for Radiation Countermeasures

The National Institute of Allergy and Infectious Diseases, or NIAID, has sponsored the consortium, Medical Countermeasures Against Radiological Threats, or MCART, to develop medical countermeasures to treat the key pathological conditions and delayed effects resulting from acute radiation exposure. MCART is mandated to develop animal models that adhere to all criteria of FDA’s *Guidance for Industry Product Development Under the Animal Rule* (May 2014). Under this draft FDA guidance, the FDA may grant conditional marketing approval based on adequate and well-controlled animal efficacy studies when human challenge studies would not be ethical and field trials after accidental or intentional human exposure have not been feasible, provided the results of those animal studies establish that the drug is reasonably likely to produce clinical benefit and certain other conditions are met.

FibroGen has initiated discussions with MCART at the University of Maryland regarding evaluation of FG-3019 in their established model of whole thorax lung irradiation (WTLI) in non-human primates. If efficacy can be demonstrated in non-human primates comparable to that achieved in the radiation inducted fibrosis in mice, it could enable limited FDA approval of FG-3019 as a medical countermeasure. Such an approval could potentially lead to procurement of FG-3019 for national health security.

Other Potential Indications for FG-3019

We believe that FG-3019 has potential to be a treatment for cancers and a broad array of fibrotic disorders, including:

- Cancers—melanoma, breast cancer, and squamous cell lung carcinoma for which there is an estimated U.S. prevalence of over 80,000 patients.
- Lung—scleroderma lung disease

- Liver—NASH, graft rejection
- Kidney—diabetic nephropathy, focal segmental glomerular sclerosis
- Cardiovascular system—congestive heart failure, pulmonary arterial hypertension

Investigational New Drug and Clinical Trial Applications

FG-3019 is being studied in the United States for the treatment of IPF under an IND that we submitted to the FDA in August 2003. FG-3019 is also being studied in the United States for the treatment of locally advanced or metastatic pancreatic cancer under an IND that we submitted to the FDA in September 2004. We have not submitted an IND for liver fibrosis as the Phase 2 clinical studies are being conducted in Hong Kong and Thailand. We submitted the CTA for FG-3019 in liver fibrosis in Thailand in September 2012 and two clinical trial certificates (CTA equivalent) for FG-3019 in liver fibrosis in Hong Kong in May of 2010 and March of 2013. We have not submitted an IND for Duchenne muscular dystrophy as it is still in the preclinical phase of development.

Commercialization Strategy for FG-3019

Our goal, if FG-3019 is successful, is to be a leader in the development and commercialization of novel approaches for inhibiting deep organ fibrosis and treating some forms of cancer. To date, we have retained exclusive worldwide rights for FG-3019. We plan to retain commercial rights to FG-3019 in North America and will also continue to evaluate the opportunities to establish co-development partnerships for FG-3019 as well as commercialization collaborations for territories outside of North America.

COLLABORATIONS

Our Collaboration Partnerships for Roxadustat

Astellas

We have two agreements with Astellas for the development and commercialization of roxadustat, one for Japan, and one for Europe, the Commonwealth of Independent States, the Middle East and South Africa. Under these agreements we provided Astellas the right to develop and commercialize roxadustat for anemia in these territories.

We share responsibility with Astellas for clinical development activities required for United States and EU regulatory approval of roxadustat, and share equally those development costs under the agreed development plan for such activities. Astellas will be responsible for clinical development activities and all associated costs required for regulatory approval in all other countries in the Astellas territories. Astellas will own and have responsibility for regulatory filings in its territories. We are responsible, either directly or through our contract manufacturers, for the manufacture and supply of all quantities of roxadustat to be used in development and commercialization under the agreements.

The Astellas agreements will continue in effect until terminated. Either party may terminate the agreements for certain material breaches by the other party. In addition, Astellas will have the right to terminate the agreements for certain specified technical product failures, upon generic sales reaching a particular threshold, upon certain regulatory actions, or upon our entering into a settlement admitting the invalidity or unenforceability of our licensed patents. Astellas may also terminate the agreements for convenience upon advance written notice to us. In the event of any termination of the agreements, Astellas will transfer and assign to us the regulatory filings for roxadustat and will assign or license us the relevant trademarks used with the products in the Astellas territories. Under certain terminations, Astellas is also obligated to pay us a termination fee.

Consideration under these agreements includes a total of $360.1 million in upfront and non-contingent payments, and milestone payments totaling $557.5 million, of which $542.5 million are development and regulatory

milestones, and $15.0 million are commercial-based milestones. Total consideration, excluding development cost reimbursement and product sales-related payments, could reach $917.6 million. The aggregate amount of such consideration received through June 30, 2014 totals $462.6 million.

Additionally, under these agreements, Astellas pays 100% of the commercialization costs in their territories. Astellas will pay us a transfer price for our manufacture and delivery of roxadustat based on a calculation based on net sales of roxadustat in the low 20% range.

In addition, Astellas has separately invested $80.5 million in the preferred stock of FibroGen, Inc. to date.

AstraZeneca

We also have two agreements with AstraZeneca for the development and commercialization of roxadustat for anemia, one for China, or the China agreement, and one for the United States and all other countries not previously licensed to Astellas (the RoW), or the U.S. / RoW agreement. Under these agreements we provided AstraZeneca the right to develop and commercialize roxadustat for anemia in these territories.

We will share responsibility with AstraZeneca for clinical development activities required for United States regulatory approval of roxadustat. AstraZeneca will be responsible for all of our development costs incurred under the agreed development plan for roxadustat in the United States and EU, to the extent those costs are not covered by Astellas, after an initial 50% development cost sharing period in which our funding obligations are limited to a total of $116.5 million. Thereafter, AstraZeneca will be solely responsible for additional development costs for all such costs. In China, our subsidiary FibroGen China will conduct the development work for CKD anemia and will hold all of the regulatory licenses issued by China regulatory authorities and be primarily responsible for regulatory, clinical and manufacturing. China development costs are shared 50/50. AstraZeneca is also responsible for 100% of development expenses in all other licensed territories outside of China. We are responsible, through our contract manufacturers, for the manufacture and supply of all quantities of roxadustat to be used in development and commercialization under the agreements.

Under the AstraZeneca agreements, we receive upfront and subsequent non-contingent payments totaling $402.2 million, which we expect to receive in various amounts through 2015, and including a $62 million time based development milestone which became non-contingent as of July 30, 2014. Potential milestone payments under the agreements total $1.2 billion, of which $571.0 million are development and regulatory milestones, and $652.5 million are commercial-based milestones. Total consideration under the agreements, excluding development cost reimbursement, transfer price payments, royalties and profit share, could reach $1.6 billion. The aggregate amount of such consideration received through June 30, 2014 totals $220.2 million.

Payments under these agreements include over $500 million in upfront, non-contingent and other payments received or expected to be received prior to the first U.S. approval, excluding development expense reimbursement.

Under the U.S./RoW agreement, AstraZeneca may, subject to certain conditions, purchase $20 million of our common stock at the initial public offering price in a concurrent sale with this offering, or pay us $20 million at the time of this offering, and in any event no later than December 15, 2015.

Under the U.S./RoW agreement, AstraZeneca will pay for all commercialization costs in the U.S. and RoW, AstraZeneca will be responsible for the United States commercialization of roxadustat, with FibroGen undertaking specified promotional activities in the ESRD segment in the United States. In addition, we will receive a transfer price for delivery of commercial product based on a percentage of net sales in the low- to mid-single digit range and AstraZeneca will pay us a tiered royalty on net sales of roxadustat in the low 20% range.

Under the China agreement, which is conducted through FibroGen China, the commercial collaboration is structured as a 50/50 profit share. AstraZeneca will conduct commercialization activities in China as well as

serve as the master distributor for roxadustat and will fund roxadustat launch costs in China until FibroGen China has achieved profitability. At that time, AstraZeneca will recoup 50% of their historical launch costs out of initial roxadustat profits in China.

AstraZeneca may terminate the U.S./RoW agreement upon specified events, including our bankruptcy or insolvency, our uncured material breach, technical product failure, or upon 180 days prior written notice at will. If AstraZeneca terminates the U.S/RoW agreement at will, in addition to any unpaid non-contingent payments, it will be responsible to pay for a substantial portion of the post-termination development costs under the agreed development plan until regulatory approval.

AstraZeneca may terminate the China agreement upon specified events, including our bankruptcy or insolvency, our uncured material breach, technical product failure, or upon advance prior written notice at will. If AstraZeneca terminates our China agreement at will, it will be responsible to pay for transition costs as well as make a specified payment to FibroGen China.

In the event of any termination of the agreements, but subject to modification upon termination for technical product failure, AstraZeneca will transfer and assign to us the regulatory filings and approvals for roxadustat in the affected territories, grant us licenses and conduct certain transition activities.

COMPETITION

The pharmaceutical and biotechnology industries are highly competitive, particularly in some of the indications we are developing drug candidates, including anemia in CKD, IPF, pancreatic cancer and liver fibrosis. We face competition from multiple other pharmaceutical and biotechnology companies, many of which have significantly greater financial, technical and human resources and experience in product development, manufacturing and marketing. These potential advantages of our competitors are particularly a risk in IPF, pancreatic cancer and liver fibrosis, where we do not currently have a development or commercialization partner.

We expect any products that we develop and commercialize to compete on the basis of, among other things, efficacy, safety, convenience of administration and delivery, price, the level of generic competition and the availability of reimbursement from government and other third party payors.

If either of our lead product candidates is approved, they will compete with currently marketed products, and product candidates that may be approved for marketing in the future, for treatment of the following indications:

Roxadustat—Anemia in CKD

If roxadustat is approved for the treatment of anemia in patients with CKD, competing drugs are expected to include ESAs such as epoetin alfa (EPOGEN® marketed by Amgen Inc. in the United States, Procrit® marketed by Johnson & Johnson, Inc. in the United States, and Eprex® also marketed by Johnson & Johnson in other markets and Espo® marketed by Kyowa Hakko Kirin, or KHK, in Japan and China), darbepoetin (Aranesp® marketed by Amgen in the United States and Europe, and by KHK in Hong Kong; NESP® marketed by KHK in Japan, Korea, Singapore, Taiwan, Thailand), as well as Mircera® (marketed by Hoffmann-La Roche, or Roche, in Europe and approved in the United States) and NeoRecormon®/Epogin® (marketed by Roche in China and Japan). ESAs have been the standard of care in the treatment of anemia in CKD for over 20 years, serving a significant majority of dialysis patients as well as those non-dialysis patients receiving anemia therapy under nephrology care. Physicians and patients may be reluctant to switch to roxadustat from products with which they have become familiar.

We, and our collaboration partners, will also likely face competition from potential new anemia therapies currently in clinical development. For example, while roxadustat is currently the only HIF-PH inhibitor in Phase 3 development, Akebia Pharmaceuticals, Inc., Bayer Corporation and GlaxoSmithKline plc are all in Phase 2 development of HIF-PH inhibitor product candidates for anemia indications. We may face competition for

patient recruitment and enrollment for clinical trials and potentially in commercial sales. In addition, Acceleron Pharma Inc., in partnership with Celgene Corporation, is in Phase 2 development of protein therapeutic candidates to treat anemia and associated complications in patients with b-thalassemia and MDS, and recently received orphan drug status for sotatercept. Noxxon Pharma AG is developing an anti-hepcidin Spiegelmer® (NOX-H94) a mirror image of a natural oligonucleotide, is in Phase 2 development in cancer for the treatment of anemia associated with chronic disease.

The introduction of biosimilars for ESAs into the U.S. market may also increase the competition for roxadustat. A biosimilar product is a follow-on version of an existing, branded biologic product. Under current laws, an application for a biosimilar product should not be approved by the FDA until 12 years after the existing, patent-protected product was approved under a BLA. The patents for epoetin alfa (EPOGEN) expired in 2004 in the EU, and in the United States the remaining patents will expire by 2015. Several biosimilar versions of currently marketed ESAs are available for sale in the EU and many other markets, and several biosimilar versions of epoetin alfa are currently under development, including in the United States. In China, biosimilars of epoetin alfa are offered by Chinese pharmaceutical companies such as EPIAO marketed by 3SBio Inc. and Xue Da Sheng marketed by Hayao Biological.

Two of the largest operators of dialysis clinics in the United States, DaVita Healthcare Partners Inc., or DaVita, and Fresenius Medical Care AG & Co. KGaA, or Fresenius, collectively represent more than 60% of the dialysis market in the United States, and have entered into long-term supply agreements with Amgen that began in January 2012 for 7 years and 3 years, respectively. DaVita is committed to purchase over 90% of its anemia drug needs under an exclusive arrangement. The Fresenius arrangement is non-exclusive. Successful penetration in this market would require a significant agreement with at least either Fresenius or DaVita, on favorable terms and on a timely basis. The currently marketed ESA products are also supported by large pharmaceutical companies with greater experience and expertise in commercialization in the anemia market, including securing reimbursement, government contracts and relationships with key opinion leaders. We expect that significant resources will be required from us and our collaboration partners, AstraZeneca and Astellas, to overcome the challenges of bringing a new product into an established market with concentrated buyers.

FG-3019

We are currently in Phase 2 development of FG-3019 to treat IPF, pancreatic cancer and liver fibrosis. Most of our competitors have significantly more resources and expertise in development, commercialization and manufacturing, particularly due to the fact that we have not yet established a co-development partnership for FG-3019. For example, both InterMune and Boehringer Ingelheim Pharma GmbH & Co. KG, who are seeking approval for product candidates for the treatment of IPF in the United States, have successfully developed and commercialized drugs in various indications and have built sales organizations that we do not currently have; both have more resources and more established relationships when competing with us for patient recruitment and enrollment for clinical trials or, if we are approved, in the market.

Idiopathic Pulmonary Fibrosis

If approved to treat IPF, FG-3019 would compete with pirfenidone, which is approved for marketing in Europe, Canada and Japan. In addition, InterMune has resubmitted pirfenidone for approval in the United States. We believe that if FG-3019 can be shown to safely stabilize or reverse lung fibrosis, and thus stabilize or improve lung function, it can compete with pirfenidone for market share in IPF. However, it may be difficult to encourage treatment providers and patients to switch to FG-3019 from a product they are already familiar with.

We will also likely face competition from potential new IPF therapies. For example, Boehringer Ingelheim has submitted for accelerated approval in the EU and submitted for approval, and received priority review designation, in the United States for its product candidate, nintedanib, for the treatment of IPF. FG-3019 is an injectable protein, which may be more expensive and less convenient than small molecules such as nintedanib and pirfenidone. Other potential competitive product candidates in various stages of Phase 2 development for IPF

include Gilead Sciences, Inc.'s simtuzumab, Celgene Corporation's CC-4047 and CC-930, Janssen Biotech, Inc. and Johnson & Johnson Inc.'s CNTO-888, Sanofi's GC-1008, Novartis' QAX-576 and Biogen Idec's STX-100.

Pancreatic Cancer

We are developing FG-3019 to be used in combination with Abraxane® (nab-paclitaxel) and gemcitabine in pancreatic cancer. Celgene's Abraxane was launched in the United States and Europe in 2013 and 2014, respectively, and was the first drug approved in this disease in nearly a decade. Merrimack Pharmaceuticals, Inc. is currently conducting a pivotal Phase 3 clinical trial of MM-398 for the treatment of patients with metastatic pancreatic cancer who have previously failed treatment with gemcitabine. In addition, treatments for cancer are often used in combination instead of as monotherapy; thus, we also face competition for FG-3019 from other agents seeking approval in conjunction with gemcitabine and Abraxane. Examples include: Threshold Pharmaceuticals, Inc. in partnership with Merck KGaA, is in Phase 3 clinical trials of its compound TH-302 in combination with gemcitabine and in Phase 1 clinical trials for TH-302 in combination with gemcitabine and Abraxane, for the treatment of pancreatic cancer; Gilead Sciences, Inc. is in Phase 2 clinical trials of its anti-fibrotic drug candidate, simtuzumab, in combination with gemcitabine for the treatment of pancreatic cancer; and Halozyme Therapeutics, Inc. is in Phase 2 clinical trials to treat pancreatic cancer with its compound PEGPH20 in combination with gemcitabine and Abraxane.

There are a number of other product candidates in clinical trials for pancreatic cancer, many of which are in combination with existing chemotherapies, as both first-line and second-line therapy for metastatic pancreatic cancer. We will not only face a large number of product candidates competing for patient recruitment and enrollment for our clinical trials, but we could also face a substantial number of competitors if FG-3019 is approved for the treatment of pancreatic cancer.

Liver Fibrosis

If approved to treat HBV and HCV associated liver fibrosis, FG-3019 would compete with advances in HBV and HCV antiviral therapy, which may significantly decrease the potential market for FG-3019 in liver fibrosis. HBV and HCV therapies include: Gilead's sofosbuvir (Sovaldi®), entecavir (Baraclude®), adefovir (Hepsera®), lamivudine (Epivir®), simeprevir (Olysio®), tenofovir (Viread®), telbivudine (Tyzeka®), boceprevir, telaprevir and interferon alpha-2a and PEGylated interferon alpha-2a (Pegasys®). Nonetheless, a significant proportion of hepatitis patients have pre-cirrhotic or cirrhotic liver fibrosis and treatments that address the fibrotic process itself could provide benefit for patients with approaching liver failure. Potential antifibrotic competitors in the area of liver fibrosis include Gilead's simtuzumab and Intercept Pharmaceuticals, Inc.'s obeticholic acid (OCA).

MANUFACTURE AND SUPPLY

We have historically and in the future plan to continue to enter into contractual arrangements with qualified third-party manufacturers to manufacture and package our products and product candidates for territories outside of China. We believe that this manufacturing strategy enables us to more efficiently direct financial resources to the research, development and commercialization of product candidates rather than diverting resources to establishing a significant internal manufacturing infrastructure, unless there is additional strategic value for establishing manufacturing capabilities, such as in China. As our product candidates proceed through development, we are discussing the timing of entry into longer term commercial supply agreements with key suppliers and manufacturers in order to meet the ongoing and planned clinical and commercial supply needs for ourselves and our partners. Our timing of entry into these agreements is based on the current development plans for roxadustat, FG-3019 and FG-5200.

Roxadustat

Roxadustat is a small-molecule drug manufactured from generally available commercial starting materials and chemical technologies and multi-purpose equipment available from many third party contract manufacturers. Our third party manufacturers of roxadustat Phase 3 study material include Shanghai SynTheAll Pharmaceutical Co.,

Ltd. and STA Pharmaceutical Hong Kong Limited and their respective affiliates, or collectively WuXi STA, and Catalent Pharma Solutions, or Catalent. WuXi STA is located in China and currently supplies our API, and intermediate needs for those materials used in our Phase 3 clinical trials. WuXi STA has passed inspections by several regulatory agencies, including the FDA and CFDA, and is cGMP compliant. Catalent is located in the United States and supplies our Phase 3 tablet materials and provides tablet development services. Catalent has passed several regulatory inspections, including by the FDA, and manufactures commercial products for other clients.

To date, we believe that roxadustat has been manufactured under current Good Manufacturing Practices, or cGMP, regulations and in compliance with applicable regulatory requirements for the manufacture of drug substance and drug product used in clinical trials and we and Astellas have performed audits of the existing roxadustat manufacturers. The intended commercial manufacturing route outside of China has been successfully scaled up to multiple hundred kilogram scale and produced more than a metric ton of roxadustat drug substance. We are in discussions with multiple parties, including WuXi STA and other potential suppliers regarding longer term commercial supply arrangements.

In China, we plan to use the clinical material from WuXi STA and will conduct bioequivalence tests before NDA product manufactured at the FibroGen China manufacturing facility in China. We plan to use API and drug product from our FibroGen China manufacturing facility upon commercialization. Until our FibroGen China manufacturing facility is qualified and licensed for the China market, we have no internal manufacturing capabilities and will continue to rely on external contract manufacturers. Even when our manufacturing facility is available to manufacture in and for China, we may use contract manufacturers to supplement commercial supply for China. We do not expect to manufacture from our China facility for use outside of China.

Irix Letter Agreement

In July 2002, we and IRIX Pharmaceuticals, Inc., a third party manufacturer, entered into a Letter of Agreement for IRIX Pharmaceuticals Single Source Manufacturing Agreement, or the Letter of Agreement, in connection with a contract manufacturing arrangement for clinical supplies of HIF-PH inhibitors, including roxadustat. The Letter of Agreement contained a service agreement that included terms and schedule for the delivery of clinical materials, and also included a term sheet for a single source agreement for the GMP manufacture of HIF-PH inhibitors, including roxadustat. Specifically, pursuant to the Letter of Agreement, we and IRIX agreed to negotiate a single source manufacturing agreement that included a first right to negotiate a manufacturing contract for HIF-PH inhibitors, including roxadustat, provided that IRIX is able to match any third party bids within 5%, and the exclusive right to manufacture extends for five years after approval of an NDA. Any agreement would provide that no minimum amounts would be specified until appropriate by forecast, that we and our commercialization partner would have the rights to contract with independent third parties that exceed IRIX's internal capabilities or in the event that we or our commercialization partner determines for reasons of continuity and security that such a need exists, provided that IRIX would supply a majority of the product if it is able to meet the requirements and the schedule required by us and our partner. Subsequent to the Letter of Agreement, we and IRIX have entered into several additional service agreements. IRIX has requested in writing that we honor the Letter of Agreement with respect to the single source manufacturing agreement. To date, we have offered to IRIX opportunities to bid for the manufacture of HIF-PH inhibitors, including roxadustat.

FG-3019

To date, FG-3019 has been manufactured using specialized biopharmaceutical process techniques under an agreement with a qualified third party contract manufacturer, Boehringer Ingelheim. Our contract manufacturer is the sole source for the current clinical supply of the drug substance and drug product for FG-3019. Our contract manufacturer is only obligated to supply the amounts of FG-3019 as agreed on pursuant to work orders that are executed from time to time under our agreement as we determine need for clinical material, and we are not required to make fixed or minimum annual purchases. Our existing agreement allows us to transfer the cell line manufacturing process to another third party manufacturer at our expense, and our contractor is obligated to provide reasonable technology transfer assistance in the event of such a transfer.

FG-5200

The manufacture of FG-5200 requires three distinct steps under cGMP and involves three parties in three locations. Our proprietary recombinant human collagen is produced under contract by a third party in Finland. After quality assurance release, the material is then shipped to our vendor for conversion to a freeze-dried form suitable for production of the FG-5200 medical device. We are currently designing a fabrication plant within the FibroGen China manufacturing facility where the freeze dried collagen will be shipped for the production of FG-5200, first for preclinical and clinical testing using a small scale, pilot process and then potentially as an automated process for commercial use.

GOVERNMENT REGULATION

The clinical testing, manufacturing, labeling, storage, distribution, record keeping, advertising, promotion, import, export and marketing, among other things, of our product candidates are subject to extensive regulation by governmental authorities in the United States and other countries. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations, including in Europe and China, requires the expenditure of substantial time and financial resources. Failure to comply with the applicable requirements at any time during the product development process, approval process or after approval may subject an applicant and/or sponsor to a variety of administrative or judicial sanctions, including refusal by the applicable regulatory authority to approve pending applications, withdrawal of an approval, imposition of a clinical hold, issuance of warning letters and other types of letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement of profits, or civil or criminal investigations and penalties brought by FDA and the Department of Justice, or other governmental entities.

U.S. Product Approval Process

In the United States, the FDA regulates drugs and biological products, or biologics, under the Public Health Service Act, as well as the FDCA which is the primary law for regulation of drug products. Both drugs and biologics are subject to the regulations and guidance implementing these laws. Pharmaceutical products are also subject to regulation by other governmental agencies, such as the Federal Trade Commission, the Office of Inspector General of the U.S. Department of Health and Human Services, the Consumer Product Safety Commission and the Environmental Protection Agency. The clinical testing, manufacturing, labeling, storage, distribution, record keeping, advertising, promotion, import, export and marketing, among other things, of our product candidates are subject to extensive regulation by governmental authorities in the United States and other countries. The steps required before a drug or biologic may be approved for marketing in the United States generally include:

- Preclinical laboratory tests and animal tests conducted under Good Laboratory Practices.
- The submission to the FDA of an Investigational New Drug application, or IND application for human clinical testing, which must become effective before each human clinical trial commence.
- Adequate and well-controlled human clinical trials to establish the safety and efficacy of the product and conducted in accordance with Good Clinical Practices.
- The submission to the FDA of an NDA, in the case of a small molecule drug product, or a Biologic License Application, or BLA, in the case of a biologic product.
- FDA acceptance, review and approval of the NDA or BLA, as applicable.
- Satisfactory completion of an FDA inspection of the manufacturing facilities at which the product is made to assess compliance with cGMPs.

The testing and approval process requires substantial time, effort and financial resources, and the receipt and timing of any approval is uncertain. The FDA may suspend clinical trials at any time on various grounds, including a finding that the subjects or patients are being exposed to a potentially unacceptable health risk.

Preclinical studies include laboratory evaluations of the product candidate, as well as animal studies to assess the potential safety and efficacy of the product candidate. Preclinical studies must be conducted in compliance with FDA regulations regarding GLPs. The results of the preclinical studies, together with manufacturing information and analytical data, are submitted to the FDA as part of the IND, which includes the results of preclinical testing and a protocol detailing, among other things, the objectives of the clinical trial, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated if the first phase or phases of the clinical trial lends themselves to an efficacy determination. The IND will become effective automatically 30 days after receipt by the FDA, unless the FDA raises concerns or questions about the conduct of the trials as outlined in the IND prior to that time. In this case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can proceed. The IND must become effective before clinical trials may be commenced.

Clinical trials involve the administration of the product candidates to healthy volunteers, or subjects, or patients with the disease to be treated under the supervision of a qualified principal investigator. Clinical trials must be conducted under the supervision of one or more qualified principal investigators in accordance with GCPs and in accordance with protocols detailing the objectives of the applicable phase of the trial, dosing procedures, research subject selection and exclusion criteria and the safety and effectiveness criteria to be evaluated. Progress reports detailing the status of clinical trials must be submitted to the FDA annually. Sponsors must also timely report to the FDA serious and unexpected adverse events, any clinically important increase in the rate of a serious suspected adverse event over that listed in the protocol or investigator's brochure, or any findings from other studies or tests that suggest a significant risk in humans exposed to the product candidate. Further, the protocol for each clinical trial must be reviewed and approved by an independent institutional review board, or IRB, either centrally or individually at each institution at which the clinical trial will be conducted. The IRB will consider, among other things, ethical factors, and the safety of human subjects and the possible liability of the institution.

Clinical trials are typically conducted in three sequential phases prior to approval, but the phases may overlap and different trials may be initiated with the same drug candidate within the same phase of development in similar or different patient populations. These phases generally include the following:

Phase 1. Phase 1 clinical trials represent the initial introduction of a product candidate into human subjects, frequently healthy volunteers. In Phase 1, the product candidate is usually tested for pharmacodynamic and pharmacokinetic properties such as safety, including adverse effects, dosage tolerance, absorption, distribution, metabolism and excretion.

Phase 2. Phase 2 clinical trials usually involve studies in a limited patient population to (1) evaluate the efficacy of the product candidate for specific indications, (2) determine dosage tolerance and optimal dosage and (3) identify possible adverse effects and safety risks.

Phase 3. If a product candidate is found to be potentially effective and to have an acceptable safety profile in Phase 2 studies, the clinical trial program will be expanded to Phase 3 clinical trials to further evaluate clinical efficacy, optimal dosage and safety within an expanded patient population at geographically dispersed clinical study sites.

Phase 4. Phase 4 clinical trials are conducted after approval to gain additional experience from the treatment of patients in the intended therapeutic indication and to document a clinical benefit in the case of drugs approved under accelerated approval regulations, or when otherwise requested by the FDA in the form of post-market requirements or commitments. Failure to promptly conduct any required Phase 4 clinical trials could result in withdrawal of approval.

The results of preclinical studies and clinical trials, together with detailed information on the manufacture, composition and quality of the product candidate, are submitted to the FDA in the form of an NDA (for a drug) or BLA (for a biologic), requesting approval to market the product. The application must be accompanied by a significant user fee payment. The FDA has substantial discretion in the approval process and may refuse to accept any application or decide that the data is insufficient for approval and require additional preclinical, clinical or other studies.

Review of Application

Once the NDA or BLA submission has been accepted for filing, which occurs, if at all, 60 days after submission, the FDA informs the applicant of the specific date by which the FDA intends to complete its review. This is typically 12 months from the date of submission. The review process is often extended by FDA requests for additional information or clarification. The FDA reviews NDAs and BLAs to determine, among other things, whether the proposed product is safe and effective for its intended use, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, strength, quality and purity. Before approving an NDA or BLA, the FDA may inspect the facilities at which the product is manufactured and will not approve the product unless the manufacturing facility complies with cGMPs and will also inspect clinical trial sites for integrity of data supporting safety and efficacy. During the approval process, the FDA also will determine whether a risk evaluation and mitigation strategy, or REMS, is necessary to assure the safe use of the product. If the FDA concludes a REMS is needed, the sponsor of the application must submit a proposed REMS; the FDA will not approve the application without an approved REMS, if required. A REMS can substantially increase the costs of obtaining approval. The FDA may also convene an advisory committee of external experts to provide input on certain review issues relating to risk, benefit and interpretation of clinical trial data. The FDA may delay approval of an NDA if applicable regulatory criteria are not satisfied and/or the FDA requires additional testing or information. The FDA may require post-marketing testing and surveillance to monitor safety or efficacy of a product. FDA will issue either an approval of the NDA or BLA or a Complete Response Letter detailing the deficiencies and information required in order for reconsideration of the application.

Pediatric Exclusivity and Pediatric Use

Under the Best Pharmaceuticals for Children Act, or BPCA, certain drugs or biologics may obtain an additional six months of exclusivity in an indication, if the sponsor submits information requested in writing by the FDA, or a Written Request, relating to the use of the active moiety of the drug or biologic in children. The FDA may not issue a Written Request for studies on unapproved or approved indications or where it determines that information relating to the use of a drug or biologic in a pediatric population, or part of the pediatric population, may not produce health benefits in that population.

We have not received a Written Request for such pediatric studies with respect to our product candidates, although we may ask the FDA to issue a Written Request for studies in the future. To receive the six-month pediatric market exclusivity, we would have to receive a Written Request from the FDA, conduct the requested studies in accordance with a written agreement with the FDA or, if there is no written agreement, in accordance with commonly accepted scientific principles, and submit reports of the studies. A Written Request may include studies for indications that are not currently in the labeling if the FDA determines that such information will benefit the public health. The FDA will accept the reports upon its determination that the studies were conducted in accordance with and are responsive to the original Written Request, agreement, or commonly accepted scientific principles, as appropriate, and that the reports comply with the FDA's filing requirements.

In addition, the Pediatric Research Equity Act, or PREA, requires a sponsor to conduct pediatric studies for most drugs and biologicals, for a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration. Under PREA, original NDAs, BLAs and supplements thereto must contain a pediatric assessment unless the sponsor has received a deferral or waiver. The required assessment must include the evaluation of the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations and support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA, on its own initiative or at the request of the sponsor, may request a deferral of pediatric studies for some or all of the pediatric subpopulations. A deferral may be granted by FDA if they believe that additional safety or effectiveness data in the adult population needs to be collected before the pediatric studies begin. After April 2013, the FDA must send a non-compliance letter to any sponsor that fails to submit the required assessment, keep a deferral current or fails to submit a request for approval of a pediatric formulation.

Post-Approval Requirements

Even after approval, drugs and biologics manufactured or distributed pursuant to FDA approvals are subject to continuous regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims are subject to prior FDA review and approval. There also are continuing, annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data.

The FDA may impose a number of post-approval requirements as a condition of approval of an NDA or BLA. For example, the FDA may require post-marketing testing, including Phase 4 clinical trials, and surveillance to further assess and monitor the product's safety and effectiveness after commercialization.

In addition, entities involved in the manufacture and distribution of approved drugs and biologics are required to register their establishments with the FDA and state agencies, and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may also result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- Restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls.
- Fines, warning letters or holds on post-approval clinical trials.
- Refusal of the FDA to approve pending NDAs or BLAs or supplements to approved NDAs or BLAs, or suspension or revocation of product license approvals.
- Product seizure or detention, or refusal to permit the import or export of products.
- Injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

Prescription Drug Marketing Act

The distribution of pharmaceutical products is subject to the Prescription Drug Marketing Act, or PDMA, which regulates the distribution of drugs and drug samples at the federal level and sets minimum standards for the registration and regulation of drug distributors at the state level. Under the PDMA and state law, states require the registration of manufacturers and distributors who provide pharmaceuticals in that state, including in certain

states manufacturers and distributors who ship pharmaceuticals into the state even if such manufacturers or distributors have no place of business within the state. The PDMA and state laws impose requirements and limitations upon drug sampling to ensure accountability in the distribution of samples. The PDMA sets forth civil and criminal penalties for violations of these and other provisions.

Federal and State Fraud and Abuse and Data Privacy and Security and Transparency Laws and Regulations

In addition to FDA restrictions on marketing of pharmaceutical products, federal and state healthcare laws restrict certain business practices in the biopharmaceutical industry. These laws include, but are not limited to, anti-kickback, false claims, data privacy and security, and transparency statutes and regulations.

The federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration, directly or indirectly, to induce, or in return for, purchasing, leasing, ordering or arranging for the purchase, lease or order of any good, facility, item or service reimbursable under Medicare, Medicaid or other federal healthcare programs. The term “remuneration” has been broadly interpreted to include anything of value, including for example, gifts, discounts, the furnishing of supplies or equipment, credit arrangements, payments of cash, waivers of payment, ownership interests and providing anything at less than its fair market value. The Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers and formulary managers on the other. Although there are a number of statutory exemptions and regulatory safe harbors protecting certain common activities from prosecution, the exemptions and safe harbors are drawn narrowly, and our practices may not in all cases meet all of the criteria for a statutory exception or safe harbor protection. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. Several courts have interpreted the statute’s intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the statute has been violated. The intent standard under the Anti-Kickback Statute was amended by the Patient Protection and Affordable Care Act as amended by the Health Care and Education Reconciliation Act of 2010, or collectively, PPACA, to a stricter intent standard such that a person or entity no longer needs to have actual knowledge of this statute or the specific intent to violate it in order to have committed a violation. In addition, PPACA codified case law that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act (discussed below). Further, civil monetary penalties statute imposes penalties against any person or entity who, among other things, is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

The federal false claims laws prohibit, among other things, any person or entity from knowingly presenting, or causing to be presented, a false or fraudulent claim for payment or approval to the federal government or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes “any request or demand” for money or property presented to the US government. Recently, several pharmaceutical and other healthcare companies have been prosecuted under these laws for, among other things, allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies’ marketing of the product for unapproved, and thus non-reimbursable, uses. The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payers and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of, or payment for, healthcare benefits, items or services.

In addition, we may be subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and its implementing regulations, imposes certain requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA's privacy and security standards directly applicable to business associates—independent contractors or agents of covered entities that receive or obtain protected health information in connection with providing a service on behalf of a covered entity. HITECH also created four new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Additionally, the federal Physician Payments Sunshine Act within the PPACA, and its implementing regulations, require that certain manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report information related to certain payments or other transfers of value made or distributed to physicians and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians and teaching hospitals and to report annually certain ownership and investment interests held by physicians and their immediate family members.

Also, many states have similar healthcare statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payer. Some states require the posting of information relating to clinical studies. In addition, California requires pharmaceutical companies to implement a comprehensive compliance program that includes a limit on expenditures for, or payments to, individual medical or health professionals. If our operations are found to be in violation of any of the health regulatory laws described above or any other laws that apply to us, we may be subject to penalties, including potentially significant criminal, civil and/or administrative penalties, damages, fines, disgorgement, individual imprisonment, exclusion of products from reimbursement under government programs, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. To the extent that any of our products will be sold in a foreign country, we may be subject to similar foreign laws and regulations, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws and implementation of corporate compliance programs and reporting of payments or transfers of value to healthcare professionals.

Pharmaceutical Coverage, Pricing and Reimbursement

In both domestic and foreign markets, our sales of any approved products will depend in part on the availability of coverage and adequate reimbursement from third-party payers. Third-party payers include government health administrative authorities, managed care providers, private health insurers and other organizations. Patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payers to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products. Sales of our products will therefore depend substantially, both domestically and abroad, on the extent to which the costs of our products will be paid by third-party payers. These third-party payers are increasingly focused on containing healthcare costs by challenging the price and examining the cost-effectiveness of medical products and services. In addition, significant uncertainty exists as to the coverage and reimbursement status of newly approved healthcare product candidates. The market for our products and product candidates for which we may receive regulatory approval will depend significantly on access to third-party payers' drug formularies, or lists of medications for which third-party payers provide coverage and reimbursement. The industry competition to be included in such formularies often leads to downward pricing

pressures on pharmaceutical companies. Also, third-party payers may refuse to include a particular branded drug in their formularies or otherwise restrict patient access to a branded drug when a less costly generic equivalent or other alternative is available.

Because each third-party payer individually approves coverage and reimbursement levels, obtaining coverage and adequate reimbursement is a time-consuming, costly and sometimes unpredictable process. We may be required to provide scientific and clinical support for the use of any product to each third-party payer separately with no assurance that approval would be obtained, and we may need to conduct expensive pharmacoeconomic studies in order to demonstrate the cost-effectiveness of our products. This process could delay the market acceptance of any product and could have a negative effect on our future revenues and operating results. We cannot be certain that our products and our product candidates will be considered cost-effective. Because coverage and reimbursement determinations are made on a payer-by-payer basis, obtaining acceptable coverage and reimbursement from one payer does not guarantee that we will obtain similar acceptable coverage or reimbursement from another payer. If we are unable to obtain coverage of, and adequate reimbursement and payment levels for, our product candidates from third-party payers, physicians may limit how much or under what circumstances they will prescribe or administer them and patients may decline to purchase them. This in turn could affect our ability to successfully commercialize our products and impact our profitability, results of operations, financial condition and future success.

In addition, in many foreign countries, particularly the countries of the EU and China, the pricing of prescription drugs is subject to government control. In some non-U.S. jurisdictions, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the EU provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of a company placing the medicinal product on the market. We may face competition for our product candidates from lower-priced products in foreign countries that have placed price controls on pharmaceutical products. In addition, there may be importation of foreign products that compete with our own products, which could negatively impact our profitability.

Healthcare Reform

In the United States and foreign jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the healthcare system that could affect our future results of operations as we begin to directly commercialize our products. In particular, there have been and continue to be a number of initiatives at the US federal and state level that seek to reduce healthcare costs. If a drug product is reimbursed by Medicare or Medicaid, pricing and rebate programs must comply with, as applicable, the Medicaid rebate requirements of the Omnibus Budget Reconciliation Act of 1990, as amended, and the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA. The MMA imposed new requirements for the distribution and pricing of prescription drugs for Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities that provide coverage of outpatient prescription drugs. Part D plans include both stand-alone prescription drug benefit plans and prescription drug coverage as a supplement to Medicare Advantage plans. Unlike Medicare Part A and B, Part D coverage is not standardized. Part D prescription drug plan sponsors are not required to pay for all covered Part D drugs, and each drug plan can develop its own drug formulary that identifies which drugs it will cover and at what tier or level. However, Part D prescription drug formularies must include drugs within each therapeutic category and class of covered Part D drugs, though not necessarily all the drugs in each category or class. Any formulary used by a Part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs may increase demand for our products for which we receive marketing approval. However, any negotiated prices for our future products covered by a Part D prescription drug plan will likely be lower than the prices we might otherwise obtain from non-governmental payers. Moreover, while the MMA applies only to drug benefits for Medicare beneficiaries, private payers often follow

Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment that results from Medicare Part D may result in a similar reduction in payments from non-governmental payers.

Moreover, the recently enacted federal Drug Supply Chain Security Act, imposes new obligations on manufacturers of pharmaceutical products, among others, related to product tracking and tracing. Among the requirements of this new federal legislation, manufacturers will be required to provide certain information regarding the drug product to individuals and entities to which product ownership is transferred, label drug product with a product identifier, and keep certain records regarding the drug product. Further, under this new legislation, manufacturers will have drug product investigation, quarantine, disposition, and notification responsibilities related to counterfeit, diverted, stolen, and intentionally adulterated products, as well as products that are the subject of fraudulent transactions or which are otherwise unfit for distribution such that they would be reasonably likely to result in serious health consequences or death.

Furthermore, political, economic and regulatory influences are subjecting the healthcare industry in the United States to fundamental change. Initiatives to reduce the federal budget and debt and to reform healthcare coverage are increasing cost-containment efforts. We anticipate that Congress, state legislatures and the private sector will continue to review and assess alternative healthcare benefits, controls on healthcare spending through limitations on the growth of private health insurance premiums and Medicare and Medicaid spending, the creation of large insurance purchasing groups, price controls on pharmaceuticals and other fundamental changes to the healthcare delivery system. Any proposed or actual changes could limit or eliminate our spending on development projects and affect our ultimate profitability. In March 2010, PPACA was signed into law. PPACA has the potential to substantially change the way healthcare is financed by both governmental and private insurers. Among other cost containment measures, PPACA established: an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs and biologic agents; revised the methodology by which rebates owed by manufacturers to the state and federal government for covered outpatient drugs under the Medicaid Drug Rebate Program are calculated; increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid Drug Rebate Program; and extended the Medicaid Drug Rebate program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations. In the future, there may continue to be additional proposals relating to the reform of the U.S. healthcare system, some of which could further limit the prices we are able to charge for our products, or the amounts of reimbursement available for our products. If future legislation were to impose direct governmental price controls and access restrictions, it could have a significant adverse impact on our business. Managed care organizations, as well as Medicaid and other government agencies, continue to seek price discounts. Some states have implemented, and other states are considering, price controls or patient access constraints under the Medicaid program, and some states are considering price-control regimes that would apply to broader segments of their populations that are not Medicaid-eligible. Due to the volatility in the current economic and market dynamics, we are unable to predict the impact of any unforeseen or unknown legislative, regulatory, payer or policy actions, which may include cost containment and healthcare reform measures. Such policy actions could have a material adverse impact on our profitability.

Regulation in China

The pharmaceutical industry in China is highly regulated. The primary regulatory authority is the CFDA, including its provincial and local branches. As a developer, manufacturer and supplier of drugs, we are subject to regulation and oversight by the CFDA and its provincial and local branches. The Drug Administration Law of China provides the basic legal framework for the administration of the production and sale of pharmaceuticals in China and covers the manufacturing, distributing, packaging, pricing and advertising of pharmaceutical products. Its implementing regulations set forth detailed rules with respect to the administration of pharmaceuticals in China. In addition, we are, and we will be, subject to other Chinese laws and regulations that are applicable to business operators, manufacturers and distributors in general.

Pharmaceutical Clinical Development

A new drug must be registered and approved by the CFDA before it can be manufactured and marketed for sale. To obtain CFDA approval, the applicant must conduct clinical trials, which must be approved by the CFDA and are subject to the CFDA's supervision and inspection. There are four phases of clinical trials. Application for registration of new drugs requires completion of Phase 1, 2 and 3 of clinical trials, similar to the United States. In addition, the CFDA may require the conduct of Phase 4 studies as a condition to approval.

Phase 4 studies are post-marketing studies to assess the therapeutic effectiveness of and adverse reactions to the new drug, including an evaluation of the benefits and risks, when used among the general population or specific groups, with findings used to inform adjustments to dosage, among other things.

NDA and Approval to Market

China requires approval of the NDA as well as the manufacturing facility before a drug can be marketed in China. Approval and oversight are performed at a national and provincial levels of the CFDA, involve multiple agencies and consist of various stages of approval.

Under the applicable drug registration regulations, drug registration applications are divided into three different types, namely Domestic New Drug Application, Domestic Generic Drug Application, and Imported Drug Application. Drugs fall into one of three categories, namely chemical medicine, biological product or traditional Chinese or natural medicine.

Class 1 refers to a new drug which has never been marketed in any country. Domestic Class 1.1 refers to a chemical drug within Class 1. FibroGen China as a domestic entity will be submitting a domestic New Drug Application under the Domestic Class 1.1 designation which is the anticipated route by which we expect roxadustat to be considered.

In order to obtain market authorization, FibroGen China must submit to the CFDA an NDA package that contains information similar to what is necessary for a U.S. NDA, including preclinical data, clinical data, technical data on active pharmaceutical ingredient and drug product and related stability data. The stability data must be generated from a three-batch registration campaign that is conducted at our Beijing facility, from which samples will be tested by the CFDA.

If the NDA package is acceptable, FibroGen China will be granted a New Drug License confirming the drug as suitable for marketing. In addition, FibroGen China will be granted a Manufacturing License which lists the Drug Approval Code as well as the name and address of the Manufacturing License holder. Manufacturing further requires a Pharmaceutical Production Permit, or PPP, as well as GMP certification. We recently received a PPP, certifying that our manufacturing facility and manufacturing process in that facility are suitable for the manufacture of a drug for clinical or commercial purposes. A PPP requires demonstration that the facility has: (i) legally qualified pharmaceutical and engineering professionals and necessary technical workers; (ii) the premises, facilities and hygienic environment required for drug manufacturing; (iii) institutions, personnel, instruments and equipment necessary to conduct quality control and testing for drugs to be produced; and (iv) rules and regulations to ensure the quality of drugs. The PPP is required prior to conducting the registration campaign for stability and other data for the NDA.

After NDA approval, FibroGen China will be required to conduct a three-batch validation campaign, one of which will be observed onsite by the CFDA. At the successful completion of the validation campaign and associated inspection, FibroGen China will be granted a GMP certification for the commercial production of roxadustat at our Beijing manufacturing facility. Only after the issuance of the GMP license can roxadustat be manufactured and sold commercially to the China market.

Drug Price Controls

The administration of price control of pharmaceutical products is vested in the national and provincial price administration authorities. Depending on the categories of pharmaceutical products in question, the prices of pharmaceutical products listed in the Medical Insurance Catalogs, drugs with patents and other drugs whose production or trading may constitute monopolies are subject to the control of the National Development and Reform Commission of China, or the NDRC, and the relevant provincial or local price administration authorities. With respect to pharmaceutical products manufactured in China, the national price administration authority from time to time publishes price control lists setting out the names of pharmaceutical products and their respective price ceilings. The provincial price administration authorities also publish price control lists in respect of the pharmaceutical products which are manufactured within their respective areas. The main purpose of the price control policy is to set an upper limit to the prices of pharmaceutical products to prevent excessive increases in the prices of such products. Price controls on medicines are determined based on profit margins that the relevant authority deems acceptable, the type and quality of the medicine, its production costs, the prices of substitutes and the manufacturer's compliance with applicable GMP standards. Drug companies may apply for an increase in the retail price of their drug to the relevant national or provincial authority if their product has superior effectiveness or other advantages.

Tendering Process for Hospital Purchases of Medicines

Provincial and municipal government agencies such as provincial or municipal health departments also operate a mandatory tender process for purchases by hospitals of a medicine included in provincial medicine catalogs. These government agencies organize tenders in their province or city and typically invite manufacturers of provincial catalog medicines that are on the hospitals' formularies and are in demand by these hospitals to participate in the tender process. A government-approved committee consisting of physicians, experts and officials is delegated by these government agencies the power to review bids and select one or more medicines for the treatment of a particular medical condition. The selection is based on a number of factors, including bid price, quality and a manufacturer's reputation and service. The bidding price of a wining medicine will become the price required for purchases of that medicine by all hospitals in that province or city. This price, however, is effective only until the next tender, where the manufacturer of the winning medicine must submit a new bid. Increasingly, large hospitals are forming purchasing networks in order to increase their purchasing power. In addition, hospitals of certain provinces have begun to implement collective tender processes through online bidding, which is expected to increase the transparency and competitiveness of the tendering system and allow greater access to new entrants.

Device Regulation

In China, medical devices are classified into three different categories, Class I, Class II and Class III, depending on the degree of risk associated with each medical device and the extent of control needed to ensure safety and effectiveness. Classification of a medical device is important because the class to which a medical device is assigned determines, among other things, whether a manufacturer needs to obtain a production permit and whether clinical trials are required. Classification of a medical device also determines the types of registration required and the level of regulatory authority involved in effecting the product registration. FibroGen China has submitted a device classification application to the CFDA to designate FG-5200 corneal implants as a Domestic Class III medical device. Class III devices also require product registration and are regulated by the CFDA under the strictest regulatory control.

Before a Class III medical device can be manufactured for commercial distribution, a manufacturer must effect medical device registration by proving the safety and effectiveness of the medical device to the satisfaction of respective levels of the food and drug administration and clinical trials are required for registration of Class III medical devices. In order to conduct a clinical trial on a Class III medical device, the CFDA requires manufacturers to apply for and obtain in advance a favorable inspection result for the device from an inspection

center jointly recognized by the CFDA and the State Administration of Quality Supervision, Inspection and Quarantine. The application for clinical trials involving a Class III medical device with high risk must be approved by the CFDA before the manufacturer may begin clinical trials. A registration application for a Class III medical device must provide required pre-clinical and clinical trial data and information about the medical device and its components regarding, among other things, device design, manufacturing and labeling. The CFDA must provide the application data to the technical evaluation institute for an evaluation opinion within three working days after its acceptance of the application package and decide, within twenty business days after its receipt of the evaluation opinion, whether the application for registration is approved. However, the time for conducting any detection, expert review and hearing process, if necessary, will not be counted in the abovementioned time limit. If the CFDA requires supplemental information, the approval process may take much longer. The registration is valid for five years and application is required for renewal upon expiration of the existing registration certificate. Once a device is approved, a manufacturer must possess a production permit from the provincial level food and drug administration before manufacturing Class III medical devices.

Foreign Regulation Outside of China

We are planning on seeking approval for roxadustat, and potentially for our other product candidates, in Europe, Japan and China as well as other countries. In order to market any product outside of the United States, we would need to comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, manufacturing, marketing authorization, commercial sales and distribution of our products. Whether or not we obtain FDA approval for a product, we would need to obtain the necessary approvals by the comparable foreign regulatory authorities before we can commence clinical trials or marketing of the product in foreign countries and jurisdictions. Although many of the issues discussed above with respect to the United States apply similarly in the context of other countries we are seeking approval in, including Europe and China, the approval process varies between countries and jurisdictions and can involve different amounts of product testing and additional administrative review periods. For example, in Europe, a sponsor must submit a clinical trial application, or CTA, much like an IND prior to the commencement of human clinical trials. A CTA must be submitted to each national health authority and an independent ethics committee.

For other countries outside of the EU, such as China and the countries in Eastern Europe, Latin America or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing, and reimbursement vary from country to country. The time required to obtain approval in other countries and jurisdictions might differ from or be longer than that required to obtain FDA approval. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country or jurisdiction may negatively impact the regulatory approval process in other countries.

Regulatory Exclusivity for Approved Products

U.S. Patent Term Restoration

Depending upon the timing, duration, and specifics of the FDA approval of our product candidates, some of our United States patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, commonly referred to as the Hatch-Waxman Act. The Hatch-Waxman Act permits a patent restoration term of up to 5 years as compensation for patent term lost during product development and the FDA regulatory review process. The patent term restoration period is generally one-half the time between the effective date of an initial IND and the submission date of an NDA or BLA, plus the time between the submission date of the NDA or BLA and the approval of that product candidate application. Patent term restoration cannot, however, extend the remaining term of a patent beyond a total of 14 years from the product’s approval date. In addition, only one patent applicable to an approved product is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. The United States Patent and Trademark Office, in consultation with the FDA, reviews and approves applications for

any patent term extension or restoration. In the future, we expect to apply for restoration of patent term for patents relating to each of our product candidates in order to add patent life beyond the current expiration date of such patents, depending on the length of the clinical trials and other factors involved in the filing of the relevant NDA or BLA.

Market exclusivity provisions under the FDCA can also delay the submission or the approval of certain applications of companies seeking to reference another company's NDA or BLA. The Hatch-Waxman Act provides a 5-year period of exclusivity to any approved NDA for a product containing a new chemical entity (NCE) never previously approved by FDA either alone or in combination with another active moiety. No application or abbreviated new drug application (ANDA) directed to the same NCE may be submitted during the 5-year exclusivity period, except that such applications may be submitted after 4 years if they contain a certification of patent invalidity or non-infringement of the patents listed with the FDA by the innovator NDA.

Biologic Price Competition and Innovation Act

The Biologics Price Competition and Innovation Act of 2009, or BPCIA, established an abbreviated pathway for the approval of biosimilar and interchangeable biological products. The abbreviated regulatory approval pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable" based on similarity to an existing branded product. Under the BPCIA, an application for a biosimilar product cannot be approved by the FDA until 12 years after the original branded product was approved under a BLA. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement to one of the patents listed with the FDA by the innovator BLA holder. The BPCIA is complex and is only beginning to be interpreted and implemented by the FDA. As a result, its ultimate impact, implementation, and interpretation are subject to uncertainty.

Orphan Drug Act

FG-3019 has received orphan drug designation in IPF in the United States. Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biological product intended to treat a rare disease or condition, which is a disease or condition that affects fewer than 200,000 individuals in the United States, or if it affects more than 200,000 individuals in the United States there is no reasonable expectation that the cost of developing and making a drug product available in the United States for this type of disease or condition will be recovered from sales of the product. Orphan product designation must be requested before submitting an NDA. After the FDA grants orphan product designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan product designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications to market the same drug or biological product for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity. The designation of such drug also entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers. Competitors, however, may receive approval of different products for the indication for which the orphan product has exclusivity or obtain approval for the same product but for a different indication for which the orphan product has exclusivity. Orphan product exclusivity also could block the approval of one of our products for seven years if a competitor obtains approval of the same drug or biological product as defined by the FDA or if our drug candidate is determined to be contained within the competitor's product for the same indication or disease. If a drug product designated as an orphan product receives marketing approval for an indication broader than what is designated, it may not be entitled to orphan product exclusivity in any indication.

Orphan designation status in the EU has similar but not identical benefits in that jurisdiction.

Products receiving orphan designation in the EU can receive ten years of market exclusivity, during which time no similar medicinal product for the same indication may be placed on the market. The ten-year market exclusivity may be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan designation; for example, if the product is sufficiently profitable not to justify maintenance of market exclusivity. Additionally, marketing authorization may be granted to a similar product for the same indication at any time if the second applicant can establish that its product, although similar, is safer, more effective or otherwise clinically superior; the initial applicant consents to a second orphan medicinal product application; or the initial applicant cannot supply enough orphan medicinal product. An orphan product can also obtain an additional two years of market exclusivity in the EU for pediatric studies. No extension to any supplementary protection certificate can be granted on the basis of pediatric studies for orphan indications.

Foreign Country Data Exclusivity

The EU also provides opportunities for additional market exclusivity. For example, in the EU, upon receiving marketing authorization, an NCE generally receives eight years of data exclusivity and an additional two years of market exclusivity. If granted, data exclusivity prevents regulatory authorities in the EU from referencing the innovator's data to assess a generic application. During the additional two-year period of market exclusivity, a generic marketing authorization can be submitted, and the innovator's data may be referenced, but no generic product can be marketed until the expiration of the market exclusivity.

In China, there is also an opportunity for data exclusivity for a period of six years for data included in an NDA applicable to a new chemical entity. According to the Provisions for Drug Registration, the Chinese government protects undisclosed data from drug studies and prevents the approval of an application made by another company that uses the undisclosed data for the approved drug. In addition, if an approved drug manufactured in China qualifies as an innovative drug, such as Domestic Class 1.1, and the CFDA determines that it is appropriate to protect public health with respect to the safety and efficacy of the approved drug, the CFDA may elect to monitor such drug for up to five years. During this post-marketing observation period, the CFDA will not grant approval to another company to produce, change dosage form of or import the drug while the innovative drug is under observation. The approved manufacturer is required to provide an annual report to the regulatory department of the province, autonomous region or municipality directly under the central government where it is located. Each of the data exclusivity period and the observation period runs from the date of approval for production of the new chemical entity or innovative drug, as the case may be.

INTELLECTUAL PROPERTY

Our success depends in part upon our ability to obtain and maintain patent and other intellectual property protection for our product candidates including compositions-of-matter, dosages, and formulations, manufacturing methods, and novel applications, uses and technological innovations related to our product candidates and core technologies. We also rely on trade secrets, know-how and continuing technological innovation to further develop and maintain our competitive position.

Our policy is to seek to protect our proprietary position by, among other methods, filing United States and foreign patent applications related to our proprietary technologies, inventions and any improvements that we consider important to the development and implementation of our business and strategy. Our ability to maintain and solidify our proprietary position for our products and technologies will depend, in part, on our success in obtaining and enforcing valid patent claims. Additionally, we may benefit from a variety of regulatory frameworks in the United States, Europe, China and other territories that provide periods of non-patent-based exclusivity for qualifying drug products. *See "Government Regulation—Regulatory Exclusivity for Approved Products"*.

We cannot ensure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications that may be filed by us in the future, nor can we ensure that any of our existing

or subsequently granted patents will be useful in protecting our drug candidates, technological innovations, and processes. Additionally, any existing or subsequently granted patents may be challenged, invalidated, circumvented or infringed. We cannot guarantee that our intellectual property rights or proprietary position will be sufficient to permit us to take advantage of current market trends or otherwise to provide or protect competitive advantages. Furthermore, our competitors may be able to independently develop and commercialize similar products, or may be able to duplicate our technologies, business model, or strategy, without infringing our patents or otherwise using our intellectual property.

Our patent estate, on a worldwide basis, encompasses over 200 granted patents and 150 pending patent applications, including over 90 granted patents and 100 pending patent applications relating to roxadustat (FG-4592) and FG-3019. Our currently granted patents with respect to composition-of-matter for roxadustat and FG-3019 are expected to expire in 2024 or 2025. Additional patents and patent applications relating to manufacturing processes, formulations, and various therapeutic uses, including treatment of specific indications and improvement of clinical parameters provide additional protection for product candidates. Currently granted patents are expected to expire between 2022 and 2025, and pending patent applications, if granted, could extend patent protection to between 2033 and 2034.

The protection afforded by any particular patent depends upon many factors, including the type of patent, scope of coverage encompassed by the granted claims, availability of extensions of patent term, availability of legal remedies in the particular territory in which the patent is granted, and validity and enforceability of the patent. Changes in either patent laws or in the interpretation of patent laws in the United States and other countries could diminish our ability to protect our inventions and to enforce our intellectual property rights. Accordingly, we cannot predict with certainty the enforceability of any granted patent claims or of any claims that may be granted from our patent applications.

The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights. Our ability to maintain and solidify our proprietary position for our products and core technologies will depend on our success in obtaining effective claims and enforcing those claims once granted. We have been in the past and are currently involved in various administrative proceedings with respect to our patents and patent applications and may, as a result of our extensive portfolio, be involved in such proceedings in the future. Additionally, in the future, we may claim that a third party infringes our intellectual property or a third party may claim that we infringe its intellectual property. In any of the administrative proceedings or in litigation, we may incur significant expenses, damages, attorneys' fees, costs of proceedings and experts' fees, and management and employees may be required to spend significant time in connection with these actions.

Because of the extensive time required for clinical development and regulatory review of a product candidate we may develop, it is possible that any patent related to our product candidates may expire before any of our product candidates can be commercialized, or may remain in force for only a short period of time following commercialization, thereby reducing the advantage afforded by any such patent.

The patent positions for our most advanced programs are summarized below.

Roxadustat (FG-4592) Patent Portfolio

Our roxadustat patent portfolio includes three granted U.S. patents and one pending U.S. patent application offering protection for roxadustat including composition-of-matter, pharmaceutical compositions, and methods for treating anemia using roxadustat or its analogs. Exclusive of any patent term extension, the granted U.S. patents relating to the composition-of-matter of roxadustat are due to expire in 2024 or 2025. A corresponding regional patent application has been granted in Europe and validated in multiple European Patent Convention member states. Additional corresponding patents and patent applications provide broad international protection in multiple territories worldwide. Exclusive of any patent term extension, these granted foreign patents and pending patent applications, if granted, would extend patent protection to 2024.

Under the Hatch-Waxman Act, we believe that, if roxadustat is approved, we will be eligible for the full five year patent term extension for a granted U.S. patent relating to roxadustat, which extension would expire in 2029 or 2030, depending on the patent extended. *See "Government Regulation—Regulatory Exclusivity for Approved Products—U.S. Patent Term Restoration."*

We also hold various U.S. and foreign granted patents and pending patent applications directed to manufacturing processes for and formulations of roxadustat, crystalline forms and polymorphs of roxadustat, and methods for use of roxadustat to treat anemia or associated conditions, or to improve clinical parameters relating to anemia. Exclusive of any patent term extension, these granted patents are due to expire in 2024 to 2027, and pending patent applications, if granted, could extend patent protection to 2032 to 2034.

Roxadustat China Patent Portfolio

Our Chinese patent portfolio relating to roxadustat includes three granted Chinese patents covering medicaments containing roxadustat for treating conditions including anemia of chronic disease, iron deficiency, and ischemic disorders. These granted patents are due to expire in 2022 through 2024. Our roxadustat patent portfolio in China also includes 15 pending Chinese patent applications relating to composition-of-matter, pharmaceutical compositions containing roxadustat, manufacturing processes for roxadustat, polymorphs and crystalline forms of roxadustat, and various other aspects relating to the treatment of anemia or improvement of anemia-related parameters using roxadustat, which pending applications, if granted, could be expected to expire between 2022 and 2033.

We believe that roxadustat, as a new chemical entity, would be eligible for six years of data exclusivity in China. Furthermore, upon approval as a new drug, roxadustat may receive up to five years of market exclusivity under a CFDA-imposed new drug monitoring period. *See "Government Regulation—Regulatory Exclusivity for Approved Products—Data Exclusivity"*

HIF Anemia-related Technologies Patent Portfolio

We also have an extensive worldwide patent portfolio providing broad protection for proprietary technologies relating to the treatment of anemia. This portfolio currently contains over 45 granted patents and 65 pending patent applications providing exclusivity for use of compounds falling within various and overlapping classes of HIF-PH inhibitors to achieve various therapeutic effects.

This extensive portfolio reflects a series of discoveries we made from the initial days of our HIF program through the present time. Our research efforts have resulted in progressive innovation, and the corresponding patents and patent applications reflect the success of our HIF program. Such discoveries include the ability of HIF-PH inhibitors:

- To induce endogenous erythropoietin in anemic CKD patients.
- To increase efficacy of EPO signaling.
- To enhance EPO responsiveness of the bone marrow, for example, by increasing EPO receptor expression.
- To overcome the suppressive and inhibitory effects of inflammatory cytokines, such as members of the interleukin 1, IL-1, and interleukin 6, IL-6, cytokine families, on EPO production and responsiveness.
- To increase effective metabolism of iron.
- To increase iron absorption and bioavailability, as measured using clinical parameters such as percent transferrin saturation, or TSAT%.
- To overcome iron deficiency through effects on iron regulatory factors such as ferroportin and hepcidin.

- To provide coordinated erythropoiesis resulting in increased reticulocyte hemoglobin content, or CHr, and increased mean corpuscular volume, or MCV.
- To improve kidney function.

The table below sets forth representative granted U.S. patents relating to these and other inventions, including the projected expiration dates of these patents.

PATENT NO.	TITLE	PROJECTED EXPIRATION
6,855,510	Pharmaceuticals and Methods for Treating Hypoxia and Screening Methods Therefor	July 2022
8,466,172	Stabilization of Hypoxia Inducible Factor (HIF) Alpha	December 2022
8,629,131	Enhanced Erythropoiesis and Iron Metabolism	June 2024
8,604,012	Enhanced Erythropoiesis and Iron Metabolism	June 2024
8,609,646	Enhanced Erythropoiesis and Iron Metabolism	June 2024
8,604,013	Enhanced Erythropoiesis and Iron Metabolism	June 2024
8,614,204	Enhanced Erythropoiesis and Iron Metabolism	June 2026
7,713,986	Compounds and Methods for Treatment of Chemotherapy-Induced Anemia	June 2026
8,318,703	Methods for Improving Kidney Function	February 2027

In addition to the U.S. patents listed above, our HIF anemia-related technologies portfolio includes corresponding foreign patents granted and patent applications pending in various territories worldwide.

In March 2013, we obtained the grant of European Patent No. 1463823 (the ‘823 patent), which claims, among other things, the use of a heterocyclic carboxamide compound selected from the group consisting of pyridine carboxamides, quinoline carboxamides, isoquinoline carboxamides, cinnoline carboxamides and beta-carboline carboxamides that inhibits HIF-PH enzyme activity in the manufacture of a medicament for increasing EPO in the prevention, pretreatment, or treatment of anemia. The granted claims of the ‘823 patent encompass the use of roxadustat for the treatment of anemia. On December 5, 2013, Akebia Therapeutics, Inc. filed an opposition to the ‘823 patent with the European Patent Office. An opposition is a mechanism providing for a third-party challenge to a granted European patent. While we believe the ‘823 patent will be upheld in its entirety, the ultimate outcome of the opposition remains uncertain, and ultimate resolution of the proceeding may take two to four years or longer. However, narrowing or even revocation of the ‘823 patent would not affect our exclusivity for roxadustat or our freedom-to-operate with respect to use of roxadustat for the treatment of anemia. Akebia and other third parties may initiate additional or similar proceedings with the European Patent Office or other similar foreign jurisdictions.

FG-3019 Patent Portfolio

Our FG-3019 patent portfolio includes two granted U.S. patents and one pending U.S. patent application providing composition-of-matter protection for FG-3019 and related antibodies, and methods of using FG-3019 or related antibodies in the treatment of fibroproliferative disorders, including IPF, liver fibrosis, and pancreatic cancer, which cases are owned by us or are exclusively licensed by us from Medarex, Inc. (now Bristol-Myers Squibb Co.). Exclusive of any patent term extension, the U.S. patents relating to composition-of-matter of FG-3019 are due to expire in 2024 or 2025. A corresponding regional patent application has been granted in Europe and validated in multiple European Patent Convention member states. Additional corresponding patents and patent applications provide broad international protection in multiple territories worldwide. Exclusive of any patent term extension, these foreign patents, and any patents that may grant from the pending foreign patent applications, are due to expire in 2024.

Under the Hatch-Waxman Act, we believe that, if FG-3019 is approved, we will be eligible for a full five year patent term extension for one U.S. patent relating to FG-3019. In addition, we believe that FG-3019, if approved under a BLA, should qualify for a 12-year period of exclusivity currently permitted by the BPCIA. See *"Government Regulation—Regulatory Exclusivity for Approved Products"*.

We also hold additional granted U.S. and foreign patents and pending patent applications directed to the use of FG-3019 to treat IPF, liver fibrosis, pancreatic cancer and other disorders. Exclusive of any patent term extension, these granted patents are due to expire in 2022 to 2025, and pending patent applications, if granted, could extend patent protection to between 2031 and 2033.

Trade Secrets and Know-How

In addition to patents, we rely upon proprietary trade secrets and know-how and continuing technological innovation to develop and maintain our competitive position. We seek to protect our proprietary information, in part, using confidentiality and other terms in agreements with our commercial partners, collaboration partners, consultants and employees. Such agreements are designed to protect our proprietary information, and may also grant us ownership of technologies that are developed through a relationship with a third party, such as through invention assignment provisions. Agreements may expire and we could lose the benefit of confidentiality, or our agreements may be breached and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors.

To the extent that our commercial partners, collaboration partners, employees and consultants use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

In-Licenses

Dana-Farber Cancer Institute

Effective March 2006, we entered into a license agreement with the Dana-Farber Cancer Institute, or DFCI, under which we obtained an exclusive license to certain patent applications, patents and biological materials for all uses. The patent rights relate to inhibition of prolyl hydroxylation of the alpha subunit of hypoxia-inducible factor (HIF-alpha), and include granted U.S. and foreign patents due to expire in 2022, exclusive of possible patent term extension. The licensed patents relate to use of HIF-PH inhibitors such as roxadustat.

Under the DFCI agreement, we are obligated to pay DFCI for past and ongoing patent prosecution expenses for the licensed patents. We are also obligated to pay DFCI annual maintenance fees, development milestone payments of up to $425,000, sales milestone payments of up to $3 million, and a sub-single digit royalty on net sales by us or our affiliates or sublicensees of products that are covered by the licensed patents or incorporate the licensed biological materials. In addition, each sublicense we grant is subject to a one-time fixed amount payment to DFCI.

Unless earlier terminated, the agreement will continue in effect, on a country-by-country basis, until the expiration of all licensed patents in a country or, if there is no patent covering a licensed product incorporating the licensed biological materials, until 20 years after the effective date of the agreement. DFCI may terminate the agreement for our uncured material breach, if we cease to carry on our business and development activities with respect to all licensed products, if we fail to comply with our insurance obligations, or if we are convicted of a felony related to the manufacture, use, sale or importation of licensed products. We may terminate the agreement at any time on prior written notice to DFCI.

University of Miami

In May 1997, we entered into a license agreement with the University of Miami, or the University, amended in July 1999, under which we obtained an exclusive, worldwide license to certain patent applications and patents for

all uses. The current patent rights include U.S. and foreign patents that relate to biologically active fragments of connective tissue growth factor (CTGF), and corresponding nucleic acids, proteins, and antibodies, and are due to expire in 2019, exclusive of any patent term extension that may be available. The licensed patents relate to FG-3019 and related products.

Under the University agreement, we are obligated to pay for all ongoing patent prosecution expenses for the licensed patents. We are also obligated to pay an upfront licensing fee of $21,500, all of which has been paid, and development milestone payments of up to $450,000, of which $50,000 has been paid, as well as an additional milestone payment, in the low hundreds of thousands of dollars, for each new indication for which we obtain approval for a licensed product, and a single digit royalty, subject to certain reductions, on net sales of licensed products by us or our affiliates or sublicensees.

Unless earlier terminated, the agreement will continue in effect, on a country-by-country basis, until the expiration of all licensed patents in a country. The University may terminate the agreement for our uncured material breach or bankruptcy. We may terminate the agreement for the University's uncured material breach or at any time on prior written notice to the University.

Bristol-Myers Squibb Company (Medarex, Inc.)

Effective July 9, 1998 and as amended on June 30, 2001 and January 28, 2002, we entered into a research and commercialization agreement with Medarex, Inc. and its wholly-owned subsidiary GenPharm International, Inc. (now, collectively, part of Bristol-Myers Squibb Company, or Medarex) to develop fully human monoclonal antibodies for potential anti-fibrotic therapies. Under the agreement, Medarex was responsible for using its proprietary immunizable transgenic mice or HuMAb-Mouse technology during a specified research period, or the Research Period, to produce fully human antibodies against our proprietary antigen targets, including CTGF, for our exclusive use.

The agreement granted us an option to obtain an exclusive worldwide, royalty-bearing, commercial license to develop antibodies derived from Medarex's HuMAb-Mouse technology, for use in the development and commercialization of diagnostic and therapeutic products. In December 2002, we exercised that option with respect to twelve antibodies inclusive of the antibody from which FG-3019 is derived. We granted back to Medarex an exclusive, worldwide, royalty-free, perpetual, irrevocable license, with the right to sublicense, to certain inventions created during the parties' research collaboration, with such license limited to use by Medarex outside the scope of our licensed antibodies.

As a result of the exercise of our option to obtain the commercial license, Medarex is precluded from (i) knowingly using any technology involving immunizable transgenic mice containing unrearranged human immunoglobulin genes with any of our antigen targets that were the subject of the agreement, (ii) granting to a third party a commercial license that covers such antigen targets or those antibodies derived by Medarex during the Research Period, and (iii) using any antibodies derived by Medarex during the Research Period, except as permitted under the agreement for our benefit or to prosecute patent applications in accordance with the agreement.

Medarex retained ownership of the patent rights relating to certain mice, mice materials, antibodies and hybridoma cell lines used by Medarex in connection with its activities under the agreement, and Medarex also owns certain claims in patents covering inventions that arise during the Research Period, which claims are directed to (i) compositions of matter (e.g., an antibody) except formulations of antibodies for therapeutic or diagnostic use, or (ii) methods of production. We own the patent rights to any inventions that arise during the Research Period that relate to antigens, as well as claims in patents covering inventions directed to (a) methods of use of an antibody, or (b) formulations of antibodies for therapeutic or diagnostic use. Upon exercise of our option to obtain the commercial license, we obtained the sole right but not obligation to control prosecution of patents relating solely to the licensed antibodies or products. Medarex has back-up patent prosecution rights in the event we decline to further prosecute or maintain such patents.

In addition to research support payments by us to Medarex during the Research Period, and an upfront commercial license fee in the form of 181,819 shares of FibroGen Series D Convertible Preferred Stock paid upon exercise of our option, we committed development-related milestone payments of up to $11 million per therapeutic product containing a licensed antibody, and we have paid a $1 million development-related milestone, in the form of 133,333 shares of FibroGen Series G Convertible Preferred Stock, for FG-3019 to date. At our election, the remaining milestone payments may be paid in common stock of FibroGen, Inc., preferred stock of FibroGen, Inc., or cash.

With respect to our sales and sales by our affiliates, the agreement also requires us to pay Medarex low single-digit royalties for licensed therapeutic products and low double-digit royalties, plus certain capped sales-based bonus royalties, for licensed diagnostic products. With respect to sales of licensed products by a sublicensee, we may elect to pay the same foregoing royalties or a high double-digit percentage of all payments received by us from such sublicensee. We are also required to reimburse Medarex any pass-through royalties, if any, payable under Medarex's upstream license agreements with Medical Research Council and DNX. Royalties payable by us under the agreement are on a licensed product-by-licensed product and country-by-country basis and subject to reductions in specified circumstances, and royalties are payable for a period until either expiration of patents covering the applicable licensed product or a specified number of years following the first commercial sale of such product in the applicable country.

Unless earlier terminated, the agreement will continue in effect for as long as there are royalty payment obligations by us or our sublicensees. Either party may terminate the agreement for certain material breaches by the other party, or for bankruptcy, insolvency or similar circumstances. In addition, we may also terminate the agreement for convenience upon written notice.

Third Party Filings

Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing products. Because patent applications can take many years to issue, there may be currently pending applications, unknown to us, which may later result in granted patents that use of our product candidates or proprietary technologies may infringe.

If a third party claims that we infringe its intellectual property rights, we may face a number of issues, including but not limited to, litigation expenses, substantial damages, attorney fees, injunction, royalty payments, cross-licensing of our patents, redesign of our products, or processes and related fees and costs

We may be exposed to, or threatened with, future litigation by third parties having patent or other intellectual property rights alleging that our products, product candidates, and/or proprietary technologies infringe their intellectual property rights. If one of these patents were to be found to cover our products, product candidates, proprietary technologies, or their uses, we could be required to pay damages and could be restricted from commercializing our products, product candidates or using our proprietary technologies unless we obtain a license to the patent. A license may not be available to us on acceptable terms, if at all. In addition, during litigation, the patent holder might obtain a preliminary injunction or other equitable right, which could prohibit us from making, using or selling our products, technologies, or methods.

EMPLOYEES

As of June 30, 2014, we had 317 full-time employees, 118 of whom held Ph.D. or M.D. degrees, 244 of whom were engaged in research and development and 73 of whom were engaged in business development, finance, information systems, facilities, human resources or administrative support. None of our U.S. employees are represented by a labor union. The employees of FibroGen China are represented by a labor union under the China Labor Union Law. None of our employees have entered into a collective agreement with us. We consider our employee relations to be good.

FACILITIES

Our corporate and research and development operations are located in San Francisco, California, where we lease approximately 234,000 square feet of office and laboratory space with approximately 35,000 square feet subleased. The lease for our San Francisco headquarters expires in 2023. In addition, we have a leased facility located in South San Francisco, California, which was used as our corporate headquarters prior to moving to our current facility in 2008. The South San Francisco facility is approximately 106,000 square feet and is fully subleased. We also lease approximately 67,000 square feet of office and manufacturing space in Beijing, China. Our lease in China expires in 2021. We believe our facilities are adequate for our current needs and that suitable additional or substitute space would be available if needed.

LEGAL PROCEEDINGS

We are not currently a party to any material legal proceedings.

MANAGEMENT

Executive Officers and Directors

The following table sets forth certain information with respect to our executive officers and directors as of June 30, 2014:

Name	Age	Position
Thomas B. Neff	60	Chairman, Founder, Chief Executive Officer, Director
Pat Cotroneo	50	Vice President, Finance, and Chief Financial Officer
Frank H. Valone, M.D.	65	Chief Medical Officer
K. Peony Yu, M.D.	52	Vice President, Clinical Development
Thomas F. Kearns	77	Director
Kalevi Kurkijärvi, Ph.D.	62	Director
Miguel Madero	65	Director
Rory B. Riggs	61	Director
Roberto Pedro Rosenkranz, Ph.D., M.B.A.	64	Director
Jorma Routti, Ph.D.	75	Director
James A. Schoeneck	56	Director
Julian N. Stern	89	Director
Toshinari Tamura, Ph.D.	70	Director

(1) Member of the audit committee.
(2) Member of the compensation committee.
(3) Member of the nominating and corporate governance committee.

Thomas B. Neff founded FibroGen, Inc. and has served as our Chairman and Chief Executive Officer and as a member of our Board of Directors since 1993. He serves as a Director of FibroGen China Anemia Holdings, Ltd and serves as General Manager of Beijing FibroGen Medical Technology Co., Ltd. Mr. Neff received a B.A. from Claremont McKenna College with concentrations in Molecular Biology and Government. Subsequently he studied Economics and Finance at the University of the Chicago Graduate School of Business, and was a Fellow of the Thomas J Watson Foundation. He was employed as an investment banker first at Paine Webber Incorporated (1983-1988) and then at Lazard Freres & Co. through 1992. In 1991, he was among 40 selected as future financial industry leaders in a poll of 600 financial leaders by Institutional Investor. Mr. Neff was founder of Pharmaceutical Partners I and Pharmaceutical Partners II, the pioneer entities investing in drug royalties and predecessors to what is now Royalty Pharma. He left the group in 1998 to concentrate on FibroGen but remained as Managing General Partner of PP1 and PPII until all assets were distributed to partners through 2009. He was also founder and General Partner of Three Arch Bay Health Science Fund, a private investment fund focused on emerging biomedical companies, from 1993 to completion in 2011. He received an honorary doctor of medical sciences from Oulu University, Oulu, Finland in 2009. He has been a director of Kolltan Pharmaceuticals, a spin-out from Yale University, since 2009. Mr. Neff is a named inventor on over 100 of our patents and patent applications. The Board believes that Mr. Neff, who has extensive experience and tenure as our founder and Chief Executive Officer, brings historic knowledge, extensive insights into the strategic value of our technologies and continuity to our board of directors. In addition, the Board believes that his financial, corporate structuring and transactional expertise and experience in the life sciences sector provide him with financial, operational, scientific, intellectual property, risk management and industry expertise that is important to our Board.

Pat Cotroneo has served as our Chief Financial Officer since 2008. Mr. Cotroneo joined us in 2000 as Controller, was promoted to Vice President of Finance, and subsequently promoted to Chief Financial Officer in 2008. Prior to joining us, Mr. Cotroneo was at SyStemix, Inc. where he assumed Controller responsibilities for both SyStemix and Genetic Therapy, Inc. (Novartis subsidiaries) from 1993 to 2000. Prior to SyStemix, he was employed by Deloitte & Touche from 1987 to 1993 in various positions. Mr. Cotroneo received a B.S. with honors from the University of San Francisco and was selected a Louise M. Davies scholar.

Frank H. Valone, M.D., has served as our Chief Medical Officer since December 2008. Dr. Valone has more than 14 years of biotechnology industry experience in the leadership of clinical and preclinical development, medical and regulatory affairs and quality assurance and control. He served as Senior Vice President of Medical Affairs of Bayhill Therapeutics Inc., a biopharmaceutical company, from November 2003 to November 2008. He was responsible for clinical, regulatory, quality and nonclinical toxicology/safety aspects related to the development of Bayhill's investigational therapies. Dr. Valone served as Executive Vice President of Clinical Development and Regulatory Affairs of Titan Pharmaceuticals Inc., a biopharmaceutical company, from March 2002 to October 2003. He was responsible for the clinical development of three antibody vaccines, as well as several small molecule and cell therapy development programs for CNS diseases and cancer. From 1994 to 2002, Dr. Valone was the Chief Medical Officer and Senior Vice President of Clinical and Regulatory Affairs of Dendreon Corporation, a biotechnology company. From 1991 to 1996, he served in various positions of The Dartmouth-Hitchcock Medical Center as Adjunct Professor of Medicine and Norris Cotton Cancer Center including Professor of Medicine. From 1982 to 1991, Dr. Valone held various positions at The University of California, San Francisco, including Associate and Chief of Hematology and Oncology at the San Francisco VA Medical Center. From 1995 to 2001, he was Clinical Associate Professor, Department of Medicine, Stanford University. Dr. Valone received a B.A. from Hamilton College and an M.D. from Harvard Medical School. His Post-Doctoral training was at the Brigham and Womens Hospital in Internal Medicine/Allergy and Rheumatology and at Dana-Farber Cancer Institute in Medical Oncology in 1980.

K. Peony Yu, M.D, has served as our Vice President of Clinical Development since December 2008. Dr. Yu brings to us expertise in design and execution of all phases of clinical development programs, including clinical and regulatory strategy, interactions with regulatory authorities in the United States and EU, as well as experience with successful leadership of clinical teams. Prior to joining us, Dr. Yu was Vice President of Clinical Research at Anesiva, Inc., where she was responsible for management of clinical research, statistics/data management, clinical operations, and medical affairs/medical information for all clinical programs, including the late-stage clinical development and approval of Zingo, a drug-device combination for pain management. Prior to Anesiva, Dr. Yu was Director, Clinical Development, at ALZA Corporation (a subsidiary of Johnson & Johnson) where she was Global Clinical Lead for IONSYS, a drug-device combination for post-operative pain, and led a successful New Drug Application resubmission with the U.S. Food & Drug Administration and multiple interactions with European regulatory authorities resulting in marketing approval in 25 European countries. Prior to ALZA, Dr. Yu held previous posts at Pain Therapeutics, Inc., and at Elan Pharmaceuticals. Dr. Yu received a B.S. in Chemical Engineering and an M.D. both from the University of California, Davis, followed by residency training at Stanford Medical School.

Non-Employee Directors

Thomas F. Kearns Jr. has served on our board of directors since November 1996. Mr. Kearns is a retired Partner of The Bear Stearns Companies Inc., an investment banking firm, where he was an investment banker in the healthcare area from 1974 until 1987. Prior to his career at Bear Stearns, Mr. Kearns worked for Merrill Lynch, an investment banking firm, from January 1959 until August 1969. Mr. Kearns is Chairman of the National Advisory Board of Carolina Performing Arts at the University of North Carolina. In 2013, he joined the board of directors of Franklin Street Partners. Mr. Kearns was a Trustee of the University of North Carolina Foundation and Endowment Fund for 16 years and served on the board of directors of Biomet Inc. from January 1980 until May 2005. He received his B.A. in History from the University of North Carolina. We believe that Mr. Kearns is qualified to serve on our board of directors due to his financial expertise stemming from a career in investment banking with a focus on the healthcare industry.

Kalevi Kurkijärvi, Ph.D. has served on our board of directors since November 1996. He has also served on the board of directors of our subsidiary, FibroGen Europe Oy, since November 1997. Dr. Kurkijärvi has been the Chairman and Founding Partner of Innomedica Oy, a business development company specialized in licensing, distributor search and strategic planning for companies in the pharmaceutical or medtech industry, since March 2010, and from August 1997 to February 2010 he acted as Director having financial matters as his main responsibility. He was also the Founding Partner and former Chief Executive Officer of Bio Fund Management

Ltd, a Finnish-Danish venture capital company, from 1997 until 2010. He has also been Chairman and Chief Executive Officer of his family's import-export trading company, Biketex Ltd, since October 1993. Dr. Kurkijärvi has over twenty years experience in international life science business and over ten years in corporate finance. He currently serves on the boards of directors of Innomedica Oy (chair), Biketex Ltd (chair) and Hytest Oy (chair). He previously served on the boards of directors at other biotechnology companies such as of Paratek Pharmaceuticals Inc., Ark Therapeutics Plc, BioTie Therapies Plc (chair), Stick Tech Oy (chair), Hormos Medical Oy (chair), Map Medical Oy (chair), Bio Orbit Oy (chair) and Juvantia Pharma Oy, among others. Prior to founding Bio Fund, Dr. Kurkijärvi worked as Executive Director of the venture capital group at the Finnish National Fund of Research and Development (SITRA). He has also served as Executive Vice President at Wallac Oy, and as President and Chief Executive Officer of Pharmacia Diagnostics Production Oy. Dr. Kurkijärvi received a Ph.D. in Biochemistry and Molecular Biology from the University of Turku in 1992, where he also worked for several years in research and teaching. We believe Dr. Kurkijärvi is qualified to serve on our board of directors because of his scientific and technical background, international business and management experience, and expertise in the life sciences and biotechnology industries as evidenced by the various leadership roles and positions he has held in such industries.

Miguel Madero has served on our board of directors since January 1995. Mr. Madero is the Managing Director at Fomento y Direccion, an investment bank located in Mexico City that he co-founded in 1985. Mr. Madero currently serves on the boards of directors of Provo International, Financiera Convergencia, S.A. de C.V, and MEB Global, S.A. de C.V. and Grupo REMABLO, S.A. DE C.V. He earned a B.A. in Industrial Engineering from the Universidad Iberoamericana in Mexico City and an M.B.A. from the University of Texas at Austin. We believe that Mr. Madero is qualified to serve on our board of directors due to his financial expertise and management experience.

Rory B. Riggs has served on our board of directors since October 1993. Since April 2010, Mr. Riggs has served as founder and Chief Executive Officer of Syntax Analytics, LLC, a development stage venture focused on creating a new information technology platform for large-scale portfolio management. Since June 2006, Mr. Riggs has also served as Managing Member of New Ventures, a venture fund focused on biotechnology and healthcare. Mr. Riggs has been the Managing Member of Balfour LLC, an investment management company focused on biotechnology and healthcare, since January 2001. Mr. Riggs served as the President of Biomatrix, Inc., a biomedical company, from 1996 until 2000. In addition, he was the Chief Financial Officer of Biomatrix from 1996 to 1998. He serves on the boards of directors of Royalty Pharma (Chair), Cibus Global Ltd., Intra-Cellular Therapies, Inc., eReceivables, LLC (Chair), and GeneNews, Ltd. From 1991 to 1995, he was Chief Executive Officer of RF&P Corporation, an investment company owned by the Virginia Retirement System. He was also Managing Director of PaineWebber and Company, a stock brokerage and asset management firm, in the mergers and acquisitions field. Mr. Riggs holds a B.A. from Middlebury College, Vermont and an M.B.A. from Columbia University. We believe that Mr. Riggs is qualified to serve on our board of directors due to his industry experience, management experience and public financial expertise.

Roberto Pedro Rosenkranz, Ph.D., MBA, has served on our board of directors since April 2010. Dr. Rosenkranz was Chairman and Chief Executive Officer of ROXRO Pharma, Inc., a pharmaceutical company, from October 1999 to December 2010. He is also currently executive chairman of Altos Therapeutics LLC, a pharmaceutical company, and has been serving in that capacity since 2012. Dr. Rosenkranz is also on the board of directors of Pherin Pharmaceuticals, Inc., a pharmaceutical company. Prior to assuming his leadership role at ROXRO, Dr. Rosenkranz was President and Chief Operating Officer of Scios, Inc., a biopharmaceutical company, from 1996 to 1997. From 1995 to 1996, he occupied multiple research, development and marketing positions at Roche Laboratories, a pharmaceutical company. From 1982 to 1996, Dr. Rosenkranz occupied multiple research, development and marketing positions at Syntex Laboratories, Inc., a pharmaceutical company. Dr. Rosenkranz previously sat on the boards of Medcenter Solutions do Brasil SA and Gemini Genomics Limited (also referred to as Gemini Genomics Plc). Dr. Rosenkranz received a B.A. in psychology from Stanford University, a Ph.D. in pharmacology and toxicology from the University of California, Davis, and an M.B.A from Santa Clara University. We believe that Dr. Rosenkranz is qualified to serve on our board of directors because of his scientific and technical background, as well as his experience in various leadership and management roles in the pharmaceutical industry.

Jorma Routti, Ph.D. has served on our board of directors since March 1994. He is also the Chairman of the board of directors of our subsidiary, FibroGen Europe Oy, and has served in that capacity since 2001. Since 2001, Dr. Routti has served as Executive Chairman of CIM Creative Industries Management Ltd., a venture capital firm located in Helsinki, Finland, where he works with investments and research in intellectual property oriented companies as well as with Knowledge Economy developments in several countries. Dr. Routti has served from 1995 to 2000 as Director General of Research of the European Commission, the executive body of the European Union. From 1985 to 1995, Dr. Routti served as President of SITRA, the Finnish Innovation Fund. Dr. Routti served as Dean and Professor at the Helsinki University of Technology from 1972 to 1985 and as a Scientist at CERN in Geneva from 1967 to 1972 and at the University of California, Berkeley. He has served on the board of directors (including as chairman) of several major corporations, high technology companies and international research establishments. Honors received by Dr. Routti include Fulbright and Eisenhower Exchange Fellowships and decorations in Finland and France. He has received a Ph.D. from the University of California, Berkeley in Physics, as well as a MSc in Technical Physics and a DrTechn h.c. in Technology from the Helsinki University of Technology. Dr. Routti was awarded with an honorary doctorate in philosophy from the University of Jyvaskyla, Finland. We believe that Dr. Routti is qualified to serve on our board of directors because of his scientific and technical background, vast experience with research and development, and leadership roles he has assumed serving on the boards of technology and research organizations.

James A. Schoeneck has served on our board of directors since April 2010. He joined Depomed, Inc., a pharmaceutical company, as President and Chief Executive Officer in April 2011 and has served as a director of Depomed, Inc. since December 2007. From September 2005 until he joined Depomed, Inc., Mr. Schoeneck was Chief Executive Officer of BrainCells Inc., a privately-held biopharmaceutical company. Prior to joining BrainCells Inc., he served as Chief Executive Officer of ActivX BioSciences, a development stage biotechnology company. Mr. Schoeneck's pharmaceutical experience also includes three years as President and Chief Executive Officer of Prometheus Laboratories Inc., a pharmaceutical and diagnostics company. Prior to joining Prometheus, Mr. Schoeneck spent three years as vice president and General Manager, Immunology, at Centocor, Inc. (now Janssen Biotech, Inc.), a biotechnology company, where he led the development of Centocor's commercial capabilities. His group launched Remicade®, which has become one of the world's largest pharmaceutical products. Earlier in his career, he spent 13 years at Rhone-Poulenc Rorer, Inc. (now Sanofi), a pharmaceutical company, serving in various sales and marketing positions of increasing responsibility. Mr. Schoeneck holds a B.S. degree in education from Jacksonville State University. We believe that Mr. Schoeneck is qualified to serve on our board of directors because of his extensive management experience in biotechnology.

Julian N. Stern has served as our corporate Secretary since 1993 and has served on our board of directors since November 1996. He is of counsel to the law firm of Goodwin Procter LLP, which he joined in 2008. Prior to joining Goodwin Procter in 2008, Mr. Stern was a partner at and counsel to the law firm of Heller Ehrman White & McAuliffe LLP. For forty six years, Mr. Stern has worked with healthcare-related and technology-related companies with a focus on corporate, financing and intellectual property law. Mr. Stern was the incorporator of ALZA Corporation, a developer and manufacturer of drug delivery based products, and served on its board of directors and as its corporate secretary until it was acquired by Johnson & Johnson in 2001. He also incorporated Affymax, N.V., a drug discovery company, and served as its secretary and director from inception until its acquisition by Glaxo P.L.C. in 1995. Mr. Stern incorporated Cetus Corporation, a biotechnology company, and served as its corporate secretary and as director until its acquisition by Chiron in 1991. Mr. Stern was a director and corporate secretary of DepoMed, Inc., a specialty pharmaceutical company from 2005 to 2013, and also serves as chairman and director of Pherin Pharmaceuticals, Inc., a privately held drug development company. He served as founder, corporate secretary and director of ROXRO Pharma, Inc., a drug development company, from 2001 until its sale in 2011 to Luitpold, a subsidiary of Dai Ichi. Mr. Stern is also Chairman and President of the Ronald and Ann Williams Charitable Foundation and a trustee of the Peter and Vernice Gasser Charitable Foundation. Mr. Stern received a B.S. from New York University in accounting and economics, and an LL.B. from Yale Law School. We believe Mr. Stern is qualified to serve on our board of directors due to his expertise in advising clients on corporate, securities, finance and technology law matters, as well as experience serving in leadership roles at various healthcare and technology companies.

Toshinari Tamura, Ph.D. has served on our board of directors since September 2008. He previously worked at Yamanouchi Pharmaceutical Co., Ltd., starting in 1972, and ultimately became Executive Corporate Officer and Representative Director. Following the merger to form Astellas Pharma, Inc., he was named Executive Vice President and Chief Science Officer of Astellas Pharma, Inc. and served in those roles and on the board of directors of Astellas from April 2005 until June 2008. Dr. Tamura was in charge of research and development of our PHI anemia program in 2004 and has remained familiar with the science of the program since that time. Dr. Tamura served as director of the board of KinoPharma, Inc., a drug development company, from September 2009 to March 2010. Dr. Tamura served as director of the board of IMMD Inc., a drug development company, from October 2010 to November 2012. Dr. Tamura is currently advisor to Shin Nippon Biomedical Laboratories, Ltd., a drug development company (from September 2008), Innovation Network Corporation of Japan, a government-sponsored private equity firm (from February 2010), and Japan Science and Technology Agency, a government sponsored organization promoting science and technology (from September 2012). Dr. Tamura holds a Ph.D. and Master degree in organic chemistry from the University of Tokyo, Graduate School of Pharmaceutical Sciences. Dr. Tamura also holds a Bachelor degree from Chiba University, Department of Pharmaceutical Sciences in pharmaceutical science. We believe that Dr. Tamura is qualified to serve on our board of directors because of his extensive management experience in the biotechnology and pharmaceutical industries in Japan, as well as his technical background in organic chemistry and pharmaceutical sciences.

Board Composition

Our business and affairs are managed under the direction of our board of directors, which currently consists of ten members. The members of our board of directors were elected in compliance with the provisions of our certificate of incorporation, as amended.

Our board of directors will consist of ten members upon completion of this offering. In accordance with our amended and restated certificate of incorporation to be filed in connection with this offering, immediately after this offering, our board of directors will be divided into three classes with staggered three-year terms. At each annual general meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. Our directors will be divided among the three classes as follows:

- The Class I directors will be , , and , and their terms will expire at the annual meeting of stockholders to be held in 2015;
- The Class II directors will be , and , and their terms will expire at the annual meeting of stockholders to be held in 2016; and
- The Class III directors will be , and , and their terms will expire at the annual meeting of stockholders to be held in 2017.

We expect that any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. The division of our board of directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change in control.

Director Independence

Under the listing requirements and rules of The NASDAQ Stock Market, independent directors must comprise a majority of our board of directors as a listed company within a specified period of the completion of this offering. In addition, the rules of The NASDAQ Stock Market require that, subject to specified exceptions, each member of a listed company's audit, compensation, and nominating and corporate governance committees must be independent. Audit committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Under the rules of The NASDAQ Stock Market, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

In order to be considered to be independent for purposes of Rule 10A-3 of the Exchange Act, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee: (1) accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries; or (2) be an affiliated person of the listed company or any of its subsidiaries.

Our board of directors has undertaken a review of its composition, the composition of its committees and the independence of each director. Based upon information requested from and provided by each director concerning his background, employment and affiliations, including family relationships, our board of directors has determined that , representing a majority of our directors, do not have any relationships that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the applicable rules and regulations of the SEC and the listing requirements and The NASDAQ Stock Market. Our board of directors also determined that , who comprise our audit committee, , who comprise our compensation committee and , who comprise our nominating and corporate governance committee, satisfy the independence standards for those committees established by applicable rules and regulations of the SEC and the listing requirements and The NASDAQ Stock Market. In making this determination, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director.

Board Committees

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee. Our board of directors may establish other committees to facilitate the management of our business. The composition and functions of each committee are described below. Members serve on these committees until their resignation or until otherwise determined by our board of directors.

Audit Committee

Our audit committee currently consists of . Our board of directors has determined that Messrs. and are independent under The NASDAQ Stock Market listing standards and Rule 10A-3(b)(1) of the Exchange Act. The chair of our audit committee is , whom our board of directors has determined is an "audit committee financial expert" within the meaning of the SEC regulations. Our board of directors has also determined that each member of our audit committee can read and understand fundamental financial statements in accordance with applicable requirements. In arriving at these determinations, the board of directors has examined each audit committee member's scope of experience and the nature of their employment in the corporate finance sector. The functions of this committee include:

- selecting a qualified firm to serve as the independent registered public accounting firm to audit our financial statements and approving fees payable to such firm;
- helping to ensure the independence and performance of the independent registered public accounting firm;
- discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and the independent accountants, our interim and year-end operating results;
- developing procedures for employees to submit concerns anonymously about questionable accounting or audit matters;
- reviewing our policies on risk assessment and risk management;
- reviewing related party transactions;

- obtaining and reviewing a report by the independent registered public accounting firm at least annually, that describes our internal quality-control procedures, any material issues with such procedures, and any steps taken to deal with such issues when required by applicable law; and
- approving (or, as permitted, pre-approving) all audit and all permissible non-audit services, other than de minimis non-audit services, to be performed by the independent registered public accounting firm.

Compensation Committee

Our compensation committee consists of . Our board of directors has determined that are independent under The NASDAQ Stock Market listing standards, each is a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act and each is an "outside director" as that term is defined in Section 162(m) of the Internal Revenue Code of 1986, as amended, or Section 162(m). The chair of our compensation committee is . The functions of this committee include:

- reviewing and approving, or recommending that our board of directors approve, the compensation of our executive officers;
- reviewing and recommending to our board of directors the compensation of our directors;
- reviewing and approving, or recommending that our board of directors approve, the terms of compensatory arrangements with our executive officers;
- administering our stock and equity incentive plans;
- selecting independent compensation consultants, approving fees payable to them, and assessing conflict of interest of compensation consultants;
- reviewing and approving, or recommending that our board of directors approve, incentive compensation and equity plans; and
- reviewing and establishing general policies relating to compensation and benefits of our employees and reviewing our overall compensation strategy.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee consists of . Our board of directors has determined that are independent under the current rules and regulations of the SEC and The NASDAQ Stock Market. The chair of our nominating and corporate governance committee is . The functions of this committee include:

- identifying, evaluating and selecting, or recommending that our board of directors approve, nominees for election to our board of directors and its committees;
- evaluating the performance of our board of directors and of individual directors;
- considering and making recommendations to our board of directors regarding the composition of our board of directors and its committees;
- reviewing developments in corporate governance practices;
- evaluating the adequacy of our corporate governance practices and reporting;
- reviewing management succession plans;
- developing and making recommendations to our board of directors regarding corporate governance guidelines and matters; and
- overseeing an annual evaluation of the board of directors' performance.

Code of Business Conduct and Ethics

We will adopt a Code of Business Conduct and Ethics that applies to all of our employees, officers, including our principal executive officer, principal financial officer and principal accounting officer or controller, or persons performing similar functions and agents and representatives, including directors and consultants. The full text of our Code of Business Conduct and Ethics will be posted on our website at www.FibroGen.com. We intend to disclose future amendments to certain provisions of our Code of Business Conduct and Ethics, or waivers of such provisions applicable to any principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, and our directors, on our website identified above.

Compensation Committee Interlocks and Insider Participation

During 2013, our compensation committee consisted of Messrs. Kearns, Madero and Stern and Drs. Rosenkranz and Routti. None of the members of the compensation committee is currently or has been at any time one of our employees. None of our executive officers currently serves, or has served during the last year, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of our board of directors or compensation committee.

Non-Employee Director Compensation

Cash Compensation

No cash compensation was paid to our non-employee directors in 2013. Although we do not have a written policy, we generally reimburse our directors for their reasonable out-of-pocket expenses incurred in attending board of directors and committee meetings.

Equity Incentive Compensation

The following table sets forth information regarding non-cash compensation earned by or paid to our non-employee directors during 2013:

Name (2)	Option Awards (1)	Total
Thomas F. Kearns	$175,950	$175,950
Kalevi Kurkijärvi.	117,300	117,300
Miguel Madero	117,300	117,300
Rory B. Riggs	117,300	117,300
Roberto Pedro Rosenkranz	175,950	175,950
Jorma Routti	117,300	117,300
James A. Schoeneck	175,950	175,950
Julian N. Stern	175,950	175,950
Toshinari Tamura	117,300	117,300

(1) The amounts reported do not reflect the amounts actually received by our non-employee directors. Instead, these amounts reflect the aggregate grant date fair market value of each stock option granted to our non-employee directors during the fiscal year ended December 31, 2013, as computed in accordance with FASB ASC 718. Assumptions used in the calculation of these amounts are included in Note 9 to our financial statements included in this prospectus.

(2) The table below lists the aggregate number of shares and additional information with respect to outstanding option awards held by each of our non-employee directors as of December 31, 2013.

The following table lists the aggregate number of shares with respect to the outstanding option awards held by each of our non-employee directors as of December 31, 2013:

Name	Number of shares subject to outstanding options as of December 31, 2013
Thomas F. Kearns	292,500
Kalevi Kurkijärvi	285,000
Miguel Madero	195,000
Rory B. Riggs	257,000
Roberto Pedro Rosenkranz	62,500
Jorma Routti	225,000
James A. Schoeneck	150,000
Julien N. Stern	292,500
Toshinari Tamura	195,000

Future Director Compensation

Following the closing of this offering, we may implement a formal policy pursuant to which our non-employee directors will be eligible to receive compensation for service on our board of directors and committees of our board of directors.

EXECUTIVE COMPENSATION

Our named executive officers, or NEOs, for 2013, which consist of our principal executive officer and the next two most highly compensated executive officers, are:

- Thomas B. Neff, Chief Executive Officer;
- Frank H. Valone, Chief Medical Officer; and
- K. Peony Yu, Vice President, Clinical Development.

2013 Summary Compensation Table

The following table sets forth all of the compensation awarded to, earned by or paid to our NEOs during 2013.

Name and principal position	Year	Salary ($)	Bonus ($)(1)	Option Awards ($)	Non-Equity Incentive Plan Compensation ($)(2)	All Other Compensation ($)(3)	Total ($)
Thomas B. Neff *Chief Executive Officer*	2013	709,139	600,000	—	482,750	8,994	1,800,883
Frank H. Valone *Chief Medical Officer*	2013	424,360	50,000	—	192,816	—	667,176
K. Peony Yu *Vice President, Clinical Development*	2013	394,057	173,850	—	180,275	—	748,182

(1) Amount represents an one-time discretionary cash bonus earned in 2013.
(2) Amount represents each NEO's annual performance-based cash bonuses earned for 2013 performance.
(3) Amount represents annual health club membership fees and an associated tax gross-up in respect of such fees.

Outstanding Equity Awards at December 31, 2013

The following table provides information regarding outstanding equity awards held by each of our NEOs as of December 31, 2013.

	Option Awards				
Name	Vesting Commencement Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable(1)	Option Exercise Price ($)	Option Expiration Date
Thomas B. Neff	3/1/2007(1)	775,000	—	1.61	3/1/2017
	3/1/2007(2)	775,000	—	1.61	8/20/2017
	3/1/2008(3)	1,000,000	—	0.94	3/12/2018
	3/1/2009(3)	1,250,000	—	1.44	3/11/2019
	3/1/2010(4)	742,500	247,500	1.16	6/9/2020
	3/1/2011(4)	495,000	405,000	1.40	6/7/2021
	3/1/2012(4)	196,875	253,125	2.38	6/27/2022
Frank H. Valone	12/1/2008(3)	140,000	—	0.94	12/3/2018
	3/1/2009(4)	47,500	2,500	1.57	8/11/2019
	3/1/2010(4)	75,000	25,000	1.16	6/9/2020
	3/1/2011(4)	55,000	45,000	1.40	6/7/2021
	3/1/2012(4)	14,871	27,625	2.38	6/27/2022
K. Peony Yu	3/1/2010(4)	75,000	25,000	1.16	6/9/2020
	12/3/2008(3)	175,000	—	1.16	6/24/2020
	3/1/2011(4)	55,000	45,000	1.40	6/7/2021
	3/1/2012(4)	15,750	29,250	2.38	6/27/2022

(1) All shares subject to the option were vested on the vesting commencement date.
(2) All shares subject to the option vest on the third anniversary of the vesting commencement date.
(3) Twenty-five percent of the shares subject to the option vests on the first anniversary of the vesting commencement date, and the remainder vests in equal amounts quarterly thereafter for the following three years.
(4) Twenty percent of the shares subject to each option vests on the first anniversary of the vesting commencement date and 80% of the shares subject to each option vests in 16 substantially equal quarterly installments thereafter over for the following four years.

Offer Letter Agreements

Frank H. Valone

We entered into an offer letter agreement with Dr. Valone, our Chief Medical Officer, in November 2008. The offer letter has no specific term and constitutes an at-will employment arrangement. Dr. Valone's annual base salary as of December 31, 2013 was $428,480. In connection with his employment, Dr. Valone was granted an initial option to purchase 200,000 shares of our common stock, pursuant to the terms of our Amended and Restated 2005 Stock Plan (described below). Dr. Valone has exercised part of the option to purchase 60,000 shares of our common stock and the remainder of the option is fully vested and exercisable.

K. Peony Yu

We entered into an offer letter agreement with Dr. Yu, our Vice President, Clinical Development, in November 2008. The offer letter has no specific term and constitutes an at-will employment arrangement. Dr. Yu's annual base salary as of December 31, 2013 was $400,610. In connection with her employment, Dr. Yu was granted an initial option to purchase 175,000 shares of our common stock, pursuant to the terms of our Amended and Restated 2005 Stock Plan. The option is fully vested and exercisable.

Potential Payments and Acceleration of Equity upon Termination or in Connection with a Change in Control

The section below describes the payments and benefits that we would have made to our NEOs in connection with certain terminations of employment or certain corporate transactions like a change in control, if such events had occurred on December 31, 2013.

The form of option agreement under our Amended and Restated 2005 Stock Plan, or the 2005 Plan, provides that in the event an option holder is terminated by us without cause (as defined below) following a change in control (as defined below) or if the option holder incurs a constructive termination (as defined below) within 12 months following a change in control, any outstanding unvested options will accelerate in full as of the date of any such termination. Accordingly, if any of our named executive officers incurred a qualifying termination of employment following a change in control on December 31, 2013, all outstanding unvested options granted to them under our 2005 Plan would accelerate in full as of December 31, 2013, and such options would remain exercisable for the applicable post-termination exercise period set forth in their option grant documents.

For purposes of the standard form of option agreement under the 2005 Plan, "cause" generally means (1) a commission of a felony related to us or our business or any crime involving fraud or moral turpitude; (2) the attempted commission of, or participation in, a fraud against us; (3) the unauthorized use or disclosure of our confidential information or trade secrets; or (4) the participant's willful failure to substantially perform his or her duties and responsibilities owed to us. For purposes of the standard form of option agreement under the 2005 Plan, "constructive termination" generally means (1) a substantial reduction in the participant's duties or responsibilities in effect immediately prior to the effective time of a change in control; (2) a material reduction in a participant's annual base salary as in effect on the closing date of the change in control or as increased thereafter; (3) any failure by us to continue in effect any benefit plan or program in which the participant was

participating immediately prior to the effective time of a change in control or the taking of any action by us that would adversely affect a participant's participation in or reduce benefits under any such plans or programs (provided, that a constructive termination will not be deemed to have occurred if we provide for the participation in benefit plans and programs that, taken as a whole, are comparable to those that were provided immediately prior to the change in control); (4) a relocation of the participant's business office to a location more than 50 miles from the location at which the participant performed his or her duties as of the effective time of the change in control; or (5) a material breach by us of any provision of any material agreement between the participant and us concerning the terms and conditions of the participant's employment.

Equity Incentive Plans

The principal features of our equity incentive plans are summarized below. These summaries are qualified in their entirety by reference to the actual text of the plans, which are filed as exhibits to the registration statement of which this prospectus is a part.

2014 Equity Incentive Plan

Our board of directors adopted, and we expect that our stockholders will approve, our 2014 Equity Incentive Plan, or 2014 Plan, prior to this offering. The 2014 Plan will become effective on the date of the underwriting agreement between us and the underwriters for this offering, or the IPO Date. The 2014 Plan will be the successor to our Amended and Restated 2005 Stock Plan, or the 2005 Plan, which is described below. Once the 2014 Plan becomes effective, no further grants will be made under the 2005 Plan.

Stock Awards. The 2014 Plan provides for the grant of incentive stock options, or ISOs, to our employees and for the grant of nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance-based stock awards, performance-based cash awards and other stock awards to our employees, directors and consultants.

Authorized Shares. Initially, the aggregate number of shares of our common stock that may be issued pursuant to stock awards under the 2014 Plan after the IPO Date will be 19,008,777 (which shares are as of September 9, 2014 and are currently reserved for future grant under our 2005 Plan and will cease to be reserved under our 2005 Plan immediately prior to the time our 2014 Plan becomes effective) plus any of the 32,432,460 shares subject to outstanding stock options or other stock awards that would have otherwise returned to our 2005 Plan (such as upon the expiration or termination of a stock option under such plan prior to its exercise). Additionally, the number of shares of our common stock reserved for issuance under our 2014 Plan will automatically increase on January 1 of each year, beginning on January 1, 2016 and ending on and including January 1, 2024, by 4.0% of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors. The maximum number of shares that may be issued upon the exercise of ISOs under our 2014 Plan is 60,000,000.

Shares issued under our 2014 Plan include authorized but unissued or reacquired shares of our common stock. Shares subject to stock awards granted under our 2014 Plan that expire or terminate without being exercised in full, or that are paid out in cash rather than in shares, do not reduce the number of shares available for issuance under our 2014 Plan. Additionally, shares issued pursuant to stock awards under our 2014 Plan that we repurchase or that are forfeited, as well as shares used to pay the exercise price of a stock award or to satisfy the tax withholding obligations related to a stock award, become available for future grant under our 2014 Plan.

Plan Administration. Our board of directors, or a duly authorized committee of our board of directors, will administer our 2014 Plan. Our board of directors may also delegate to one or more of our officers the authority to (i) designate employees (other than officers) to receive specified stock awards, and (ii) determine the number of shares of our common stock to be subject to such stock awards. Subject to the terms of our 2014 Plan, the board of directors has the authority to determine the terms of awards, including recipients, the exercise, purchase or strike price of stock awards, if any, the number of shares subject to each stock award, the fair market value of a

share of our common stock, the vesting schedule applicable to the awards, together with any vesting acceleration, and the form of consideration, if any, payable upon exercise or settlement of the award and the terms of the award agreements. The board of directors has the power to modify outstanding awards under our 2014 Plan.

Section 162(m) Limits. At such time as is necessary for compliance with Section 162(m) of the Internal Revenue Code, no participant may be granted stock awards covering more than 2,000,000 shares of our common stock (subject to adjustment to reflect any split of our common stock) under our 2014 Plan during any calendar year pursuant to stock options, stock appreciation rights and other stock awards whose value is determined by reference to an increase over an exercise price or strike price of at least 100% of the fair market value of our common stock on the date of grant. Additionally, no participant may be granted in a calendar year a performance stock award covering more than 2,000,000 shares of our common stock (subject to adjustment to reflect any split of our common stock) or a performance cash award having a maximum value in excess of $2,000,000 under our 2014 Plan. These limitations are intended to give us the flexibility to grant compensation to covered employees that may qualify for the "qualified performance-based compensation" exception to the $1,000,000 annual limitation on the income tax deductibility imposed by Section 162(m) of the Internal Revenue Code.

Performance Awards. Our 2014 Plan permits the grant of performance-based stock and cash awards that may qualify as performance-based compensation that is not subject to the $1,000,000 limitation on the income tax deductibility imposed by Section 162(m) of the Internal Revenue Code. Our compensation committee may structure awards so that the stock or cash will be issued or paid only following the achievement of certain pre-established performance goals during a designated performance period. However, we retain the discretion to grant awards under the 2014 Plan that may not qualify for full deductibility under Section 162(m) of the Internal Revenue Code.

Our compensation committee may establish performance goals by selecting from one or more performance criteria set forth in the 2014 Plan:

- earnings (including earnings per share and net earnings);
- earnings before interest, taxes and depreciation;
- earnings before interest, taxes, depreciation and amortization;
- earnings before interest, taxes, depreciation, amortization and legal settlements;
- earnings before interest, taxes, depreciation, amortization, legal settlements and other income (expense);
- earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense) and stock-based compensation;
- earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense), stock-based compensation and changes in deferred revenue;
- total stockholder return;
- return on equity or average stockholder's equity;
- return on assets, investment, or capital employed;
- stock price;
- margin (including gross margin);
- income (before or after taxes);
- operating income;
- operating income after taxes;
- pre-tax profit;
- operating cash flow;

- sales or revenue targets;
- increases in revenue or product revenue;
- expenses and cost reduction goals;
- improvement in or attainment of working capital levels;
- economic value added (or an equivalent metric);
- market share
- cash flow;
- cash flow per share;
- share price performance;
- debt reduction;
- implementation or completion of projects or processes;
- employee retention;
- stockholders' equity;
- capital expenditures;
- debt levels;
- operating profit or net operating profit;
- workforce diversity;
- growth of net income or operating income;
- billings;
- bookings;
- initiation of phases of clinical trials and/or studies by specified dates;
- patient enrollment rates;
- budget management;
- regulatory body approval with respect to products, studies and/or trials;
- commercial launch of products; and
- to the extent that an Award is not intended to comply with Section 162(m) of the Code, other measures of performance selected by the Board.

The performance goals may be based on a company-wide basis, with respect to one or more business units, divisions, affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or relevant indices.

Changes to Capital Structure. In the event there is a specified type of change in our capital structure, such as a stock split, reverse stock split, or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the 2014 Plan; (2) the class and maximum number of shares by which the share reserve may increase automatically each year; (3) the class and maximum number of shares that may be issued upon the exercise of incentive stock options; (4) the class and maximum number of shares subject to stock awards that can be granted in a calendar year (as established under our 2014 Plan pursuant to Section 162(m) of the Internal Revenue Code); and (5) the class and number of shares and exercise price, strike price, or purchase, price, if applicable, of all outstanding stock awards.

Corporate Transactions. Our 2014 Plan provides that in the event of certain specified significant corporate transactions, as defined under our 2014 Plan, unless otherwise provided in an individual agreement between us and the award holders, each outstanding award will be treated as our plan administrator determines. The plan administrator may (1) arrange for the assumption, continuation or substitution of a stock award by a successor corporation; (2) arrange for the assignment of any reacquisition or repurchase rights held by us to a successor corporation; (3) accelerate the vesting (and exercisability, if applicable), in whole or in part, of the stock award and provide for its termination, if not exercised, as applicable, prior to the transaction; (4) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us; or (5) cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised prior to the transaction, in exchange for a cash payment, if any, determined by the board; or (6) cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised prior to the transaction, in exchange for a payment (in such form as determined by the board), equal to the excess, if any, of the value of the property the participant would have received upon exercise of the award immediately prior to the transaction, over any exercise price payable in connection with such exercise. The plan administrator is not obligated to treat all stock awards or portions of stock awards, even those that are of the same type, in the same manner.

Change in Control. A stock award may be subject to additional acceleration of vesting and exercisability upon or after a change in control, as defined in the 2014 Plan, as may be provided in the stock award agreement for such stock award or in any other written agreement between us and a participant, but in the absence of such a provision, no such acceleration will occur.

Plan Amendment or Termination. Subject to the terms of the 2014 Plan, our board of directors has the authority to amend, suspend, or terminate our 2014 Plan, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. No ISOs may be granted after the tenth anniversary of the date our board of directors adopted our 2014 Plan.

Amended and Restated 2005 Stock Plan

Our 2005 Plan, was adopted by our board of directors on February 17, 2005 and approved by our stockholders in September 2005 and was last amended by our board of directors on March 20, 2014 and approved by our stockholders on July 8, 2014. The 2005 Plan amended and restated our Amended and Restated 1999 Stock Plan (described below). The 2005 Plan will terminate on the IPO Date. However, any outstanding awards granted under the 2005 Plan will remain outstanding, subject to the terms of the 2005 Plan and applicable award agreements thereunder, until such awards are exercised (if applicable) or otherwise terminate or expire by their terms.

Awards. The 2005 Plan provides for the discretionary grant of incentive stock options, nonstatutory stock options, stock purchase awards, stock bonus awards, stock appreciation rights, stock unit awards and other stock awards to our eligible employees, non-employee directors and consultants.

Authorized Shares. Subject to the provisions of the 2005 Plan relating to any capitalization adjustments to reflect any split or change to our common stock, the maximum number of shares of our common stock that may be issued under the 2005 Plan is 65,717,152 shares. Subject to any capitalization adjustments to reflect any split or change to our common stock, the maximum number of shares of common stock that may be issued upon the exercise of incentive stock options under our 2005 Plan is 65,717,152 shares.

Plan Administration. Our board of directors or a duly authorized committee of our board of directors administers the 2005 Plan and the awards granted under the 2005 Plan. Subject to the terms of the 2005 Plan, our board of directors (or its delegate) has the authority to determine and amend the terms of stock awards, including recipients, the number of shares subject to stock awards, the vesting schedule applicable to stock awards, the form of consideration, if any, payable upon exercise or settlement of any stock award, the exercise or strike price of stock awards, if applicable, and any accelerated vesting and exercisability provisions. Our board of directors may, with the consent of any adversely affected optionholder, reduce the exercise price of any outstanding option

under the 2005 Plan, cancel any outstanding option and grant a new award in substitution therefor, or take any other action that is treated as a repricing under generally accepted accounting principles.

Capitalization Adjustments. In the event that any change is made in, or other events occur with respect to, our common stock subject to the 2005 Plan or any stock award, such as certain mergers, consolidations, reorganizations, recapitalizations, stock dividends, stock splits, or other similar transactions, appropriate adjustments will be made to the classes and maximum number of shares subject to the 2005 Plan, any limits on the number of shares that may be granted to any person under the 2005 Plan, and the number of shares subject to, and the price per share, if applicable, of any outstanding stock awards.

Corporate Transactions. The 2005 Plan generally provides that unless otherwise provided in a written agreement between us or any of our affiliates and a participant, in the event of certain corporate transactions, outstanding stock awards may be assumed, continued or substituted for similar stock awards by the surviving or acquiring corporation (or its parent) and any reacquisition or repurchase rights held by us may be assigned to the successor company (or its parent). If outstanding stock awards are not so assumed, continued or substituted by the surviving or acquiring corporation (or its parent), then, contingent upon the closing of the corporate transaction, the vesting and exercisability of any outstanding stock awards held by participants who are providing continuous service at the effective time of the corporate transaction or whose continuous service with us has not terminated more than 3 months prior to the effective time of the corporate transaction, or recent participants, will be accelerated to a date prior to the effective time of the corporate transaction (except if an employee is terminated for cause (as defined in the employee's stock award agreement)) and, at or prior to the effective time of the corporate transaction, such stock awards will terminate if not exercised (if applicable) and any reacquisition or repurchase rights held by us with respect to such stock awards will lapse. If outstanding stock awards are not assumed, continued or substituted by the surviving or acquiring corporation (or its parent), any outstanding stock awards held by participants who are not recent participants (other than a stock award consisting of vested and outstanding shares of common stock not subject to our right of repurchase) will terminate if not exercised (if applicable) prior to the effective time of the corporate transaction; however, any reacquisition or repurchase rights held by us with respect to such stock awards may continue to be exercised. In addition, if a stock award will terminate if not exercised prior to the effective time of a corporate transaction, our board of directors may provide that such stock awards will be canceled in exchange for a payment, in such form as may be determined by our board of directors, equal to the excess, if any, of the value of the property the holder of such stock award would have received upon exercise of the stock award over any exercise price payable by such holder.

Change in Control. If provided in a stock award agreement, stock awards may be subject to additional acceleration of vesting and exercisability upon or after a change in control (as defined in the 2005 Plan). The standard form of option agreement under the 2005 Plan provides that all outstanding options held by a participant will accelerate in full if the participant is terminated without cause (as defined below) following a change in control. The standard form of option agreement under the 2005 Plan also provides that any outstanding options held by a participant will accelerate in full if the participant incurs a constructive termination (as defined below) within 12 months following a change in control. For purposes of the standard form of option agreement under the 2005 Plan, "cause" generally means (1) a commission of a felony related to us or our business or any crime involving fraud or moral turpitude; (2) the attempted commission of, or participation in, a fraud against us; (3) the unauthorized use or disclosure of our confidential information or trade secrets; or (4) the participant's willful failure to substantially perform his or her duties and responsibilities owed to us. For purposes of the standard form of option agreement under the 2005 Plan, "constructive termination" generally means (1) a substantial reduction in the participant's duties or responsibilities in effect immediately prior to the effective time of a change in control; (2) a material reduction in a participant's annual base salary as in effect on the closing date of the change in control or as increased thereafter; (3) any failure by us to continue in effect any benefit plan or program in which the participant was participating immediately prior to the effective time of a change in control or the taking of any action by us that would adversely affect a participant's participation in or reduce benefits under any such plans or programs (provided, that a constructive termination will not be deemed to have occurred if we provide for the participation in benefit plans and programs that, taken as a whole, are comparable

to those that were provided immediately prior to the change in control); (4) a relocation of the participant's business office to a location more than 50 miles from the location at which the participant performed his or her duties as of the effective time of the change in control; or (5) a material breach by us of any provision of any material agreement between the participant and us concerning the terms and conditions of the participant's employment.

Plan Amendment or Termination. Subject to the terms of the 2005 Plan, our board of directors generally has the authority to amend, suspend or terminate the 2005 Plan at any time; *provided*, that no such action will impair the existing rights of any outstanding stock awards without the affected participant's written consent. As described above, the 2005 Plan will be terminated upon the IPO Date and no new stock awards will be granted under the 2005 Plan on or after such date.

Amended and Restated 1999 Stock Plan

Our Amended and Restated 1999 Stock Plan, or the 1999 Plan, was adopted by our board of directors on February 12, 1999 and approved by our stockholders in January 2000. The 1999 Plan was last amended on November 15, 2002. The 1999 Plan terminated on the date the 2005 Plan became effective. No new awards may be granted under the 1999 Plan; however, any outstanding awards granted under the 1999 Plan remain outstanding and subject to the terms of the 1999 Plan and award agreements thereunder, except that in the event of a corporate transaction, the provisions of the 2005 Plan (as described above) governing the treatment of awards in the event of a corporate transaction will govern all outstanding awards under the 1999 Plan.

The 1999 Plan provided for the discretionary grant of incentive stock options, nonstatutory options, and stock awards to our eligible employees, directors and consultants. The number of shares of our common stock subject to outstanding awards under the 1999 Plan is 47,773 shares.

Our board of directors or a duly authorized committee of our board of directors administers the 1999 Plan and the awards granted under the 1999 Plan. In the event of certain corporate transactions, the treatment of outstanding awards under the 1999 Plan will be governed by the corporate transaction provisions set forth in the 2005 Plan, and summarized above.

Subject to the terms of the 1999 Plan, our board of directors generally may amend the terms of awards granted under the 1999 Plan at any time, except that no amendment may adversely affect outstanding stock awards without the written consent of the affected participants.

2014 Employee Stock Purchase Plan

Our board of directors adopted, and we expect that our stockholders will approve, our 2014 Employee Stock Purchase Plan, or the ESPP, prior to this offering. The ESPP will become effective upon the IPO Date. The ESPP is intended to qualify as an "employee stock purchase plan" under Section 423 of the Internal Revenue Code.

Authorized Shares. The maximum aggregate number of shares of our common stock that may be issued under our ESPP is 4,000,000 shares. Additionally, the number of shares of our common stock reserved for issuance under our ESPP will increase automatically each year, beginning on January 1, 2016 and continuing through and including January 1, 2024, by the lesser of (i) 1.0% of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year; and (ii) 3,000,000 shares of common stock. Our board of directors may act prior to the first day of any calendar year to provide that there will be no January 1 increase or that the increase will be for a lesser number of shares than would otherwise occur. Shares subject to purchase rights granted under our ESPP that terminate without having been exercised in full will not reduce the number of shares available for issuance under our ESPP.

Administration. Our board of directors will administer our ESPP. Our board of directors may delegate authority to administer our ESPP to our compensation committee. Our ESPP is implemented through a series of offerings under which eligible employees are granted purchase rights to purchase shares of our common stock on specified dates during such offerings. Under the ESPP, we may specify offerings with durations of not more than 27 months, and may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of our common stock will be purchased for employees participating in the offering. An offering under the ESPP may be terminated under certain circumstances.

Payroll Deductions. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates, may participate in the ESPP and may contribute, normally through payroll deductions, up to 15% of their earnings (as defined by the board of directors in each offering) for the purchase of our common stock under the ESPP. Common stock will be purchased for the accounts of employees participating in the ESPP at a price per share not less than the lower of (a) 85% of the fair market value of a share of our common stock on the first date of an offering; and (b) 85% of the fair market value of a share of our common stock on the date of purchase. For the initial offering, which we expect will commence upon the execution and delivery of the underwriting agreement relating to this offering, the fair market value on the first day of the initial offering will be the price at which shares are first sold to the public.

Limitations. Our employees, including executive officers, may have to satisfy one or more of the following service requirements before participating in our ESPP, as determined by the administrator: (i) customary employment for more than 20 hours per week and more than five months per calendar year, or (ii) continuous employment for a minimum period of time, not to exceed two years. An employee may not be granted rights to purchase stock under our ESPP if such employee (a) immediately after the grant would own stock possessing 5% or more of the total combined voting power or value of our common stock, or (b) holds rights to purchase stock under our ESPP that would accrue at a rate that exceeds $25,000 worth of our stock for each calendar year that the rights remain outstanding.

Changes in Capital Structure. In the event that there occurs a change in our capital structure through such actions as a stock split, merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or similar transaction, the board of directors will make appropriate adjustments to (1) the number of shares reserved under the ESPP, (2) the maximum number of shares by which the share reserve may increase automatically each year, (3) the number of shares and purchase price of all outstanding purchase rights, and (4) the number of shares that are subject to purchase limits under ongoing offerings.

Corporate Transactions. In the event of a specified corporate transaction, such as a merger or sale of all or substantially all of our assets, a successor corporation may assume, continue or substitute each outstanding purchase right. If the successor corporation does not assume, continue or substitute for the outstanding purchase rights, the offering in progress will be shortened and the participants' accumulated contributions will be used to purchase shares within 10 business days prior to the effective date of the corporate transaction.

Amendments; Termination. Our board of directors has the authority to amend, suspend or terminate our ESPP, at any time and for any reason; provided, that except in certain circumstances such amendment or termination may not materially impair outstanding purchase rights without the holder's consent. Our ESPP will remain in effect until terminated by the administrator in accordance with the terms of the ESPP.

401(k) Plan

We maintain a tax-qualified retirement plan that provides eligible U.S. employees with an opportunity to save for retirement on a tax advantaged basis. Eligible employees may defer eligible compensation subject to applicable annual Internal Revenue Code limits. The 401(k) plan permits participants to make both pre-tax and certain after-tax (Roth) deferral contributions. These contributions are allocated to each participant's individual account and

are then invested in selected investment alternatives according to the participant's directions. Employees are immediately and fully vested in their contributions. Commencing in 2014, active contributing participants in the 401(k) plan are eligible to receive employer matching contributions of up to 2%, 4% or 6% of salary, depending upon a participant's number of years of service. Employer matching contributions are subject to applicable annual Internal Revenue Code limits and are fully vested when made. The 401(k) plan is intended to be qualified under Section 401(a) of the Internal Revenue Code with the 401(k) plan's related trust intended to be tax exempt under Section 501(a) of the Internal Revenue Code.

Pension Benefits

We do not maintain any pension benefit plans.

Nonqualified Deferred Compensation

We do not maintain any nonqualified deferred compensation plans.

Limitations on Liability and Indemnification Matters

Upon the completion of this offering, our amended and restated certificate of incorporation will contain provisions that limit the liability of our current and former directors for monetary damages to the fullest extent permitted by Delaware law. Delaware law provides that directors of a corporation will not be personally liable for monetary damages for any breach of fiduciary duties as directors, except liability for:

- any breach of the director's duty of loyalty to the corporation or its stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions; or
- any transaction from which the director derived an improper personal benefit. Such limitation of liability does not apply to liabilities arising under federal securities laws and does not affect the availability of equitable remedies such as injunctive relief or rescission.

Our amended and restated certificate of incorporation and our amended and restated bylaws will provide that we are required to indemnify our directors and officers to the fullest extent permitted by Delaware law. Our bylaws will also provide that, upon satisfaction of certain conditions, we shall advance expenses incurred by a director or officer in advance of the final disposition of any action or proceeding, and permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in that capacity regardless of whether we would otherwise be permitted to indemnify him or her under the provisions of Delaware law. Our amended and restated certificate of incorporation and amended and restated bylaws will also provide our board of directors with discretion to indemnify our employees and other agents when determined appropriate by our board of directors. We have entered and expect to continue to enter into agreements to indemnify our directors, executive officers and other employees as determined by our board of directors. With certain exceptions, these agreements provide for indemnification for related expenses including, among other things, attorneys' fees, judgments, fines and settlement amounts incurred by any of these individuals in any action or proceeding. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain customary directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions. At present, there is no

pending litigation or proceeding involving any of our directors, officers or employees for which indemnification is sought and we are not aware of any threatened litigation that may result in claims for indemnification.

Rule 10b5-1 Sales Plans

Our directors and executive officers may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell shares of our common stock on a periodic basis. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the director or officer when entering into the plan, without further direction from them. The director or officer may amend a Rule 10b5-1 plan in some circumstances and may terminate a plan at any time. Our directors and executive officers also may buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material nonpublic information subject to compliance with the terms of our insider trading policy. Prior to 180 days after the date of this offering (subject to early termination), the sale of any shares under such plan would be subject to the lock-up agreement that the director or officer has entered into with the underwriters.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

In addition to the director and executive compensation arrangements discussed above in "Management" and "Executive Compensation" and the registration rights described below in "Description of Capital Stock—Stockholder Registration Rights," below we describe transactions since January 1, 2011, to which we have been or will be a participant, in which the amount involved exceeded or will exceed $120,000, and in which any of our directors, executive officers or holders of more than 5% of any class of our voting stock, or any member of the immediate family of, or person sharing the household with, any of these individuals, had or will have a direct or indirect material interest.

Sale of Series A Preference Shares by FibroGen China Anemia Holdings, Ltd.

In July and December 2012 and February 2013, pursuant to a Share Purchase Agreement, our subsidiary, FibroGen China Anemia Holdings, Ltd., sold an aggregate of 6,758,000 Series A Preference Shares at a purchase price of $1.00 per share. The following table summarizes purchases of such shares by our directors, executive officers or holders of more than 5% of any class of our voting stock:

Stockholder	Series A Preference Shares	Aggregate purchase price
Stern Family Trust (1)	500,000	$ 500,000.00
Grama Ventures LLC (2)	450,000	$ 450,000.00

(1) Julian N. Stern is one of our directors and a trustee of Stern Family Trust.
(2) Roberto Pedro Rosenkranz, Ph.D., M.B.A. is one of our directors and President of Grama Ventures LLC.

On February 16, 2012, our Chief Executive Officer and Chairman of the Board, Thomas B. Neff, repaid a June 2002 stockholder note that we issued in connection with our previous policy of allowing officers to exercise options to purchase our common stock using a promissory note. The note related to the exercise of Mr. Neff's outstanding stock options prior to 2002 and was repaid in accordance with its terms.

Investor Rights Agreements

We have entered into investor rights agreements with certain of our investors in connection with certain of our preferred stock financings. We have also entered into investor rights agreements with certain of our warrant holders. These investors and warrant holders are entitled to rights with respect to the registration of their shares following the completion of this offering. For a more detailed description of these registration rights, see the section of the prospectus captioned "Description of Capital Stock—Stockholder Registration Rights."

Astellas Collaboration

Astellas is an equity investor in FibroGen, Inc. and considered a related party. During the years ended December 31, 2012 and 2013 and the six months ended June 30, 2013 and 2014, we recorded revenue related to collaboration agreements with Astellas of $65.1 million, $25.7 million, $18.5 million and $8.1 million, respectively. During the years ended December 31, 2012 and 2013 and the six months ended June 30, 2013 and 2014, we recorded expense related to collaboration agreements with Astellas of $0.3 million, $4.0 million, $0.8 million and $4.5 million, respectively. For a more detailed description of our collaboration agreements with Astellas, see "Business—Collaborations."

Employment Offer Letters

We have entered into offer letter agreements with our executive officers. For more information regarding these agreements, see the section of the prospectus captioned "Executive Compensation—Offer Letter Agreements."

Indemnification Agreements

Our amended and restated certificate of incorporation, which will be effective upon the completion of this offering, will contain provisions limiting the liability of directors, and our bylaws will provide that we will indemnify each of our directors and officers to the fullest extent permitted under Delaware law. Our amended and restated certificate of incorporation and amended and restated bylaws will also provide our board of directors with discretion to indemnify our employees and other agents when determined appropriate by our board of directors. In addition, we have entered into an indemnification agreement with each of our directors and our executive officers. For more information regarding these agreements, see the section of the prospectus captioned “Executive Compensation—Limitations on Liability and Indemnification Matters.”

Policy on Future Related Party Transactions

All future transactions between us and our officers, directors, principal stockholders and their affiliates will be approved by the audit committee, or a similar committee consisting of entirely independent directors, according to the terms of our Code of Business Conduct.

We believe that we have executed all the transactions described above on terms no less favorable to us than we could have obtained from unaffiliated third parties. It is our intention to ensure that all future transactions between us and our officers, directors and principal stockholders and their affiliates, are approved by the audit committee, or a similar committee consisting of entirely independent directors, according to the terms of our Code of Business Conduct, and are on terms no less favorable to us than those that we could obtain from unaffiliated third parties.

PRINCIPAL STOCKHOLDERS

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of June 30, 2014, as adjusted to reflect the shares of common stock to be issued and sold in the offering assuming no exercise of the underwriters' option to purchase additional shares from us in the offering, for:

- each of our named executive officers;
- each of our directors;
- all of our directors and executive officers as a group; and
- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock.

Beneficial ownership is determined in accordance with the rules of the SEC and generally includes any shares over which a person exercises sole or shared voting or investment power. Shares of common stock issuable under options or warrants that are exercisable within 60 days after June 30, 2014 are deemed beneficially owned and such shares are used in computing the percentage ownership of the person holding the options or warrants, but are not deemed outstanding for the purpose of computing the percentage ownership of any other person. The information contained in the following table is not necessarily indicative of beneficial ownership for any other purpose, and the inclusion of any shares in the table does not constitute an admission of beneficial ownership of those shares.

Unless otherwise indicated below, to our knowledge, all persons named in the table have sole voting and dispositive power with respect to their shares of common stock, except to the extent authority is shared by spouses under community property laws.

Our calculation of the percentage of beneficial ownership prior to this offering is based on 118,514,511 shares of our common stock (including preferred stock on an as-converted basis) outstanding as of June 30, 2014. We have based our calculation of beneficial ownership after this offering on shares of our common stock outstanding immediately after the closing of this offering (assuming no exercise of the underwriters' option to purchase additional shares of common stock).

Unless otherwise indicated below, the address of each beneficial owner listed in the table below is c/o FibroGen, Inc., 409 Illinois Street, San Francisco, CA 94158.

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
		Before the Offering	After the Offering
5% Stockholders:			
Thomas B. Neff (1)	15,755,025	12.7%	%
Astellas Pharma Inc. 2-5-1 Nihonbashi-Honcho, Chuo-Ku, Tokyo 103-8411 Japan	12,420,921	10.5%	%
Directors and Named Executive Officers:			
Thomas B. Neff (1)	15,755,025	12.7%	%
K. Peony Yu(2)	432,750	*	%
Frank H. Valone(3)	512,875	*	%
Thomas F. Kearns Jr.(4)	1,031,345	*	%
Kalevi Kurkijärvi, Ph.D.(5)	395,000	*	%
Miguel Madero (6)	1,163,920	1.0%	%
Rory B. Riggs (7)	1,325,500	1.1%	%
Roberto Pedro Rosenkranz, Ph.D., M.B.A.(8)	150,100	*	%
Jorma Routti, Ph.D.(9)	395,000	*	%
James A. Schoeneck (2)	150,000	*	%
Julian N. Stern (10)	680,612	*	%
Toshinari Tamura (2)	195,000	*	%
All executive officers and directors as a group (13 persons) (11)	22,953,045	18.0%	%

* Represents beneficial ownership of less than one percent (1%) of the outstanding common stock.

(1) Consists of (a) 9,587,906 shares held by Thomas B. Neff, (b) 362,677 shares held by the Thomas B. Neff Family Partnership, (c) 50,000 shares held by Mr. Neff's spouse and (d) 150,442 shares held by BioGrowth Partners LP. Also includes 5,604,000 shares issuable pursuant to stock options exercisable within 60 days of June 30, 2014.

(2) Represents shares issuable pursuant to stock options exercisable within 60 days of June 30, 2014.

(3) Includes 452,875 shares issuable pursuant to stock options exercisable within 60 days of June 30, 2014.

(4) Consists of (a) 463,845 shares held by Thomas F. Kearns, Jr., and 275,000 shares held by the Kearns Trust, of which Mr. Kearns is a trustee and has sole voting and dispositive power. Also includes 292,500 shares issuable pursuant to stock options exercisable within 60 days of June 30, 2014.

(5) Includes 285,000 shares issuable pursuant to stock options exercisable within 60 days of June 30, 2014.

(6) Includes an aggregate of 917,420 shares held in accounts for family members for which Mr. Madero maintains power of attorney to manage and control. Also includes 195,000 shares issuable pursuant to stock options exercisable within 60 days of June 30, 2014.

(7) Consists of (a) 1,275,500 shares held by Rory B. Riggs and (b) 50,000 shares held jointly by Rory B. Riggs and Robin Rhys.

(8) Includes (a) 87,500 shares held by Roberto Pedro Rosenkranz and (b) 100 shares held by Mr. Rosenkranz's spouse as custodian for Mr. Rosenkranz's daughter. Also includes 62,500 shares issuable pursuant to stock options exercisable within 60 days of June 30, 2014.

(9) Includes 225,000 shares issuable pursuant to stock options exercisable within 60 days of June 30, 2014.

(10) Consists of (a) 357,672 shares held by Julian N. Stern and an aggregate of 30,440 held in various trusts for which Mr. Stern's spouse, Dorothy Stern, is the sole trustee and has sole voting and investment control. Also includes 292,500 shares issuable pursuant to stock options exercisable within 60 days of June 30, 2014.

(11) Consists of (a) 14,100,002 shares held by the directors and executive officers as of June 30, 2014 and (b) 8,853,043 shares issuable to our directors and officers pursuant to stock options exercisable within 60 days of June 30, 2014.

DESCRIPTION OF CAPITAL STOCK

The description below summarizes the material terms of our capital stock and provisions of our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon completion of the offering.

General

Upon the completion of this offering, our authorized capital stock will consist of shares, all with a par value of $0.01 per share, of which:

- shares are designated as common stock; and
- shares are designated as preferred stock.

The following information reflects the filing of our amended and restated certificate of incorporation and the conversion of all outstanding shares of our convertible preferred stock into shares of common stock upon the completion of this offering.

As of June 30, 2014, there were outstanding:

- 33,714,272 shares of common stock held by 553 stockholders, with no shares of common stock issued pursuant to early exercise of stock options or restricted stock issuances that are subject to repurchase; and
- 32,584,115 shares of common stock, of which 26,552 were cancelled upon shareholder approval (which approval was obtained in July 2014), issuable upon exercise of outstanding options.

Our shares of common stock are not redeemable and, following the completion of this offering, will not have preemptive rights.

Common Stock

Voting Rights

Each holder of our common stock is entitled to one vote for each share of common stock held on all matters submitted to a vote of stockholders, except as otherwise expressly provided in our amended and restated certificate of incorporation or required by applicable law. We have not provided for cumulative voting for the election of directors in our amended and restated certificate of incorporation.

Economic Rights

Dividends and Distributions. Subject to the prior rights of holders of all classes and series of stock at the time outstanding having prior rights as to dividends, the holders of common stock will be entitled to receive, when, as and if declared by our board of directors, out of any assets legally available therefor, such dividends as may be declared from time to time by our board of directors.

Liquidation Rights. In the event of our liquidation, dissolution or winding-up, upon the completion of the distributions required with respect to any series of preferred stock that may then be outstanding, the remaining assets legally available for distribution to stockholders shall be distributed ratably among the holders of common stock and any participating preferred stock outstanding at that time.

Holders of common stock have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock.

Preferred Stock

As of June 30, 2014, there were 84,800,239 shares of our preferred stock outstanding, which will be converted into 84,800,239 shares of common stock immediately prior to the completion of this offering.

Upon the completion of this offering, our board of directors may, without further action by our stockholders, fix the rights, preferences, privileges and restrictions of up to an aggregate of shares of preferred stock in one or more series and authorize their issuance. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of our common stock. The issuance of our preferred stock could adversely affect the voting power of holders of our common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation, which could decrease the market price of our common stock. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change of control or other corporate action. Upon the completion of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Options

As of June 30, 2014, under both our 1999 and 2005 Plans, options to purchase an aggregate of 32,584,115 shares of common stock, of which 26,552 were cancelled upon shareholder approval, which approval was obtained in July 2014, having a weighted-average exercise price of $2.23 per share were outstanding and 18,942,169 additional shares of common stock were available for future grant. For additional information regarding the terms of these plans, see the section of this prospectus captioned “Executive Compensation—Equity Incentive Plans.”

Warrants

As of June 30, 2014, we had outstanding warrants to acquire 432,790 shares of common stock having a weighted-average exercise price of $3.03 per share. Certain of these warrants are exercisable until the earlier of (1) the date one year after the effectiveness of this offering or (2) the effective date of our merger with or into, our consolidation with, or our sale of all or substantially all of our assets to another entity such that our stockholders do not retain the majority of the voting capital of the resulting entity. Certain of these warrants are exercisable until the earlier of (1) the fifth anniversary of the effective date of this registration statement or (2) the effective date of our merger with or into, our consolidation with, or our sale of all or substantially all of our assets to another entity such that our stockholders do not retain the majority of the voting capital of the resulting entity.

Stockholder Registration Rights

Under our investor rights agreements, after the completion of this offering, certain holders of our common stock, including certain holders of 5% of our capital stock and entities affiliated with certain of our directors, will be entitled to certain rights with respect to registration of such shares under the Securities Act, in each case described below. These shares are referred to as registrable securities. Registration pursuant to the exercise of the registration rights described below would enable the holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective.

Registration Rights—Early Rights Agreements

Certain registration rights are provided for under the terms of our Investor Rights Agreement dated as of December 1995, entered into with certain of our investors in connection with our Series B Preferred Stock financing, our Investor Rights Agreement dated as of February 20, 1998, entered into with certain of our investors in connection with our Series C Preferred Stock financing and our Investor Rights Agreements dated as of June 3, 1999 and February 8, 2000, entered into with certain of our warrant holders, collectively our Early

Rights Agreements. We will pay the registration expenses, other than underwriting fees, discounts or commissions and any out-of-pocket expenses of the selling holders, of the shares registered pursuant to the piggyback registration described below.

Piggyback Registration Rights

If we propose to register for offer and sale any of our securities under the Securities Act in another offering, either for our own account or for the account of other security holders, the holders of the registrable securities subject to our Early Rights Agreements will be entitled to certain "piggyback" registration rights allowing them to include their shares in such registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, including a registration statement on Form S-3 (other than with respect to this registration statement or a registration statement on Forms S-4 or S-8), the holders of these shares are entitled to notice of the registration and have the right, subject to certain limitations that the underwriters may impose on the number of shares included in the registration, to include their shares in the registration.

Registration Rights—2000 and 2004 Rights Agreements

Certain provisions relating to registration rights described below are provided for under the terms of our Investor Rights Agreement dated as of May 12, 2000, as amended in December 2004 and September 2005, or our 2000 Rights Agreement, entered into in connection with our Series E Preferred Stock financing and our Investor Rights Agreement dated as of December 22, 2004, as amended in September 2005, or our 2004 Rights Agreement, entered into in connection with our Series F Preferred Stock financing. Under the terms of these agreements, these registration rights are not exercisable five years after the effective date of our initial public offering, or, with respect to any particular holder, at such earlier time that all registrable shares held by such holder (and any affiliate of the holder with whom such holder must aggregate sales under Rule 144 of the Securities Act) can be sold under Rule 144 of the Securities Act. We would pay the registration expenses, other than underwriting discounts and commissions and the fees and disbursements of counsel for the selling holders, of the shares registered pursuant to the demand, piggyback and Form S-3 registrations described below.

Demand Registration Rights

Our 2000 and 2004 Rights Agreements contain provisions that would entitle holders of registrable securities to certain demand registration rights. At any time 180 days following the effective date of this registration statement, the holders of at least 50% of these securities may request that we register all or a portion of their shares, subject to certain specified exceptions. If the holders requesting registration intend to distribute their shares by means of an underwriting, the underwriters of such offering will have the right to limit the number of shares to be underwritten for reasons related to the marketing of the shares. We would not be required to effect more than two demand registrations pursuant to each of our 2000 Rights Agreement and our 2004 Rights Agreement, not including any registration in which more than 50% of the registrable securities that holders request to be registered are excluded from such registration due to marketing limitations. Depending on certain conditions, we may defer such registration for up to 90 days once in any 12-month period.

Piggyback Registration Rights

Our 2000 and 2004 Rights Agreements contain provisions that would entitle holders of our registrable securities to include their shares of registrable securities in this offering, subject to certain marketing and other limitations. If we propose to register for offer and sale any of our securities under the Securities Act in another offering, either for our own account or for the account of other security holders, the holders of these shares would be entitled to certain "piggyback" registration rights allowing them to include their shares in such registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, including a registration statement on Form S-3 as discussed below (other than

with respect to a registration relating solely to the sale of securities to participants in our stock plans, a registration on any form (including Forms S-4 or S-8) that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the registrable shares, a registration statement related to a corporate reorganization or other transaction under Rule 145 of the Securities Act, or a registration statement related to stock issued upon conversion of debt securities), the holders of these shares would be entitled to notice of the registration and have the right, subject to certain limitations that the underwriters may impose on the number of shares included in the registration, to include their shares in the registration.

Form S-3 Registration Rights

Our 2000 and 2004 Rights Agreements contain provisions that would entitle the holders of the registrable securities subject to will be entitled to certain Form S-3 registration rights. Any holder of these shares would make a request that we register for offer and sale their shares on Form S-3 if we are qualified to file a registration statement on Form S-3, subject to certain specified exceptions. Such request for registration on Form S-3 must cover securities the aggregate offering price of which, before payment of the underwriting discounts and commissions, equals or exceeds $2,000,000. We would not be required to effect more than two registrations on Form S-3 pursuant to each of our 2000 Rights Agreement and our 2004 Rights Agreement, and no more than one such registration under each agreement within any 6-month period. Depending on certain conditions, we may defer such registration for up to 90 days once in any 12-month period.

Anti-Takeover Effects of Delaware Law and Our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Our amended and restated certificate of incorporation and amended and restated bylaws to be in effect upon the completion of this offering contain certain provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions and certain provisions of Delaware law, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate more favorable terms with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us.

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (1) by persons who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 $^{2}/_{3}$% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a "business combination" to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the person's affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We also anticipate that Section 203 may discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws to be in Effect upon the Completion of this Offering

Our amended and restated certificate of incorporation to be in effect upon the completion of this offering will provide for our board of directors to be divided into three classes with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, stockholders holding a majority of the shares of common stock outstanding will be able to elect all of our directors. Our amended and restated certificate of incorporation and our amended and restated bylaws to be effective upon the completion of this offering will also provide that directors may be removed by the stockholders only for cause upon the vote of a majority of our outstanding common stock. Furthermore, the authorized number of directors may be changed only by resolution of the board of directors, and vacancies and newly created directorships on the board of directors may, except as otherwise required by law or determined by the board, only be filled by a majority vote of the directors then serving on the board, even though less than a quorum.

Our amended and restated certificate of incorporation and bylaws will also provide that all stockholder actions must be effected at a duly called meeting of stockholders and will eliminate the right of stockholders to act by written consent without a meeting. Our bylaws will also provide that only our chairman of the board, chief executive officer or the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors may call a special meeting of stockholders.

Our amended and restated bylaws will also provide that stockholders seeking to present proposals before a meeting of stockholders to nominate candidates for election as directors at a meeting of stockholders must provide timely advance notice in writing, and will specify requirements as to the form and content of a stockholder's notice. Our amended and restated certificate of incorporation and amended and restated bylaws will provide that the stockholders cannot amend many of the provisions described above except by a vote of 66 $^{2}/_{3}$% or more of our outstanding common stock.

The combination of these provisions will make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Since our

board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. We believe that the benefits of these provisions, including increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our company, outweigh the disadvantages of discouraging takeover proposals, because negotiation of takeover proposals could result in an improvement of their terms.

Choice of Forum

Our amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware will be the exclusive forum for any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws; or any action asserting a claim against us that is governed by the internal affairs doctrine.

Listing

We intend to list our common stock on the NASDAQ Global Market under the symbol “ ”.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is . The transfer agent’s address is .

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, no public market existed for our capital stock. Future sales of shares of our common stock in the public market after this offering, and the availability of shares for future sale, could adversely affect the market prices prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nonetheless, sales of substantial amounts of our common stock, or the perception that these sales could occur, could adversely affect prevailing market prices for our common stock and could impair our future ability to raise equity capital.

Based on the number of shares outstanding on June 30, 2014, upon completion of this offering, shares of common stock will be outstanding, assuming the automatic conversion of all outstanding shares of our convertible preferred stock into shares of our common stock and the exchange of FibroGen Europe shares for shares of our common stock immediately prior to the completion of this offering, the exercise of warrants to purchase shares of our common stock and no exercise of the underwriters' option to purchase additional shares of common stock, no exercises of options outstanding as of June 30, 2014. All of the shares sold in this offering, plus any shares sold upon exercise of the underwriters' option to purchase additional shares from us in the offering, will be freely tradable without restrictions or further registration under the Securities Act, except for any shares sold to our "affiliates," as that term is defined under Rule 144 under the Securities Act.

The remaining shares of common stock will be deemed "restricted securities" as defined in Rule 144 under the Securities Act. These restricted securities may be sold in the public market only if registered or if they qualify for an exemption from registration under Rule 144 or Rule 701 under the Securities Act, which rules are summarized below.

Subject to the lock-up agreements described below and the provisions of Rule 144 and 701 under the Securities Act, these restricted securities will be available for sale in the public market as follows:

Date	Approximate Number of Shares
On the date of this prospectus	
Between 90 and 180 days after the date of this prospectus	
At various times beginning 181 days after the date of this prospectus	

In addition, of the 32,584,115 shares of our common stock, of which 26,552 shares were cancelled upon shareholder approval, which approval was obtained in July 2014, that were subject to stock options outstanding as of June 30, 2014, options to purchase 24,767,556 shares of common stock were vested as of June 30, 2014 and will be eligible for sale 180 days following the effective date of this offering, as described in "Underwriting."

Rule 144

In general, under Rule 144, as currently in effect, a person who has beneficially owned restricted shares of our common stock for at least six months, including the holding period of any prior owner other than our affiliates, would be entitled to sell their securities provided that (1) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale, (2) we have been subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale, and (3) we are current in our Exchange Act reporting at the time of sale. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than our affiliates, then such person is entitled to sell those shares without complying with any of the requirements of Rule 144.

In general, under Rule 144, as currently in effect, persons who have beneficially owned restricted shares of our common stock for at least six months, but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately shares immediately after the completion of this offering based on the number of common shares outstanding as of , 2014; and
- the average weekly trading volume of our common stock on during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Such sales by affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144.

Rule 701

In general, under Rule 701 a person who purchased shares of our common stock pursuant to a written compensatory plan or contract and who is not deemed to have been one of our affiliates during the immediately preceding 90 days may sell these shares in reliance upon Rule 144, but without being required to comply with the holding period or public information requirements of Rule 144. Rule 701 also permits affiliates to sell their Rule 701 shares under Rule 144 without complying with the holding period requirements of Rule 144. All holders of Rule 701 shares, however, are required to wait until 90 days after the date of this prospectus before selling such shares pursuant to Rule 701. As of , shares of our outstanding common stock had been issued in reliance on Rule 701 as a result of exercises of stock options and issuance of restricted stock. However, substantially all Rule 701 shares are subject to lock-up agreements as described below and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

Form S-8 Registration Statements

As soon as practicable after the completion of this offering, we intend to file with the SEC one or more registration statements on Form S-8 under the Securities Act to register the offer and sale of shares of our common stock that are issuable pursuant to our 1999 Plan, 2005 Plan and 2014 Plan. These registration statements will become effective immediately upon filing. Shares covered by these registration statements will then be eligible for sale in the public markets, subject to vesting restrictions, any applicable lock-up agreements described below and Rule 144 limitations applicable to affiliates.

Lock-Up Agreements

We and all of our directors and officers, as well as the other holders of substantially all shares of our common stock outstanding immediately prior to the completion of this offering, have agreed with the underwriters that, for a period of 180 days following the date of this prospectus, subject to certain exceptions, we and they will not, directly or indirectly, offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale, or otherwise dispose of or hedge any of our shares of common stock, any options or warrants to purchase any shares of our common stock, or any securities convertible into, or exchangeable for or that represent the right to receive shares of our common stock. Goldman, Sachs & Co., Citigroup Global Markets Inc. and Leerink Partners LLC may, in their sole discretion, at any time without prior notice, release all or any portion of the shares from the restrictions in any such agreement.

In addition to the restrictions contained in the lock-up agreements described above, we have entered into agreements with certain security holders, including the investor rights agreement and our standard form of option agreement under our 2005 Plan, that contain market stand-off provisions imposing restrictions on the ability of

such security holders to offer, sell or transfer our equity securities for a period of 180 days following the date of this prospectus. We have also entered into agreements with certain security holders, including our standard form of option agreement under our 1999 Plan, that contain market stand-off provisions imposing restrictions on the ability of such security holders to offer, sell or transfer our equity securities for a period of 90 days following the date of this prospectus.

Registration Rights

Upon the completion of this offering and assuming no exercise of the underwriters' option to purchase additional shares, the holders of shares of our common stock, or their transferees, will be entitled to certain rights with respect to the registration of the offer and sale of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act immediately upon the effectiveness of the registration. See the section of this prospectus captioned "Description of Capital Stock—Stockholder Registration Rights" for additional information.

MATERIAL UNITED STATES FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following is a discussion of the material U.S. federal income tax considerations applicable to non-U.S. holders (as defined below) with respect to their ownership and disposition of shares of our common stock issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. All prospective non-U.S. holders of our common stock should consult their own tax advisors with respect to the U.S. federal income tax consequences of the purchase, ownership and disposition of our common stock, as well as any consequences arising under the laws of any other taxing jurisdiction, including any state, local and non-U.S. tax consequences and any U.S. federal non-income tax consequences. In general, a non-U.S. holder means a beneficial owner of our common stock (other than a partnership or an entity or arrangement treated as a partnership for U.S. federal income tax purposes) that is not, for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation, or an entity treated as a corporation for U.S. federal income tax purposes, created or organized in the United States or under the laws of the United States or of any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust if (1) a U.S. court can exercise primary supervision over the trust's administration and one or more U.S. persons have the authority to control all of the trust's substantial decisions or (2) the trust has a valid election in effect under applicable U.S. Treasury Regulations to be treated as a U.S. person.

This discussion is based on current provisions of the U.S. Internal Revenue Code of 1986, as amended, which we refer to as the Code, existing U.S. Treasury Regulations promulgated thereunder, published administrative rulings and judicial decisions, all as in effect as of the date of this prospectus. These laws are subject to change and to differing interpretation, possibly with retroactive effect. Any change or differing interpretation could alter the tax consequences to non-U.S. holders described in this prospectus.

This discussion is limited to non-U.S. holders that hold shares of our common stock as a capital asset within the meaning of Section 1221 of the Code (generally, for investment). This discussion does not address all aspects of U.S. federal income taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances, nor does it address any aspects of U.S. estate or gift tax, or any state, local or non-U.S. taxes. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as holders that own, or are deemed to own, more than 5% of our capital stock (except to the extent specifically set forth below), corporations that accumulate earnings to avoid U.S. federal income tax, tax-exempt organizations, banks, financial institutions, insurance companies, brokers, dealers or traders in securities, commodities or currencies, tax-qualified retirement plans, holders subject to the alternative minimum tax or Medicare contribution tax, holders who hold or receive our common stock pursuant to the exercise of employee stock options or otherwise as compensation, holders holding our common stock as part of a hedge, straddle or other risk reduction strategy, conversion transaction or other integrated investment, holders deemed to sell our common stock under the constructive sale provisions of the Code, controlled foreign corporations, passive foreign investment companies, and U.S. expatriates and certain former citizens or long-term residents of the United States.

In addition, this discussion does not address the tax treatment of partnerships (or entities or arrangements that are treated as partnerships for U.S. federal income tax purposes) or persons that hold their common stock through such partnerships or such entities or arrangements. If a partnership, including any entity or arrangement treated as a partnership for U.S. federal income tax purposes, holds shares of our common stock, the U.S. federal income tax treatment of a partner in such partnership will generally depend upon the status of the partner, the activities of the partnership and certain determinations made at the partner level. Such partners and partnerships should

consult their own tax advisors regarding the tax consequences of the purchase, ownership and disposition of our common stock.

There can be no assurance that the Internal Revenue Service, which we refer to as the IRS, will not challenge one or more of the tax consequences described herein, and we have not obtained, nor do we intend to obtain, a ruling with respect to the U.S. federal income tax consequences with respect to the matters discussed below.

Distributions on Our Common Stock

Distributions, if any, on our common stock generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's adjusted tax basis in the common stock. Any remaining excess will be treated as capital gain from the sale or exchange of such common stock, subject to the tax treatment described below in "Gain on Sale, Exchange or Other Disposition of Our Common Stock."

Subject to the discussion below regarding backup withholding and foreign accounts, dividends paid to a non-U.S. holder will generally be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty generally will be required to provide a properly executed IRS Form W-8BEN or IRS Form W-8BEN-E (or successor form) and satisfy relevant certification and other requirements. Non-U.S. holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements. To claim the exemption, the non-U.S. holder must furnish to us or our paying agent a valid IRS Form W-8ECI (or applicable successor form), certifying that the dividends are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to U.S. persons (as defined in the Code), unless a specific treaty exemption applies. Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty.

Gain on Sale, Exchange or Other Disposition of Our Common Stock

Subject to the discussion below regarding backup withholding and foreign accounts, in general, a non-U.S. holder will not be subject to any U.S. federal income tax on any gain realized upon such holder's sale, exchange or other disposition of shares of our common stock unless:

- the gain is effectively connected with a U.S. trade or business of the non-U.S. holder and, if an applicable income tax treaty so provides, is attributable to a permanent establishment or a fixed base maintained in the United States by such non-U.S. holder, in which case the non-U.S. holder generally will be taxed at the graduated U.S. federal income tax rates applicable to U.S. persons (as defined in the Code) and, if the non-U.S. holder is a foreign corporation, the branch profits tax described above in "Distributions on Our Common Stock" may also apply;

- the non-U.S. holder is a nonresident alien individual who is present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty) on the net gain derived from the disposition, which may be offset by U.S. source capital losses of the non-U.S. holder, if any (even though the individual is not considered a resident of the United States) provided the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses; or
- our common stock constitutes a U.S. real property interest because we are, or have been, at any time during the five-year period preceding such disposition (or the non-U.S. holder's holding period, if shorter) a "U.S. real property holding corporation." Even if we are or become a U.S. real property holding corporation, provided that our common stock is regularly traded on an established securities market, our common stock will be treated as a U.S. real property interest only with respect to a non-U.S. holder that holds more than 5% of our outstanding common stock, directly or indirectly, actually or constructively, during the shorter of the 5-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. In such case, such non-U.S. holder generally will be taxed on its net gain derived from the disposition at the graduated U.S. federal income tax rates applicable to U.S. persons (as defined in the Code). Generally, a corporation is a U.S. real property holding corporation only if the fair market value of its U.S. real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we do not believe that we are, or have been, a U.S. real property holding corporation, or that we are likely to become one in the future. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above.

Backup Withholding and Information Reporting

We must report annually to the IRS and to each non-U.S. holder the gross amount of the dividends on our common stock paid to such holder and the tax withheld, if any, with respect to such dividends. Non-U.S. holders will have to comply with specific certification procedures to establish that the holder is not a U.S. person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. U.S. backup withholding generally will not apply to a Non-U.S. holder who provides a properly executed IRS Form W-8BEN or IRS Form W-8BEN-E or otherwise establishes an exemption. Information reporting and backup withholding will generally apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker. Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them. Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement. Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder may be allowed as a credit against the non-U.S. holder's U.S. federal income tax liability, if any, and may entitle such holder to a refund, provided that the required information is timely furnished to the IRS.

Foreign Accounts

The Code generally imposes a U.S. federal withholding tax of 30% on dividends and the gross proceeds of a disposition of our common stock paid to a "foreign financial institution" (as specifically defined for this purpose), unless such institution enters into an agreement with the U.S. government to, among other things,

withhold on certain payments and to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which may include certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with U.S. owners). Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing these withholding and reporting requirements may be subject to different rules. This U.S. federal withholding tax of 30% also applies to dividends and the gross proceeds of a disposition of our common stock paid to a non-financial foreign entity, unless such entity provides the withholding agent with either a certification that it does not have any substantial direct or indirect U.S. owners or provides information regarding substantial direct and indirect U.S. owners of the entity. The withholding tax described above will not apply if the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from the rules. The withholding provisions described above will generally apply to dividends on our common stock, and will also generally apply with respect to gross proceeds of a sale or other disposition of our common stock on or after January 1, 2017. Under certain circumstances, a non-U.S. holder might be eligible for refunds or credits of such taxes. Non-U.S. holders are encouraged to consult with their own tax advisors regarding the possible implications of the legislation on their investment in our common stock.

EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE TAX CONSEQUENCES OF PURCHASING, HOLDING AND DISPOSING OF OUR COMMON STOCK, INCLUDING THE CONSEQUENCES OF ANY PROPOSED CHANGE IN APPLICABLE LAW, AS WELL AS TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL, NON-U.S. OR U.S. FEDERAL NON-INCOME TAX LAWS.

UNDERWRITING

We and the underwriters named below have entered into an underwriting agreement with respect to the shares being offered. Subject to certain conditions, each underwriter has severally agreed to purchase the number of shares indicated in the following table. Goldman, Sachs & Co., Citigroup Global Markets Inc. and Leerink Partners LLC are the representatives of the underwriters.

Underwriters	Number of Shares
Goldman, Sachs & Co.	
Citigroup Global Markets Inc.	
Leerink Partners LLC	
RBC Capital Markets, LLC	
Stifel, Nicolaus & Company, Incorporated	
William Blair & Company, L.L.C.	
Total	

The underwriters are committed to take and pay for all of the shares being offered, if any are taken, other than the shares covered by the option described below unless and until this option is exercised.

The underwriters have an option to buy up to an additional shares from us to cover sales by the underwriters of a greater number of shares than the total number set forth in the table above. They may exercise that option for 30 days. If any shares are purchased pursuant to this option, the underwriters will severally purchase shares in approximately the same proportion as set forth in the table above.

The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters by us. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

Paid by Us	No Exercise	Full Exercise
Per Share	$	$
Total	$	$

Shares sold by the underwriters to the public will initially be offered at the initial public offering price set forth on the cover of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount of up to $ per share from the initial public offering price. After the initial offering of the shares, the representatives may change the offering price and the other selling terms. The offering of the shares by the underwriters is subject to receipt and acceptance and subject to the underwriters' right to reject any order in whole or in part.

We and our officers, directors, and holders of substantially all of our common stock have agreed with the underwriters, subject to certain exceptions, not to dispose of or hedge any of their common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of this prospectus continuing through the date that is 180 days after the date of this prospectus, except with the prior written consent of Goldman, Sachs & Co., Citigroup Global Markets Inc. and Leerink Partners LLC. This agreement does not apply to any existing employee benefit plans. The foregoing restrictions do not apply to equity issuances by us in connection with any licensing, commercialization, joint venture, technology transfer or development collaboration agreement and commercial credit, equipment financing or commercial property lease transactions of up to 5% of the total number of shares of common stock issued and outstanding immediately following the consummation of this offering (provided that in each case the recipient agrees not to sell, dispose of, transfer or hedge the equity they receive for the balance of the lock-up period). See "Shares Eligible for Future Sale" for a discussion of certain transfer restrictions.

Prior to the offering, there has been no public market for the shares. The initial public offering price has been negotiated among us and the representatives. Among the factors to be considered in determining the initial public offering price of the shares, in addition to prevailing market conditions, will be our historical performance, estimates of our business potential and earnings prospects, an assessment of our management and the consideration of the above factors in relation to market valuation of companies in related businesses.

We intend to list our common stock on the NASDAQ Global Market under the symbol “ ”.

In connection with the offering, the underwriters may purchase and sell shares of common stock in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering, and a short position represents the amount of such sales that have not been covered by subsequent purchases. A “covered short position” is a short position that is not greater than the amount of additional shares for which the underwriters’ option described above may be exercised. The underwriters may cover any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to cover the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase additional shares pursuant to the option described above. “Naked” short sales are any short sales that create a short position greater than the amount of additional shares for which the option described above may be exercised. The underwriters must cover any such naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Purchases to cover a short position and stabilizing transactions, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or retarding a decline in the market price of our common stock, and together with the imposition of the penalty bid, may stabilize, maintain or otherwise affect the market price of our common stock. As a result, the price of our common stock may be higher than the price that otherwise might exist in the open market. The underwriters are not required to engage in these activities and may end any of these activities at any time. These transactions may be effected on the NASDAQ Global Market, in the over-the-counter market or otherwise.

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State), each underwriter has represented and agreed that with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State (the Relevant Implementation Date) it has not made and will not make an offer of shares to the public in that Relevant Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Directive, except that it may, with effect from and including the Relevant Implementation Date, make an offer of shares to the public in that Relevant Member State at any time:

(a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;

(b) to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the relevant underwriter or underwriters nominated by the Issuer for any such offer; or

(c) in any other circumstances which do not require the publication by the Issuer of a prospectus pursuant to Article 3(2) of the Prospectus Directive;

provided that no such offer of shares shall require the Issuer or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer of shares to the public" in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe the shares, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State and the expression Prospectus Directive means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State and the expression 2010 PD Amending Directive means Directive 2010/73/EU.

Each underwriter has represented and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act, or the FSMA) received by it in connection with the issue or sale of the shares in circumstances in which Section 21(1) of the FSMA does not apply to the Issuer; and

(b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares in, from or otherwise involving the United Kingdom.

The shares may not be offered or sold by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), or (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (ii) to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 by a relevant person which is: (a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that trust shall not be transferable for six months after that corporation or that trust has

acquired the shares under Section 275 except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA; (2) where no consideration is given for the transfer; or (3) by operation of law.

The securities have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (the Financial Instruments and Exchange Law) and each underwriter has agreed that it will not offer or sell any securities, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law and any other applicable laws, regulations and ministerial guidelines of Japan.

The underwriters do not expect sales to discretionary accounts to exceed five percent of the total number of shares offered.

We estimate that our share of the total expenses of the offering, excluding underwriting discounts and commissions, will be approximately $. We have also agreed to reimburse the underwriters for certain FINRA-related expenses incurred by them in connection with the offering in an amount not to exceed $30,000 as set forth in the underwriting agreement.

We have agreed to indemnify the several underwriters against certain liabilities, including liabilities under the Securities Act of 1933.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Certain of the underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to the issuer and to persons and entities with relationships with the issuer, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to assets, securities and/or instruments of the issuer (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the issuer. The underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

Goldman, Sachs & Co., certain of its affiliates and certain investment funds managed by them collectively beneficially owned preferred stock convertible into an aggregate of shares of our common stock.

VALIDITY OF COMMON STOCK

The validity of the shares of common stock offered hereby will be passed upon for us by Cooley LLP, Palo Alto, California and for the underwriters by Sullivan & Cromwell LLP, Palo Alto, California.

EXPERTS

The consolidated financial statements as of December 31, 2012 and 2013 and for the years then ended included in this prospectus have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of such firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of our common stock offered under this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement and the exhibits. For further information about us and our common stock, you should refer to the registration statement and the exhibits and schedules filed with the registration statement. With respect to the statements contained in this prospectus regarding the contents of any agreement or any other document, in each instance, the statement is qualified in all respects by the complete text of the agreement or document, a copy of which has been filed as an exhibit to the registration statement.

Upon completion of this offering, we will be required to file annual, quarterly and current reports, proxy statements and other information with the SEC pursuant to the Exchange Act. You may read and copy this information at the SEC at its public reference facilities located at 100 F Street N.E., Room 1580, Washington, D.C. 20549, at prescribed rates. You may obtain information on the operation of the public reference rooms by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains periodic reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that site is www.sec.gov.

We intend to furnish our stockholders with annual reports containing audited financial statements and to file with the SEC quarterly reports containing unaudited interim financial data for the first three quarters of each fiscal year. We also maintain a website on the Internet at www.FibroGen.com. However, the information contained in or accessible through our website is not part of this prospectus or the registration statement of which this prospectus forms a part, and investors should not rely on such information in making a decision to purchase our common stock in this offering.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of FibroGen, Inc.:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, of comprehensive income (loss), of redeemable convertible preferred stock and equity (deficit) and of cash flows present fairly, in all material respects, the financial position of FibroGen, Inc. and its subsidiaries (the "Company") at December 31, 2013 and 2012, and the results of their operations and their cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

San Jose, California
June 11, 2014

FibroGen, Inc.

Consolidated Balance Sheets
(in thousands, except share and per share data)

	December 31, 2012	December 31, 2013	June 30, 2014 (unaudited)	Pro forma Equity June 30, 2014 (See Note 2) (unaudited)
Assets				
Current assets:				
Cash and cash equivalents	$ 38,872	$ 76,332	$ 182,662	
Short-term investments	1,017	46,477	19,427	
Accounts receivable ($8,784, $6,012 and $7,262 from related party)	8,784	17,495	16,166	
Prepaid expenses and other current assets	4,130	3,339	2,375	
Total current assets	52,803	143,643	220,630	
Restricted cash	7,254	7,254	7,254	
Long-term investments	81,613	15,356	7,732	
Property and equipment, net	123,664	129,898	133,337	
Other assets	254	801	3,704	
Total assets	$ 265,588	$ 296,952	$ 372,657	
Liabilities, redeemable convertible preferred stock and total equity (deficit)				
Current liabilities:				
Accounts payable	$ 3,107	$ 1,066	$ 1,256	
Accrued liabilities ($1,121, $2,765 and $4,455 to related party)	16,480	29,559	36,938	
Deferred revenue	2,393	5,741	9,826	
Current portion of capital lease obligation	329	—	—	
Cease-use liability	966	710	524	
Current portion of lease financing obligations	403	403	403	
Total current liabilities	23,678	37,479	48,947	
Long-term portion of lease financing obligations	92,499	96,406	96,511	
Product development obligations (Note 6)	17,152	18,257	18,291	
Deferred rent	5,809	5,503	5,321	
Deferred revenue, net of current	3,371	30,908	63,110	
Cease-use liability, net of current	895	184	—	
Other long-term liabilities	—	612	612	
Total liabilities	143,404	189,349	232,792	
Commitments and Contingencies (Note 8)				
Series E and F redeemable convertible preferred stock (“Senior Preferred Stock”); par value of $0.01, 38,340,182 shares authorized, 38,340,182 shares issued and outstanding at December 31, 2012 and 2013, and June 30, 2014 (unaudited), and no shares authorized, issued or outstanding pro forma at June 30, 2014 (unaudited) (liquidation value: $173,690 at June 30, 2014)	168,436	168,436	168,436	—
Stockholders’ equity (deficit):				
Series A, B, C, D, G-1 and royalty acquisition convertible preferred stock (“Junior Preferred Stock”); par value of $0.01, 86,659,818 shares authorized, 46,460,057 shares issued and outstanding at December 31, 2012 and 2013, and June 30, 2014 (unaudited), and no shares authorized, issued or outstanding pro forma at June 30, 2014 (unaudited) (liquidation value: $138,060 at June 30, 2014)	136,313	136,313	136,313	—
Common stock; par value of $0.01, 225,000,000 shares authorized, 32,918,008, 33,003,325, and 33,714,272 shares issued and outstanding at December 31, 2012 and 2013, and June 30, 2014 (unaudited), respectively, and 118,514,511 shares outstanding pro forma at June 30, 2014 (unaudited)	329	330	337	1,185
Additional paid-in capital	37,409	40,936	43,225	347,126
Accumulated other comprehensive loss	(167)	(3,508)	(4,133)	(4,133)
Accumulated deficit	(247,836)	(262,779)	(232,188)	(232,188)
Total stockholders’ equity (deficit)	(73,952)	(88,708)	(56,446)	111,990
Non-controlling interests	27,700	27,875	27,875	27,875
Total equity (deficit)	(46,252)	(60,833)	(28,571)	139,865
Total liabilities, redeemable convertible preferred stock and equity (deficit)	$ 265,588	$ 296,952	$ 372,657	

The accompanying notes are an integral part of these Consolidated Financial Statements.

FibroGen, Inc.

Consolidated Statements of Operations
(in thousands, except per share data)

	Years ended December 31,		Six Months ended June 30,	
	2012	2013	2013	2014
			(unaudited)	
Revenue:				
License and milestone revenue (includes $62,845, $22,326, $16,895 and $6,460 from related party)	$ 62,845	$ 94,961	$ 16,895	$ 97,148
Collaboration services and other revenue (includes $2,275, $3,335, $1,628 and $1,617 from related party)	3,088	7,209	1,637	10,686
Total revenue	65,933	102,170	18,532	107,834
Operating expenses:				
Research and development	74,222	85,710	33,092	58,919
General and administrative	18,934	24,409	9,610	13,948
Total operating expenses	93,156	110,119	42,702	72,867
Income (loss) from operations	(27,223)	(7,949)	(24,170)	34,967
Interest and other, net:				
Interest expense	(10,026)	(10,702)	(5,307)	(5,451)
Interest income	4,397	3,552	1,840	1,080
Other income (expense), net	181	156	164	(5)
Total interest and other, net	(5,448)	(6,994)	(3,303)	(4,376)
Income (loss) before income taxes	(32,671)	(14,943)	(27,473)	30,591
Benefit from income taxes	100	—	—	—
Net income (loss)	$ (32,571)	$ (14,943)	$(27,473)	$ 30,591
Net income (loss) per share basic	$ (0.99)	$ (0.45)	$ (0.83)	$ 0.30
Net income (loss) per share diluted	$ (0.99)	$ (0.45)	$ (0.83)	$ 0.18
Weighted-average number of common shares used in net income (loss) per share—basic	32,820	32,964	32,938	33,198
Weighted-average number of common shares used in net income (loss) per share—diluted	32,820	32,964	32,938	53,970
Pro forma net income (loss) per share—basic (unaudited)		$ (0.13)		$ 0.26
Pro forma net income (loss) per share—diluted (unaudited)		$ (0.13)		$ 0.22
Pro forma weighted-average number of common shares used in net income (loss) per share—basic (unaudited)		117,764		117,998
Pro forma weighted-average number of common shares used in net income (loss) per share—diluted (unaudited)		117,764		140,164

The accompanying notes are an integral part of these Consolidated Financial Statements.

FibroGen, Inc.

Consolidated Statements of Comprehensive Income (Loss)
(in thousands)

	Years ended December 31,		Six Months ended June 30,	
	2012	2013	2013	2014
			(unaudited)	
Net income (loss)	$ (32,571)	$ (14,943)	$(27,473)	$30,591
Other comprehensive income (loss):				
Foreign currency translation adjustments	(400)	(665)	284	195
Available-for-sale investments:				
Unrealized gain (loss) on investments, net of tax effect	643	(1,936)	(1,261)	(820)
Reclassification adjustments for realized gain included in net income, net of tax effect	(96)	(740)	(292)	—
Net change in unrealized gain (loss) on available-for-sale investments	547	(2,676)	(1,553)	(820)
Other comprehensive income (loss), net of taxes	147	(3,341)	(1,269)	(625)
Comprehensive income (loss)	$ (32,424)	$ (18,284)	$(28,742)	$29,966

The accompanying notes are an integral part of these Consolidated Financial Statements.

FibroGen, Inc.

Consolidated Statements of Redeemable Convertible Preferred Stock and Equity (Deficit)
(in thousands, except share and per share data)

	Senior Preferred Stock		Junior Preferred Stock		Common Stock		Additional Paid-in Capital	Stockholder's Note Receivable (Related Party)	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Non-Controlling Interests	Total
	Shares	Amount	Shares	Amount	Shares	Amount						
Balance at December 31, 2011	38,340,182	$168,436	46,460,057	$136,313	32,793,508	$ 328	$ 32,699	$ (789)	$ (314)	$ (215,265)	$ 21,118	$(25,910)
Net loss	—	—	—	—	—	—	—	—	—	(32,571)	—	(32,571)
Change in unrealized loss on investments	—	—	—	—	—	—	—	—	547	—	—	547
Foreign currency translation adjustments	—	—	—	—	—	—	—	—	(400)	—	—	(400)
Issuance of Series A Preferred to non-controlling interest	—	—	—	—	—	—	—	—	—	—	6,582	6,582
Stock options exercised	—	—	—	—	124,500	1	149	—	—	—	—	150
Repayment of stockholder's note	—	—	—	—	—	—	—	789	—	—	—	789
Stock-based compensation	—	—	—	—	—	—	4,561	—	—	—	—	4,561
Balance at December 31, 2012	38,340,182	168,436	46,460,057	136,313	32,918,008	329	37,409	—	(167)	(247,836)	27,700	(46,252)
Net loss	—	—	—	—	—	—	—	—	—	(14,943)	—	(14,943)
Change in unrealized loss on investments	—	—	—	—	—	—	—	—	(2,676)	—	—	(2,676)
Foreign currency translation adjustments	—	—	—	—	—	—	—	—	(665)	—	—	(665)
Issuance of Series A Preferred to non-controlling interest	—	—	—	—	—	—	—	—	—	—	175	175
Stock options exercised	—	—	—	—	85,317	1	83	—	—	—	—	84
Stock-based compensation	—	—	—	—	—	—	3,444	—	—	—	—	3,444
Balance at December 31, 2013	38,340,182	168,436	46,460,057	136,313	33,003,325	330	40,936	—	(3,508)	(262,779)	27,875	(60,833)
Net income (*)	—	—	—	—	—	—	—	—	—	30,591	—	30,591
Change in unrealized loss on investments (*)	—	—	—	—	—	—	—	—	(820)	—	—	(820)
Foreign currency translation adjustments (*)	—	—	—	—	—	—	—	—	195	—	—	195
Stock options exercised (*)	—	—	—	—	710,947	7	824	—	—	—	—	831
Stock-based compensation (*)	—	—	—	—	—	—	1,465	—	—	—	—	1,465
Balance at June 30, 2014 (*)	38,340,182	$168,436	46,460,057	$136,313	33,714,272	$ 337	$ 43,225	$ —	$ (4,133)	$ (232,188)	$ 27,875	$(28,571)

(*) Unaudited

The accompanying notes are an integral part of these Consolidated Financial Statements.

FibroGen, Inc.

Consolidated Statements of Cash Flows
(in thousands)

	Years ended December 31,		Six Months ended June 30,	
	2012	2013	2013	2014
			(unaudited)	
Operating activities				
Net income (loss)	$(32,571)	$(14,943)	$(27,473)	$ 30,591
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:				
Depreciation and amortization	5,598	5,084	2,631	1,843
Amortization (accretion) of premium (discount) of investments	909	841	420	307
Gain on sale of investments, net	(365)	(301)	(237)	—
Gain on disposal of property and equipment	(2)	(1)	(2)	—
Stock-based compensation	4,561	3,444	1,755	1,465
Changes in operating assets and liabilities:				
Accounts receivable ($14,147, $2,772, $(3,364) and $(1,250) from related party)	14,147	(8,711)	3,364	1,329
Prepaid expenses and other current assets	450	791	444	964
Other assets	410	(547)	(242)	(694)
Accounts payable	770	(2,041)	(2,234)	190
Accrued liabilities and deferred rent ($14, $1,644, $670 and $1,690 from related party)	1,478	11,307	(2,661)	4,828
Deferred revenue	(973)	30,885	(1,126)	36,287
Cease-use liability	(1,008)	(967)	(470)	(371)
Lease financing liability	627	690	392	306
Other long-term liabilities	364	387	184	193
Net cash provided by (used in) operating activities	(5,605)	25,918	(25,255)	77,238
Investing activities				
Purchases of property and equipment	(744)	(6,806)	(1,886)	(3,952)
Proceeds from sale of property and equipment	2	2	2	—
Purchases of investments	(2,160)	—	—	—
Proceeds from sales of investments	10,055	16,582	—	—
Proceeds from maturities of investments	11,999	1,000	7,610	33,546
Net cash provided by investing activities	19,152	10,778	5,726	29,594
Financing activities				
Borrowings under credit facility	17,300	11,500	—	—
Repayments under credit facility	(17,300)	(11,500)	—	—
Repayments of capital lease obligations	(311)	(329)	(162)	—
Repayments of lease liability	(403)	(403)	(201)	(201)
Proceeds from lease financing liability	—	553	—	—
Repayment of stockholder’s note receivable (related party)	789	—	—	—
Proceeds from convertible promissory note	—	600	600	—
Proceeds from non-controlling interest	6,582	175	175	—
Proceeds from issuance of Common Stock upon exercise of stock options	150	84	47	831
Payment of equity issuance costs	—	—	—	(1,167)
Net cash provided by (used in) financing activities	6,807	680	459	(537)
Effect of exchange rate changes on cash and cash equivalents	(66)	84	13	35
Net increase (decrease) in cash and cash equivalents	20,288	37,460	(19,057)	106,330
Cash and cash equivalents at beginning of period	18,584	38,872	38,872	76,332
Cash and cash equivalents at end of period	$ 38,872	$ 76,332	$ 19,815	$182,662
Supplemental cash flow information:				
Interest payments	$ 506	$ 433	$ 233	$ 194
Purchases of property and equipment in accounts payable and accrued liabilities	$ 210	$ 1,655	$ 150	$ 2,988
Assets acquired under facility lease	$ —	$ 3,067	$ 3,067	$ —
Deferred offering costs recorded in accounts payable and accrued liabilities	$ —	$ —	$ —	$ 1,044

The accompanying notes are an integral part of these Consolidated Financial Statements.

Note 1–The Company

FibroGen, Inc. (“FibroGen” or the “Company”) is a research-based biopharmaceutical company focused on the discovery, development and commercialization of novel therapeutics to treat serious unmet medical needs. The Company’s focus in the areas of fibrosis and hypoxia-inducible factor (“HIF”) biology have generated multiple programs targeting various therapeutic areas. The Company’s most advanced product candidate, roxadustat, or FG-4592, is an oral small molecule inhibitor of HIF prolyl hydroxylases (“HIF-PHs”), in Phase 3 clinical development for the treatment of anemia in chronic kidney disease (“CKD”). FG-3019 is the Company’s monoclonal antibody in Phase 2 clinical development for the treatment of idiopathic pulmonary fibrosis (“IPF”), pancreatic cancer and liver fibrosis. The Company has taken a global approach with respect to the development and future commercialization of its product candidates, and this includes development and commercialization in the People’s Republic of China, or China.

Note 2–Summary of Significant Accounting Policies

Basis of Presentation and Liquidity

The consolidated financial statements include the accounts of the Company, its wholly owned subsidiaries and its majority-owned subsidiaries, FibroGen Europe Oy (“FibroGen Europe”) and FibroGen China Anemia Holdings, Ltd. (FibroGen China). All inter-company transactions and balances have been eliminated in consolidation.

Based upon the current status of, and plans for, its product development, the Company believes that its existing cash and cash equivalents and its short term and long term investments, in addition to expected milestone payments related to certain collaboration agreements, will be adequate to satisfy the Company’s capital needs through at least the next twelve months. However, the process of developing and commercializing products requires significant research and development, preclinical testing and clinical trials, manufacturing arrangements as well as regulatory approvals. These costs, together with the Company’s general and administrative expenses, are expected to result in operating losses until the commercialization of the Company’s products or partner collaborations generate sufficient revenue to cover expenses. To achieve sustained profitability, the Company, alone or with others, must successfully develop its product candidates, obtain required regulatory approvals and successfully manufacture and market its products.

Foreign Currency Translation

The reporting currency of the Company and its subsidiaries is the United States dollar. The functional currency of FibroGen Europe is the Euro. The assets and liabilities of FibroGen Europe are translated to United States dollars at exchange rates in effect at the balance sheet date. All income statement accounts are translated at monthly average exchange rates. Resulting foreign currency translation adjustments are recorded directly in accumulated other comprehensive income (loss) as a separate component of stockholders’ equity (deficit).

The functional currency of FibroGen, Inc. and all other subsidiaries is the United States dollar. Accordingly, monetary assets and liabilities in the non-functional currency of these subsidiaries are remeasured using exchange rates in effect at the end of the period. Revenues and costs in local currency are remeasured using average exchange rates for the period, except for costs related to those balance sheet items that are remeasured using historical exchange rates. The resulting remeasurement gains and losses are included within other income (expense), net in the consolidated statements of operations as incurred and have not been material for all periods presented.

Use of Estimates

The preparation of the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (“U.S. GAAP”) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Unaudited interim consolidated financial information

The accompanying interim consolidated balance sheet as of June 30, 2014, the interim consolidated statements of operations, comprehensive income (loss), and cash flows for the six months ended June 30, 2013 and 2014, the interim consolidated statements of redeemable convertible preferred stock and equity (deficit) for the six months ended June 30, 2014, and the related footnote disclosures, are unaudited. These unaudited interim consolidated financial statements have been prepared in accordance with U.S. GAAP on the same basis as the audited consolidated financial statements and, in the opinion of management, reflect all adjustments, consisting of only normal recurring adjustments, considered necessary to state fairly the Company's financial position as of June 30, 2014 and the results of operations and cash flows for the six months ended June 30, 2013 and 2014. The results of operations for the six months ended June 30, 2014 are not necessarily indicative of the results that may be expected for the year ending December 31, 2014 or any other interim periods, or any future year or period.

Unaudited Pro Forma Consolidated Balance Sheet Data

Immediately prior to the completion of the initial public offering contemplated by the Company, all of the outstanding shares of Senior preferred stock and Junior preferred stock will automatically convert into shares of Common Stock, assuming the Company raises at least $50.0 million at a price in excess of $5.69 per share. The June 30, 2014 unaudited pro forma consolidated balance sheet data has been prepared assuming the conversion of all the Senior preferred stock and Junior preferred stock outstanding into 84,800,239 shares of Common Stock, but excludes the assumed conversion of preferred stock held by investors of FibroGen Europe into 2,397,505 shares of FibroGen, Inc. common stock as the conversions are subject to withdrawal until certain triggering events occur related to the Company's initial public offering.

Concentration of Credit Risk and Other Risks and Uncertainties

The Company is subject to risks associated with concentration of credit for cash and cash equivalents. A portion of cash on hand is invested in a diversified portfolio of investment grade corporate bonds issued by U.S. corporations as rated investment grade corporate bonds. Any remaining cash is deposited with major financial institutions in the United States, Finland, China and the Cayman Islands. At times, such deposits may be in excess of insured limits. The Company has not experienced any loss on its deposits of cash and cash equivalents. Included in current assets are significant balances of accounts receivable as follows:

	As of December 31,		As of June 30,
	2012	2013	2014 (unaudited)
Astellas Pharma Inc. "Astellas"—Related party	100%	34%	45%
AstraZeneca AB "AstraZeneca"	— %	66%	55%

The Company's future results of operations involve a number of risks and uncertainties. Factors that could affect the Company's future operating results and cause actual results to vary materially from expectations include, but are not limited to, rapid technological change, the results of clinical trials and the achievement of milestones, market acceptance of the Company's product candidates, competition from other products and larger companies, protection of proprietary technology, strategic relationships and dependence on key individuals.

Cash, Cash Equivalents and Restricted Cash

The Company considers all highly liquid investments with maturities of three months or less and that are used in the Company's cash management activities at the date of purchase to be cash equivalents. Cash and cash equivalents include money market accounts, various deposit accounts, and money market funds. Restricted cash includes an irrevocable standby letter of credit as security deposit for a long-term property lease with the Company's landlord. Restricted cash as of each of December 31, 2012 and 2013, and June 30, 2014 (unaudited) totaled $7.3 million.

Investments

The Company classifies its investments as available-for-sale. Those investments with maturities less than 12 months are considered short-term investments. Those investments with maturities greater than 12 months are considered long-term investments. The Company's investments classified as available-for-sale are recorded at fair value based upon quoted market prices at period end. Unrealized gains and losses that are deemed temporary in nature are recorded in accumulated other comprehensive income (loss) as a separate component of stockholders' equity (deficit).

A decline in the fair value of any security below cost that is deemed other than temporary results in a charge to earnings and the corresponding establishment of a new cost basis for the security. Premiums and discounts are amortized (accreted) over the life of the related security as an adjustment to its yield. Dividend and interest income are recognized when earned. Realized gains and losses are included in earnings and are derived using the specific identification method for determining the cost of investments sold.

Deferred Offering Costs

Deferred offering costs consisted primarily of direct incremental costs related to the Company's proposed initial public offering of its common stock. Approximately $2.2 million (unaudited) of deferred offering costs are included in other assets on the Company's consolidated balance sheet as of June 30, 2014. Upon completion of the initial public offering contemplated herein, these amounts will be offset against the proceeds of the offering. If the offering is terminated, the deferred offering costs will be expensed.

Fair Value of Financial Instruments

Carrying amounts of certain of the Company's financial instruments including cash equivalents, investments, receivables, accounts payable and accrued liabilities approximate fair value due to their short maturities.

Property and Equipment

Property and equipment (except for costs of construction of certain long-lived assets–See Note 8) are recorded at cost and depreciated over their estimated useful lives using the straight-line method. Computer equipment, laboratory equipment, and furniture and fixtures are depreciated over three to five years. Leasehold improvements are recorded at cost and amortized over the term of the lease or their useful life, whichever is shorter.

Impairment of Long-Lived Assets

The Company continually evaluates whether events or circumstances have occurred that indicate that the estimated remaining useful life of its long-lived assets may warrant revision or that the carrying value of these assets may be impaired. If the Company determines that an impairment trigger has been met, the Company evaluates the realizability of its long-lived assets based on a comparison of projected undiscounted cash flows from use and eventual disposition with the carrying value of the related asset. Any write-downs (which are measured based on the difference between the fair value and the carrying value of the asset) are treated as permanent reductions in the carrying amount of the assets (asset group). Based on this evaluation, the Company believes that, as of each of the balance sheet dates presented, none of the Company's long-lived assets were impaired.

Revenue Recognition

Substantially all of the Company's revenues to date have been generated from its collaboration agreements.

The Company's collaboration agreements include multiple deliverables, and the Company therefore follows the guidance in Accounting Standards Codification Topic 605-25, "Revenue Recognition–Multiple-Element Arrangements," or ASC Topic 605-25 ("ASC 605-25"). ASC 605-25:

- provides guidance on how deliverables in an arrangement should be separated and how the arrangement consideration should be allocated to the separate units of accounting;

- requires an entity to determine the selling price of a separate deliverable using a hierarchy of (i) vendor-specific objective evidence, or VSOE, (ii) third-party evidence, or TPE, or (iii) best estimate of selling price, or BESP; and
- requires the allocation of the arrangement consideration, at the inception of the arrangement, to the separate units of accounting based on relative selling price.

The Company evaluates all deliverables within an arrangement to determine whether or not they provide value on a stand-alone basis. Based on this evaluation, the deliverables are separated into units of accounting. The arrangement consideration that is fixed or determinable at the inception of the arrangement is allocated to the separate units of accounting based on their relative selling prices. Significant judgment may be required in determining whether a deliverable provides stand-alone value, determining the amount of arrangement consideration that is fixed or determinable, and estimating the stand-alone selling price of each unit of accounting.

To date, the Company has determined that the selling price for the deliverables within its collaboration agreements should be determined using BESP, as neither VSOE nor TPE is available. The process for determining BESP involves significant judgment on the Company's part and includes consideration of multiple factors, including assumptions related to the market opportunity and the time needed to commercialize a product candidate pursuant to the relevant license, estimated direct expenses and other costs, which include the rates normally charged by contract research and contract manufacturing organizations for development and manufacturing obligations, and rates that would be charged by qualified outsiders for committee services.

For each unit of accounting identified within an arrangement, the Company determines the period over which the deliverables are provided and the performance obligation is satisfied. Service revenue is recognized using a proportional performance method. Direct labor hours or full time equivalents are typically used as the measurement of performance. Revenue may be recognized using a straight line method when performance is expected to occur roughly consistently over a period of time.

Payments or reimbursements resulting from the Company's research and development efforts for those arrangements where such efforts are considered as deliverables are recognized as the services are performed and are presented on a gross basis. To the extent payments are required to be made to the collaboration partners pursuant to research and development efforts, those costs are charged to research and development using the guidance pursuant to ASC 605-250, Customer Payments and Incentives, which states that cash consideration given by a vendor to a customer is presumed to be a reduction of the selling prices unless the vendor receives an identifiable benefit in exchange for the consideration that is sufficiently separable from the recipient's purchase of the vendor's products, and the vendor can reasonably estimate the fair value of the benefit.

Each of the Company's collaboration agreements includes milestones for which the Company follows ASC Topic 605-28, Revenue Recognition—Milestone Method ("ASC 605-28"). ASC 605-28 establishes the milestone method as an acceptable method of revenue recognition for certain contingent event-based payments under research and development arrangements. Under the milestone method, a payment that is contingent upon the achievement of a substantive milestone is recognized in its entirety in the period in which the milestone is achieved. A milestone is an event (i) that can only be achieved based in whole or in part on either the Company's performance or on the occurrence of a specific outcome resulting from the Company's performance, (ii) for which there is substantive uncertainty at the date the arrangement is entered into that the event will be achieved and (iii) that would result in additional payments being due to the Company. Determining whether a milestone is substantive is a matter of judgment and that assessment must be made at the inception of the arrangement. Milestones are considered substantive when the consideration earned from the achievement of the milestone is (i) commensurate with either the Company's performance to achieve the milestone or the enhancement of the value of the item delivered as a result of a specific outcome resulting from the Company's performance to achieve the milestone, (ii) relates solely to past performance and (iii) is reasonable relative to all deliverables and payment terms in the arrangement. Payments for achieving milestones which are not considered substantive are

treated as additional arrangement consideration and are allocated following the relative selling price method previously described.

Research and Development Expenses

Research and development expenses consist of independent research and development costs and the gross amount of costs associated with work performed under collaboration agreements. Research and development costs include employee-related expenses, expenses incurred under agreements with clinical research organizations ("CROs"), other clinical and preclinical costs and allocated direct and indirect overhead costs, such as facilities costs, information technology costs and other overhead. All research and development costs are expensed as incurred.

Clinical Trial Accruals

Clinical trial costs are a component of research and development expenses. The Company accrues and expenses clinical trial activities performed by third parties based upon actual work completed in accordance with agreements established with clinical research organizations and clinical sites. The Company determines the costs to be recorded based upon validation with the external service providers as to the progress or stage of completion of trials or services and the agreed-upon fee to be paid for such services.

General and Administrative Expenses

General and administrative expenses consist primarily of employee-related expenses for executive, operational, finance, legal and human resource functions. Other general and administrative expenses include facility-related costs and professional service fees, other outside services, recruiting fees and expenses associated with obtaining and maintaining patents.

Income Taxes

The Company utilizes the asset and liability method of accounting for income taxes which requires the recognition of deferred tax assets and liabilities for expected future consequences of temporary differences between the financial reporting and income tax bases of assets and liabilities using enacted tax rates. Management makes estimates, assumptions and judgments to determine the Company's provision for income taxes and also for deferred tax assets and liabilities, and any valuation allowances recorded against the Company's deferred tax assets. The Company assesses the likelihood that its deferred tax assets will be recovered from future taxable income and, to the extent the Company believes that recovery is not likely, the Company must establish a valuation allowance.

The calculation of the Company's current provision for income taxes involves the use of estimates, assumptions and judgments while taking into account current tax laws, interpretation of current tax laws and possible outcomes of future tax audits. The Company has established reserves to address potential exposures related to tax positions that could be challenged by tax authorities. Although the Company believes its estimates, assumptions and judgments to be reasonable, any changes in tax law or its interpretation of tax laws and the resolutions of potential tax audits could significantly impact the amounts provided for income taxes in the Company's consolidated financial statements.

The calculation of the Company's deferred tax asset balance involves the use of estimates, assumptions and judgments while taking into account estimates of the amounts and type of future taxable income. Actual future operating results and the underlying amount and type of income could differ materially from the Company's estimates, assumptions and judgments thereby impacting the Company's financial position and results of operations.

The Company has adopted ASC 740-10 "Accounting for Uncertainty in Income Taxes" that prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of

uncertain tax positions taken or expected to be taken in the Company's income tax return, and also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure and transition.

The Company includes interest and penalties related to unrecognized tax benefits within income tax expense in the accompanying Consolidated Statements of Operations. The Company has not incurred any interest or penalties related to unrecognized tax benefits in any of the periods presented.

Stock-Based Compensation

The Company maintains equity incentive plans under which incentive and nonqualified stock options are granted to employees and non-employee consultants. Compensation expense relating to non-employee stock options has not been material for the years ended December 31, 2012 and 2013, and for the six months ended June 30, 2013 and 2014 (unaudited).

The Company measures and recognizes compensation expense for all stock options granted to its employees and directors based on the estimated fair value of the award on the grant date. The Company uses the Black-Scholes valuation model to estimate the fair value of stock option awards. The fair value is recognized as expense, net of estimated forfeitures, over the requisite service period, which is generally the vesting period of the respective award, on a straight-line basis. The Company believes that the fair value of stock options granted to non-employees is more reliably measured than the fair value of the services received. As such, the fair value of the unvested portion of the options granted to non-employees is re-measured each period. The resulting increase in value, if any, is recognized as expense during the period the related services are rendered on a straight-line basis. The determination of the grant date fair value of options using an option pricing model is affected by the Company's estimated Common Stock fair value and requires management to make a number of assumptions including the expected life of the option, the volatility of the underlying stock, the risk-free interest rate and expected dividends.

Comprehensive Income (Loss)

The Company is required to report all components of comprehensive income (loss), including net loss, in the consolidated financial statements in the period in which they are recognized. Comprehensive income (loss) is defined as the change in equity during a period from transactions and other events and circumstances from non-owner sources, including unrealized gains and losses on investments and foreign currency translation adjustments. Comprehensive gains (losses) have been reflected in the consolidated statements of comprehensive income (loss) for all periods presented.

Recent Accounting Pronouncements

The Company is an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"). Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. The Company has irrevocably elected not to avail itself of this exemption from new or revised accounting standards, and, therefore, will be subject to the same new or revised accounting standards as public companies that are not emerging growth companies.

In April 2014, the FASB issued Accounting Standards Update ("ASU") No. 2014-08, *Reporting Discontinued Operations and Disclosures of Disposals of Components of an Entity*." The ASU amendment changes the requirements for reporting discontinued operations in Subtopic 205-20. The amendment is effective on a prospective basis for financial statements issued for fiscal years, and interim periods within those fiscal years, beginning on or after December 15, 2014. Early adoption is permitted for disposals that have not been reported in financial statements previously issued. The Company will apply the provisions of this ASU to any future transactions after the effective date which qualify for reporting discontinued operations.

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (Topic 606), which supersedes the revenue recognition requirements in ASC 605, *Revenue Recognition*. This ASU is based on the principle that revenue is recognized to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The ASU also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. The ASU's effective date will be the first quarter of fiscal year 2017 (for a public entity) or the first quarter of 2018 (for a non-public entity, but with earlier adoption permitted) using one of two retrospective application methods. The Company has not determined the potential effects of this ASU on its consolidated financial statements.

In February 2013, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2013-02, *Comprehensive Income (Topic 220): Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income* (ASU 2013-02). This newly issued accounting standard update requires an entity to provide information about the amounts reclassified out of accumulated other comprehensive income by component. This ASU is effective for reporting periods beginning after December 15, 2012. The Company adopted this guidance in the first quarter of 2013 and the adoption of this guidance did not have an impact on its consolidated financial statements.

In July 2013, the FASB issued ASU No. 2013-11, *Income Taxes (Topic 740): Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists (a Consensus of the FASB Emerging Issues Task Force*) (ASU 2013-02). This newly issued accounting standard update requires a liability related to an unrecognized tax benefit to be presented as a reduction of a deferred tax asset for a net operating loss carryforward, a similar tax loss or a tax credit carryforward if such settlement is required or expected in the event the uncertain tax position is disallowed. The Company adopted this guidance in the first quarter of 2014 and the adoption of this guidance did not have an impact on its consolidated financial statements.

Note 3—Collaboration Agreements

Astellas Agreements

Japan Agreement

In June 2005, the Company entered into a collaboration agreement with Astellas Pharma Inc. ("Astellas") for the development and commercialization (but not manufacture) of roxadustat for the treatment of anemia in Japan ("Japan Agreement"). Under this agreement, Astellas paid license fees and other consideration totaling $40.1 million (such amounts were fully received as of February 2009). The Japan Agreement also provides for additional development and regulatory approval milestone payments up to $117.5 million, a commercial sales related milestone of $15.0 million and additional consideration based on net sales (as defined) in the low 20% range after commercial launch.

Europe Agreement

In April 2006, the Company entered into a separate collaboration agreement with Astellas for the development and commercialization of roxadustat for the treatment of anemia in Europe, the Middle East, the Commonwealth of Independent States and South Africa ("Europe Agreement"). Under the terms of the Europe Agreement, Astellas paid license fees and other upfront consideration totaling $320.0 million (such amounts were fully received as of February 2009). The Europe Agreement also provides for additional development and regulatory approval milestone payments up to $425.0 million. Under the Europe Agreement, Astellas committed to fund fifty percent of joint development costs for Europe and North America, and all territory-specific costs. The Europe Agreement also provides for tiered payments based on net sales of product (as defined) in the low 20% range.

AstraZeneca Agreements

US/Rest of World Agreement

Effective July 30, 2013, the Company entered into a collaboration agreement with AstraZeneca AB ("AstraZeneca") for the development and commercialization of roxadustat for the treatment of anemia in the United States and all other countries in the world, other than China, not previously licensed under the Astellas Europe and Astellas Japan Agreements ("US/RoW Agreement"). It also excludes China, which is covered by a separate agreement with AstraZeneca described below. Under the terms of the agreement, AstraZeneca has agreed to pay upfront, non-contingent and time-based payments totaling $374.0 million, which the Company expects to receive in various amounts through June 2016, of which $82.0 million was received as of December 31, 2013 and were determined to be fixed and determinable upon the execution of the collaboration agreement. Out of the remaining payments of $292.0 million which are contractually due, $230.0 million have extended payment terms and, accordingly, are not considered to be fixed or determinable upon the execution of the agreement. As such, for these remaining payments, the amount of revenue recognized is limited to the amount of cash consideration received; additionally, for each of the amounts received, the amount of revenue recognized will be determined on the basis of applying the relative selling price method to each of the units of accounting underlying the agreement as further described below. Further, $62.0 million of the remaining payment is contingent upon the occurrence of a specified event and accordingly is also not considered fixed or determinable. In addition, the US/RoW Agreement also provides for development and regulatory approval based milestone payments of up to $550.0 million, which include potential future indications which the companies choose to pursue, and commercial related milestone payments of up to $325.0 million.

Under the US/RoW Agreement, the Company and AstraZeneca will share equally in the development costs of roxadustat not already paid for by Astellas, up to a total of $233.0 million. Any additional development costs incurred by FibroGen during the development period in excess of the $233.0 million (aggregated spend) will be fully reimbursed by AstraZeneca. AstraZeneca will pay the Company tiered royalty payments on AstraZeneca's future net sales (as defined in the agreement) of roxadustat in the low 20% range. In addition, the Company will receive a transfer price for delivery of commercial product based on a percentage of AstraZeneca's net sales (as defined in the agreement) in the low- to mid-single digit range.

China Agreement

Effective July 30, 2013, the Company (through its subsidiaries affiliated with China) entered into a collaboration agreement with AstraZeneca for the development and commercialization (but not manufacture) of roxadustat for the treatment of anemia in China ("China Agreement"). Under the terms of the China Agreement, AstraZeneca agreed to pay upfront consideration totaling $28.2 million, of which $16.2 million was received as of December 31, 2013 and were determined to be fixed and determinable upon the execution of the collaboration agreement. The remainder of the upfront payments of $12.0 million had extended payment terms and, accordingly, are not considered to be fixed or determinable upon the execution of the agreement. This payment of $12.0 million (unaudited) was received as of March 31, 2014. In addition, the China Agreement provides for AstraZeneca to pay regulatory approval and other approval related milestones of up to $161.0 million. The China Agreement also provides for sales related milestone payments of up to $167.5 million and contingent payments of $20.0 million related to possible future compounds. The China Agreement is structured as a 50/50 profit or loss share (as defined) and provides for joint development costs (including capital and equipment costs for construction of the manufacturing plant in China, which was ongoing at June 30, 2014), to be shared equally during the development.

Accounting for the Astellas Agreements

For each of the Astellas agreements, the Company has evaluated the deliverables within the respective arrangements and has separated them into various units of accounting.

Deliverables that did not provide standalone value have been combined with other deliverables to form a unit of accounting that collectively has standalone value, with revenue being recognized on the combined unit of

accounting, rather than the individual deliverables. There are no right of return provisions for the delivered items in the Astellas agreements.

For the Astellas agreements, the Company allocated arrangement consideration to various units of accounting based on BESP of each deliverable within each unit of accounting using the relative selling price method as the Company did not have VSOE or TPE of selling price for such deliverables. Arrangement consideration includes non-contingent upfront payments of $360.1 million and co-development payments of $96.0 million (for Europe Agreement) that are deemed to be fixed and determinable.

For the technology license under the Japan Agreement and Europe Agreement, BESP was determined primarily by using the discounted cash flow ("DCF") method, which aggregates the present value of future cash flows to determine the valuation as of the effective date of each of the agreements. The DCF method involves the following key steps: 1) the determination of cash flow forecasts and 2) the selection of a range of comparative risk-adjusted discount rates to apply against the cash flow forecasts. The discount rates selected were based on expectations of the total rate of return, the rate at which capital would be attracted to the Company and the level of risk inherent within the Company. The discounts applied in the DCF analysis ranged from 17.5% to 20.0%. The Company's cash flow forecasts were derived from probability-adjusted revenue and expense projections by territory. Such projections included consideration of taxes and cash flow adjustments. The probability adjustments were made after considering the likelihood of technical success at various stages of clinical trials and regulatory approval phases. BESP also considered certain future royalty payments associated with commercial performance of the Company's compounds, transfer prices and expected gross margins.

The units of accounting that were analyzed, along with their general timing of delivery or performance of service and general timing of revenue recognition, are as follows:

- License to the Company's technology existing at the effective date of the agreements. For both of the Astellas agreements, the license was delivered at the beginning of the agreement terms, or when the agreements were signed, and any contingencies had been removed. In both cases, the Company concluded at the time of the agreement that its collaboration partner, Astellas, would have the knowledge and capabilities to exploit the licenses without the Company's further involvement. However, the Japan Agreement with Astellas has contractual limitations that might affect Astellas' ability to exploit the license and therefore, potentially, the conclusion as to whether the license provides stand-alone value. In the Japan agreement, Astellas does not have the right to manufacture commercial supplies of the drug. In order to determine whether this characteristic of the agreement should lead to a conclusion that the license did not have stand-alone value, the Company considered the intent of the parties and the substantive reasons that led to that feature of the agreement.
- In the case of the Japan Agreement, the Company retained manufacturing rights largely because of the way the parties chose for FibroGen to be compensated under the agreement. At the time the agreement was signed, the Company believed that it was more advantageous upon commercialization to have a transfer price revenue model in place as opposed to a traditional sales-based model. The Company and Astellas could have structured the arrangement with a transfer of manufacturing rights and compensated the Company through a royalty or other feature without significantly diminishing the prospects of the drug product. Therefore, the Company has determined that the license in Japan provides stand-alone value to the customer despite the lack of manufacturing rights.
- License to the Company's technology developed during the term of the agreement and development (referred to as "when and if available") and information sharing services. These deliverables are generally delivered throughout the term of the agreements and are recognized as revenue as the services are provided.
- Co-development services (Europe Agreement). This deliverable relates to co-development services that were reasonably expected to be performed by the Company at the time the collaboration agreement was signed. Revenue is recognized as reimbursements for such co-development services are earned. The period related to this deliverable represented the Company's determination of the non-contingent

performance period, which was estimated to be 36 months for the Europe Agreement from the signing of the agreement. There was no provision for co-development services in the Japan agreement.

- Manufacturing of clinical supplies of products. This deliverable is satisfied as supplies for clinical product are delivered for use in the Company's clinical trial programs during the development period, or pre-commercialization period. Revenue is recognized based on the estimated proportion of the development services performed during the development period. These estimates are made at the beginning of each accounting period and will likely change throughout the course of the terms of both agreements. As new information related to these estimates becomes available, the Company may adjust the timing of revenue recognition related to this unit of accounting.
- Manufacturing commercial supplies of products. This deliverable is satisfied and revenue is recognized as supplies are shipped for commercial use during the commercialization period. As this deliverable is considered a contingent deliverable, it is outside the scope of the initial allocation of upfront and other consideration.
- Committee service. This deliverable is satisfied and revenue is recognized throughout the course of the various agreements as meetings are attended.

Any consideration received for each agreement after the initial proceeds on the agreement signing date were also (and will be also) allocated to the various units of accounting above per agreement using the relative selling price method under ASC 605-25-30-2 and 30-5.

Under the Europe Agreement, the Company is also eligible to receive from Astellas an aggregate of approximately $425.0 million in potential milestone payments, comprised of (i) up to $90.0 million in substantive milestone payments upon achievement of specified clinical and development milestone events, (ii) up to $335.0 million in substantive milestone payments upon achievement of specified regulatory milestone events, including up to $25.0 million in milestone payments in connection with receipt of marketing approval in Russia. Clinical milestone payments of $40.0 million and $50.0 million were received in 2010 and 2012, respectively. The Company evaluated the criteria under ASC 605-28 (as disclosed in Note 2) and concluded that each of those milestones were substantive.

Under the Japan Agreement, the Company is also eligible to receive from Astellas an aggregate of approximately $132.5 million in potential milestone payments, comprised of (i) up to $22.5 million in substantive milestone payments upon achievement of specified clinical and development milestone events, (ii) up to $95.0 million in substantive milestone payments upon achievement of specified regulatory milestone events, and (iii) up to approximately $15.0 million in milestone payments upon the achievement of specified commercial sales milestone. A clinical milestone payment of $12.5 million was received in 2013. The Company evaluated the criteria under ASC 605-28 (as disclosed in Note 2) and concluded that the aforementioned milestone was substantive.

Accounting for the AstraZeneca Agreements

The Company has considered the criteria in AICPA TIS Section 5100.39 in evaluating whether the US/RoW and China Agreements should be accounted for as a single arrangement and concluded that the agreements should be accounted for as a single arrangement as the presumption under the guidance is that two or more agreements executed with a single customer at or around the same time should be presumed to be a single arrangement. Accordingly, upfront and other non-contingent arrangement consideration received and to be received has been and will be pooled together and allocated to each of the units of accounting in both the US/RoW and China Agreements based on their relative fair values.

The Company has evaluated the deliverables within the arrangement and has separated them into various units of accounting.

Deliverables that did not provide stand-alone value have been combined with other deliverables to form a unit of accounting that collectively has stand-alone value, with revenue being recognized on the combined unit of

accounting, rather than the individual deliverables. There are no right of return provisions for the delivered items in the agreements.

For the technology license under the AstraZeneca US/RoW Agreement, BESP was determined based on a two-step process. The first step involved determining an implied royalty rate that would result in the net present value of future cash flows to equal to zero (i.e. where the IRR on the transaction would equal the target return for the investment). This results in an upper bound estimation of the magnitude of royalties that a hypothetical acquirer would reasonably pay for the forecasted cash flow stream. The Company's cash flow forecasts were derived from probability-adjusted revenue and expense projections. Such projections included consideration of taxes and cash flow adjustments. The probability adjustments were made after considering the likelihood of technical success at various stages of clinical trials and regulatory approval phases. The second step involved applying the implied royalty rate, which was determined to be 40%, against the probability-adjusted projected net revenues by territory and determining the value of the license as the net present value of future cash flows after adjusting for taxes. The discount rate utilized was 17.5%.

US/RoW Agreement:

The units of accounting that were analyzed, along with their general timing of delivery or performance of service and general timing of revenue recognition, are as follows:

- License to the Company's technology existing at the effective date of the agreements. For the US/RoW agreement, the license was delivered at the beginning of the agreement terms as all contingencies had been removed. The Company concluded that AstraZeneca has the knowledge and capabilities to exploit the US/RoW license without the Company's further involvement.
- Co-development services. This deliverable relates to co-development services which were reasonably expected to be performed by the Company at the time the Agreement was signed. Revenue is recognized as reimbursements for such co-development services are earned. The period related to this deliverable represented the Company's determination of the non-contingent performance period, which was estimated to be 65 months from the signing of the US/RoW agreement.
- Manufacturing of clinical supplies of products. This deliverable is satisfied as supplies for clinical product are delivered for use in the Company's clinical trial programs during the development period, or pre-commercialization period. Revenue is recognized based on the estimated proportion of the development services performed during the development period. These estimates are made at the beginning of each accounting period and will likely change throughout the course of the agreements. As new information related to these estimates becomes available, the Company may adjust the timing of revenue recognition related to this unit of accounting.
- Manufacturing commercial supplies of products. This deliverable is satisfied and revenue is recognized as supplies are shipped for commercial use during the commercialization period. As this deliverable is considered a contingent deliverable, it is outside the scope of the initial allocation of upfront and other consideration.
- Committee service. This deliverable is satisfied and revenue is recognized throughout the course of the various agreements as meetings are attended.

Under the US/RoW agreement, the Company is also eligible to receive from AstraZeneca an aggregate of approximately $875.0 million in potential milestone payments, comprised of (i) up to $65.0 million in substantive milestone payments upon achievement of specified clinical and development milestone events, (ii) up to $325.0 million in substantive milestone payments upon achievement of specified regulatory milestone events, (iii) up to $160.0 million in non-substantive deferred approval milestone, which would be paid if certain competitors do not launch an HIF compound in the U.S. on or before January 1, 2023 and (iv) up to approximately $325.0 million in milestone payments upon the achievement of specified commercial sales events.

China Agreement:

The units of accounting that were analyzed, along with their general timing of delivery or performance of service and general timing of revenue recognition, are as follows:

- License to the Company's technology existing at the effective date of the agreement. The license was delivered at the beginning of the agreement term as all contingencies had been removed. However, the China Agreement with AstraZeneca has contractual limitations that might affect AstraZeneca's ability to exploit the license and therefore, potentially, the conclusion as to whether the license provides stand-alone value. In the China Agreement, AstraZeneca does not have the right to manufacture commercial supplies of the drug. In order to determine whether this characteristic of the arrangement should lead to a conclusion that the license did not have stand-alone value, the Company considered the intent of the parties and the substantive reasons that led to that feature of the agreement.

  For the China Agreement, the Company retained manufacturing rights as an essential part of a strategy to pursue domestic regulatory pathway for product approval which requires the regulatory licensure of the manufacturing facility in order to commence commercial shipment. The prospects for the collaboration as a whole would have been substantially different had manufacturing rights been provided to AstraZeneca. Because the retention of manufacturing rights by the Company was a significant factor in the collaboration strategy, rather than simply a mechanism to properly compensate FibroGen, management concluded that the license and development services do not have stand-alone value apart from the manufacturing rights. Accordingly, all the deliverables identified, including co-development services, under the China Agreement have been treated as a single unit of account and all revenue allocable to this unit of account is deferred until delivery of commercial drug product has begun. Upon commencement of delivery of commercial drug product, revenue would be recognized in a pattern consistent with estimated deliveries of the commercial drug product.

Under the China Agreement, the Company is also eligible to receive from AstraZeneca an aggregate of approximately $328.5 million in potential milestone payments, comprised of (i) up to $15.0 million in substantive milestone payments upon achievement of specified clinical and development milestone events, (ii) up to $146.0 million in substantive milestone payments upon achievement of specified regulatory milestone events, and (iii) up to approximately $167.5 million in milestone payments upon the achievement of specified commercial sales events.

As the Company is accounting for both the US/RoW and China Agreements as one arrangement, any consideration received after the initial proceeds on the agreement signing date were also (and will be also) allocated to the various units of accounting above using the relative selling price method under ASC 605-25-30-2 and 30-5.

Summary of revenue recognized under the collaboration agreements

The table below summarizes the accounting treatment for the various deliverables pursuant to each agreement. License amounts identified below are included in the "License and milestone revenue" line item in the consolidated statements of operations. All other elements identified below are included in the "Collaboration services and other revenue" line item in the consolidated statements of operations. Amounts recognized as revenue are shown below (in thousands):

Agreement	Deliverable	Cumulative Through December 31, 2011	Years ended December 31, 2012	Years ended December 31, 2013	Six Months Ended June 30, 2013	Six Months Ended June 30, 2014
					(unaudited)	
Japan	License	$ 39,002	$1,136	$ 566	$ 329	$ 230
	Milestones	—	—	12,500	12,500	—
	Total license and milestone revenue	$ 39,002	$1,136	$13,066	$12,829	$ 230
	Collaboration services revenue*	$ 780	$ 229	$ 433	$ 218	$ 176

As of June 30, 2014, the total arrangement consideration has been allocated to each of the following deliverables, along with any associated deferred revenue as follows (in thousands):

	Cumulative Revenue Through June 30, 2014 (unaudited)	Deferred Revenue	Total Consideration
License	$ 40,934	$ —	$ 40,934
When and if available compounds	9	31	40
Manufacturing—clinical supplies	1,599	308	1,907
Committee services	11	5	16
Total	$ 42,553	$ 344	$ 42,897

* When and if available compounds, manufacturing—clinical supplies and committee services have each been identified as separate units of accounting with standalone value and amounts allocable to these elements have been recognized and classified within the Collaboration services revenue line item within the consolidated statements of operations.

Agreement	Deliverable	Cumulative Through December 31, 2011	Years ended December 31, 2012	Years ended December 31, 2013	Six Months Ended June 30, 2013 (unaudited)	Six Months Ended June 30, 2014 (unaudited)
Europe	License	$ 348,735	$ 11,709	$ 9,260	$ 4,066	$ 6,230
	Milestones	40,000	50,000	—	—	—
	Total license and milestone revenue	$ 388,735	$ 61,709	$ 9,260	$ 4,066	$ 6,230
	Collaboration services revenue*	$ 31,553	$ 2,046	$ 2,902	$ 1,410	$ 1,441

As of June 30, 2014, the total arrangement consideration has been allocated to each of the following deliverables, along with any associated deferred revenue as follows (in thousands):

	Cumulative Revenue Through June 30, 2014 (unaudited)	Deferred Revenue	Total Consideration
License	$ 375,934	$ —	$ 375,934
When and if available compounds	263	453	716
Manufacturing—clinical supplies	7,338	1,666	9,004
Development services – in progress	30,120	—	30,120
Committee services	220	40	260
Total	$ 413,875	$ 2,159	$ 416,034

* When and if available compounds, manufacturing—clinical supplies, development services – in progress at the time of signing of the agreement, and committee services have each been identified as a separate unit of accounting with standalone value and amounts allocable to these units have been recognized in revenue as services are performed and classified within the Collaboration services revenue line item within the consolidated statements of operations.

Agreement	Deliverable	Year Ended December 31, 2013	Six Months Ended June 30, 2014 (unaudited)
US/RoW	License	$ 72,635	$ 90,688
& China	Milestones	—	—
	Total license and milestone revenue	$ 72,635	$ 90,688
	Collaboration services revenue*	$ 3,843	$ 9,025
	China single unit of accounting**	$ —	$ —

As of June 30, 2014, the total arrangement consideration has been allocated to each of the following deliverables, along with any associated deferred revenue as follows (in thousands):

	Cumulative Revenue Through June 30, 2014 (unaudited)	Deferred Revenue	Total Consideration
License	$ 163,322	$ —	$ 163,322
Co-development, information sharing & committee services	12,823	36,832	49,655
Manufacturing—clinical supplies	46	124	170
China-single unit of accounting	—	33,477	33,477
Total	$ 176,191	$70,433	$ 246,624

* Co-development, information sharing, and committee services have been combined into a single unit of accounting because the requirements to share information and serve on committees are useful only in combination with the development services, and because all three items are delivered over the same period while manufacturing—clinical supplies has been identified as a separate unit of accounting with standalone value and amounts allocable to this unit of accounting have been recognized and classified within the Collaboration services revenue line item within the consolidated statements of operations.

** All revenues attributable to the China unit of accounting are deferred until all deliverables are met. The China license and collaboration services elements have been combined into a single unit of accounting and consideration allocable to this unit is being deferred due to FibroGen's retention of manufacturing rights and lack of standalone value.

Other Revenues

Other revenues consist of royalty payments received, which are recorded on a monthly basis as they are reported to and collagen feasibility sales. Other revenues were $0.8 million and immaterial for the years ended December 31, 2012 and 2013, respectively. Other revenues were immaterial for the six months ended June 30, 2013 and 2014 (unaudited), respectively.

Deferred Revenue

Deferred revenue represents amounts billed to our collaboration partners for which the related revenues have not been recognized because one or more of the revenue recognition criteria have not been met. The current portion of deferred revenue represents the amount to be recognized within one year from the balance sheet date based on the estimated performance period of the underlying deliverables. The long term portion of deferred revenue represents amounts to be recognized after one year through the end of the non-contingent performance period of the underlying deliverables. The long term portion of deferred revenue also includes amounts allocated to the China unit of accounting under the AstraZeneca arrangement as revenue recognition associated with this unit of accounting is tied to the commercial launch of the products within China, which is not expected to occur within the next year.

Note 4—Fair Value Measurements

In accordance with the authoritative guidance on fair value measurements and disclosures under GAAP, the Company presents the fair values all financial assets and liabilities and any other assets and liabilities that are recognized or disclosed at fair value on a nonrecurring basis. The guidance defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles and expands disclosures about fair-value measurements. The guidance also requires fair value measurements be classified and disclosed in one of the following three categories:

Level 1: Quoted prices in active markets for identical assets or liabilities.

Level 2: Observable inputs other than quoted prices in active markets for identical assets or liabilities.

Level 3: Unobservable inputs.

The Company values certain assets and liabilities, focusing on the inputs used to measure fair value, particularly in instances where the measurement uses significant unobservable (Level 3) inputs. The Company's financial instruments are valued using quoted prices in active markets (Level 1) or based upon other observable inputs (Level 2). The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and considers factors specific to the asset or liability. In addition, the categories presented do not suggest how prices may be affected by the size of the purchases or sales, particularly with the largest highly liquid financial issuers who are in markets continuously with non-equity instruments, or how any such financial assets may be impacted by other factors such as US government guarantees. Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

The following table sets forth the fair value of the Company's financial assets that were measured on a recurring basis (in thousands):

	December 31, 2012			
	Level 1	Level 2	Level 3	Total
Certificates of deposit	$ —	$ 296	$ —	$ 296
Corporate bonds	—	82,446	—	82,446
Equity investments	184	—	—	184
Sub total	184	82,742	—	82,926
Money market funds	18,571	—	—	18,571
Total	$18,755	$82,742	$ —	$101,497

	December 31, 2013			
	Level 1	Level 2	Level 3	Total
Corporate bonds	$ —	$61,624	$ —	$ 61,624
Equity investments	209	—	—	209
Sub-total	209	61,624	—	61,833
Money market funds	48,857	—	—	48,857
Total	$49,066	$61,624	$ —	$110,690

	June 30, 2014			
	Level 1	Level 2	Level 3	Total
		(unaudited)		
Corporate bonds	$ —	$26,950	$ —	$ 26,950
Equity investments	209	—	—	209
Sub-total	209	26,950	—	27,159
Money market funds	139,286	—	—	139,286
Total	$139,495	$26,950	$ —	$166,445

The Company's Level 2 investments are valued using third-party pricing sources. The pricing services utilize industry standard valuation models, including both income and market-based approaches, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. These inputs include reported trades of and broker/dealer quotes on the same or similar investments, issuer credit spreads, benchmark investments, prepayment/default projections based on historical data and other observable inputs.

The following table sets forth the fair value of the Company's financial liabilities that are carried at historical cost (in thousands):

	December 31, 2012			
	Level 1	Level 2	Level 3	Total
Cease-use liability	$ —	$ —	$ 1,861	$ 1,861
Lease financing obligations	—	—	92,902	92,902
Total	$ —	$ —	$94,763	$94,763

	December 31, 2013			
	Level 1	Level 2	Level 3	Total
Cease-use liability	$ —	$ —	$ 894	$ 894
Lease financing obligations	—	—	96,809	96,809
Total	$ —	$ —	$97,703	$97,703

	June 30, 2014			
	Level 1	Level 2	Level 3	Total
		(unaudited)		
Cease-use liability	$ —	$ —	$ 524	$ 524
Lease financing obligations	—	—	96,914	96,914
Total	$ —	$ —	$97,438	$97,438

The fair value of the Company's financial liabilities were each derived by using an income approach which required Level 3 inputs such as discounted estimated future cash flows. Refer to Note 5 for further information regarding the calculation of the cease-use liability and Note 8 for further information regarding the calculation of the lease financing liability.

There were no transfers of assets or liabilities between levels for the years ended December 31, 2012 and 2013, or the six months ended June 30, 2014 (unaudited).

Note 5—Balance Sheet Components

Cash and Cash Equivalents

Cash and cash equivalents consisted of the following (in thousands):

	December 31, 2012	December 31, 2013	June 30, 2014 (unaudited)
Cash	$20,005	$27,475	$ 43,376
Money market funds	18,571	48,857	139,286
Certificates of deposit	296	—	—
Cash and cash equivalents	$38,872	$76,332	$ 182,662

Accounts Receivable

Accounts receivable consisted of the following (in thousands):

	December 31, 2012	December 31, 2013	June 30, 2014 (unaudited)
Astellas—Related party	$8,784	$ 6,012	$ 7,262
AstraZeneca	—	11,483	8,904
Accounts receivable	$8,784	$17,495	$ 16,166

Property and Equipment

Property and equipment consisted of the following (in thousands):

	December 31, 2012	December 31, 2013	June 30, 2014 (unaudited)
Laboratory equipment	$ 12,097	$ 12,346	$ 12,480
Computer equipment	4,294	4,490	4,767
Furniture and fixtures	4,791	4,824	5,078
Leasehold improvements	83,793	83,801	83,839
Building shell (see Note 8)	50,812	53,879	53,879
Construction in progress	889	8,613	13,107
	156,676	167,953	173,150
Less accumulated depreciation and amortization	(33,012)	(38,055)	(39,813)
Property and equipment, net	$123,664	$129,898	$ 133,337

Depreciation and amortization expense for the years ended December 31, 2012 and 2013, and the six months ended June 30, 2013 and 2014 was $5.6 million, $5.1 million, $2.6 million (unaudited) and $1.8 million (unaudited), respectively.

Investments

All investments are classified as available-for-sale. The amortized cost, gross unrealized holding gains or losses, and fair value of the Company's available-for-sale investments by major investments type are summarized in the tables below (in thousands):

	December 31, 2012			
	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Aggregate Fair Value
Investments				
Corporate bonds	$ 78,291	$ 4,175	$ (20)	$ 82,446
Equity investments	125	62	(3)	184
Total investments	$ 78,416	$ 4,237	$ (23)	$ 82,630

	December 31, 2013			
	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Aggregate Fair Value
Investments				
Corporate bonds	$ 60,169	$ 1,455	$ —	$ 61,624
Equity investments	125	87	(3)	209
Total investments	$ 60,294	$ 1,542	$ (3)	$ 61,833

	June 30, 2014			
	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Aggregate Fair Value
		(unaudited)		
Investments				
Corporate bonds	$ 26,316	$ 634	$ —	$ 26,950
Equity investments	124	85	—	209
Total investments	$ 26,440	$ 719	$ —	$ 27,159

The contractual maturities of available-for-sale investments were as follows (in thousands):

	December 31, 2013	June 30, 2014 (unaudited)
Within one year	$ 46,477	$ 19,427
After one year through three years	15,147	7,523
Total debt investments	61,624	26,950
Equity investments	209	209
Total investments	$ 61,833	$ 27,159

Available-for-sale investments are reported at fair value and as such, their associated unrealized gains and losses are reported as a separate component of stockholders' equity (deficit) as accumulated other comprehensive income (loss).

Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	As of December 31,		As of June 30,
	2012	2013	2014 (unaudited)
Preclinical and clinical trial accruals	$ 7,719	$13,117	$ 21,237
Payroll and related accruals	5,381	11,924	7,561
Construction-in-progress obligations	210	1,385	2,343
Professional services	1,521	1,278	2,501
Deferred rent, current portion	293	342	358
Taxes	186	59	21
Other	1,170	1,454	2,917
Total accrued liabilities	$16,480	$29,559	$ 36,938

Cease-Use Liability

In April 2009, in conjunction with the move of the Company's headquarters to a new facility, the Company completed the exit from one of the two formerly occupied buildings. This facility closure was accounted for in accordance with accounting guidance related to costs associated with exit or disposal activities. Based upon this guidance, the Company recorded a cease-use liability equal to the net present value of the future minimum lease payments, net of expected future sublease payments, through the end of the remaining lease term. Any adjustments to the cease-use liability, due to factors such as expected future sublease payments, will be recorded in general and administrative expenses in the period those adjustments occur. A rollforward of the cease-use liability is shown below (in thousands):

	Years Ended December 31,		Six Months Ended June 30,
	2012	2013	2014 (unaudited)
Beginning liability balance	$2,868	$1,861	$ 894
Payments made	(885)	(967)	(370)
Adjustments to estimates (1)	(122)	—	—
Ending liability balance	$1,861	$ 894	$ 524

(1) This adjustment related to the change in estimate for future sublease income.

Note 6—Product Development Obligations

The TEKES product development obligations consist of 11 separate advances (each in the form of a note agreement) received by FibroGen Europe between 1996 and 2008 from TEKES. These advances are granted on a project by project basis to fund various product development efforts undertaken by FibroGen Europe only. Each separate note bears interest (not compounded) calculated as one percentage point less than the Bank of Finland rate in effect at the time of the note, but no less than 3.0%.

If the research work funded by TEKES does not result in an economically profitable business or does not meet its technological objectives, TEKES may, on application from FibroGen Europe, forgive each of these loans, including accrued interest, either in full or in part. As of December 31, 2013 and June 30, 2014, the Company had $13.0 million of principal outstanding, and $5.3 million and $5.4 million (unaudited) of interest accrued, respectively, which have been included in the product development obligations line item on the consolidated balance sheets.

The Company is not a guarantor of these loans, and these loans are not repayable by FibroGen Europe until it has distributable funds.

Note 7—Credit Facility and Convertible Note Payable

In September 2012, the Company entered into a credit agreement (the "Credit Facility") with a lender for a revolving line of credit of up to $50.0 million. The Credit Facility is collateralized by the short and long-term investments of the Company held by the lender. Under the terms of the Credit Facility, the balance outstanding cannot exceed $50.0 million. The Company drew down amounts on the Credit Facility during both the years ended December 31, 2012 and 2013 (which were also repaid in those periods). Interest expense of less than $0.1 million was recognized for both years ended December 31, 2012 and 2013, and the six months ended June 30, 2013 and 2014 at a rate of 1% above daily three month LIBOR. The Credit Facility terminated in September 2013.

In January 2013, FibroGen China entered into a $0.6 million convertible promissory note. The note bears simple interest at a rate of two percent (2.00%) per annum, accrued on an annual basis in arrears. The outstanding principal balance and unpaid accrued interest on the note is due and payable upon the earlier of (a) the effectiveness of the initial public offering of FibroGen China or (b) the eight year anniversary of the date of the note. The total outstanding principal balance and unpaid accrued interest on the note will be converted into Series A Preferred Stock of FibroGen China at the option of the lender or by the Company at its discretion.

Note 8—Commitments and Contingencies

Operating Leases

Future minimum lease payments under all non-cancelable operating lease obligations as of December 31, 2013 are as follows (in thousands):

Year Ending	Operating Leases
2014	$ 3,917
2015	501
2016	45
2017	9
Total minimum payments	$ 4,472

Capital Leases

The Company does not have any capital lease obligations beyond December 31, 2012.

Facility Lease Financing Obligations

FibroGen, Inc.

In September 2006, the Company entered into a long-term property lease with Shorenstein Properties LLC ("Alexandria" or "landlord") providing the Company with 234,249 square feet of space for an initial term of 15 years. Upon signing, a stand-by letter of credit was established in the amount of $7.3 million which has been included in restricted cash. The agreement included an expansion option to occupy part of an adjacent building within 31 months of the lease commencement date of November 20, 2008. In June 2012, the Company gave notice to its landlord that it would not exercise this expansion option, which resulted in a $5.0 million payment liability to the landlord which is being financed over the remaining lease term of its lease.

In connection with this lease, the Company was responsible for approximately 60% of the construction costs for the tenant improvements. The Company is deemed, for accounting purposes only, to be the accounting owner of

the entire project including the building shell, even though it is not the legal owner. The balance of the tenant improvements were paid by Alexandria in the form of a tenant improvement allowance of $140.50 per square foot of rentable space, or $32.5 million.

In connection with the Company's accounting for this transaction, the Company capitalized Alexandria's costs of constructing the building shell which totaled $50.8 million, and recognized a corresponding lease financing obligation. The Company also recognized, as an additional lease financing obligation, the reimbursements totaling $32.5 million from landlord for tenant improvements since these reimbursements are also deemed to be a financing obligation.

A portion of the monthly lease payment will be allocated to land rent and recorded as an operating lease expense and the non-interest portion of the amortized lease payments to the landlord related to rent of the building will be applied to the lease financing liability.

FibroGen China

In February 2013, the Company entered into a long-term property lease with Beijing Economic-Technological Development Area ("BDA") Management Committee for a pilot plant located in Beijing Yizhuang Biomedical Park ("BYBP") of BDA. The leased space is 4,820 square meters over an eight (8) year term starting February 1, 2013.

In connection with this lease, the Company was responsible for approximately 100% of the construction costs for the tenant improvements. The Company is deemed, for accounting purposes only, to be the accounting owner of the entire project, including the building shell, even though it is not the legal owner.

In connection with the Company's accounting for this transaction, the Company capitalized BDA Management Committee's costs of constructing the building shell which totaled $3.1 million, and recognized a corresponding lease financing obligation. The Company also recognized, as an additional lease financing obligation, the reimbursements totaling $0.5 million from BYBP for a rent subsidy since this reimbursement is also deemed to be a financing obligation.

A portion of the monthly lease payment will be allocated to land rent and recorded as an operating lease expense and the non-interest portion of the amortized lease payments to the landlord related to rent of the building will be applied to the lease financing liability.

Future minimum lease payments under the Company's facility lease financing obligations as of December 31, 2013 are as follows (in thousands):

Year Ending	Lease Financing Obligation
2014	$ 13,286
2015	13,535
2016	13,741
2017	14,080
2018	14,303
Thereafter	70,641
Total minimum payments	$ 139,586

Apart from the property leases with Alexandria and BDA Management Committee, rent expense for leased facilities under operating lease commitments, was $2.9 million, $3.0 million, $1.5 million and $1.5 million for the years ended December 31, 2012 and 2013, and for the six months ended June 30, 2013 and 2014 (unaudited), respectively. The Company received sublease income of $4.3 million, $4.5 million, $2.2 million and $2.4 million

for the years ended December 31, 2012 and 2013, and for the six months ended June 30, 2013 and 2014 (unaudited), respectively.

Indemnification Agreements

The Company enters into standard indemnification arrangements in the ordinary course of business, including for example, service, manufacturing and collaboration agreements. Pursuant to these arrangements, the Company indemnifies, holds harmless, and agrees to reimburse the indemnified parties for losses suffered or incurred by the indemnified party, including in connection with intellectual property infringement claims by any third party with respect to its technology. The term of these indemnification agreements is generally perpetual any time after the execution of the agreement. The maximum potential amount of future payments the Company could be required to make under these arrangements is not determinable. The Company has never incurred costs to defend lawsuits or settle claims related to these indemnification agreements. As a result, the Company believes the estimated fair value of these arrangements is minimal.

The Company has entered into indemnification agreements with its directors and officers that may require the Company to indemnify its directors and officers against liabilities that may arise by reason of their status or service as directors or officers to the extent permissible under applicable law.

Note 9—Redeemable Convertible Preferred Stock and Equity (Deficit)

Convertible Preferred Stock ("Preferred Stock")

As of December 31, 2012 and 2013, the Company had authorized 125,000,000 shares of Preferred Stock. All shares of Preferred Stock have a par value of $0.01 per share.

The Series A Preferred Stock ("Series A"), Series B Preferred Stock ("Series B"), Series C Preferred Stock ("Series C"), Series D Preferred Stock ("Series D"), Royalty Acquisition Preferred Stock ("Royalty Acquisition") and Series G-1 Preferred Stock ("Series G-1") are collectively referred to as the "Junior Preferred Stock".

The Series E Redeemable Convertible Preferred Stock ("Series E") and Series F Redeemable Convertible Preferred Stock ("Series F") are collectively referred to as the "Senior Preferred Stock".

The Preferred Stock authorized, issued and outstanding at December 31, 2012 and 2013, and as of June 30, 2014 (unaudited) are as follows (in thousands):

	Authorized Shares	Shares Issued and Outstanding	Carrying Value	Liquidation Preference
Senior Preferred Stock:				
Series E	12,621	12,621	$ 56,071	$ 56,669
Series F	25,719	25,719	112,365	117,021
Total Senior Preferred Stock	38,340	38,340	$168,436	$ 173,690
Junior Preferred Stock:				
Series A	7,383	7,383	$ 7,009	$ 7,383
Series B	14,037	14,037	18,046	18,248
Series C	3,535	3,535	7,005	7,070
Series D	7,098	7,098	37,934	39,040
Royalty Acquisition	7,074	7,074	11,319	11,319
Series G-1	9,200	7,333	55,000	55,000
Unassigned	38,333	—	—	—
Total Junior Preferred Stock	86,660	46,460	136,313	138,060
Total Preferred Stock	125,000	84,800	$304,749	$ 311,750

For presentation purposes, on the face of the consolidated balance sheets, 38,333,333 of the authorized shares (noted above as Unassigned) have been included in the authorized shares amounts disclosed for Junior Preferred Stock, even though such amounts can be designated for issuance of both Senior Preferred Stock and Junior Preferred Stock.

Senior Preferred Stock

The holders of the Company's Senior Preferred Stock have the following rights, preferences and privileges:

Liquidation—In the event of liquidation, dissolution, merger (where a change of control occurs), sales of all or substantially all of the assets of the Company, or winding up of the Company, either voluntary or involuntary, the holders of Senior Preferred Stock are entitled to be paid an amount equal to the product of the number of shares held by a holder of shares of Senior Preferred Stock and the original issue price of $4.49 and $4.55 per share for Series E and Series F, respectively (subject to equitable adjustment for any stock dividend, combination, split, reclassification, recapitalization or other similar event involving the Senior Preferred Stock) plus all declared and unpaid dividends thereon (collectively, the "Liquidation Amount") before any distribution may be made with respect to the Junior Preferred Stock or the Common Stock.

Conversion—Each share of Senior Preferred Stock is convertible at the option of the holder thereof into the number of fully paid and non-assessable shares of Common Stock that results from dividing the original issue price by the conversion price in effect at the time of the conversion, subject to adjustments for stock splits, stock dividends, reclassifications and like events. For the Senior Preferred Stock, the conversion price is equal to the original issuance price such that the conversion ratio to Common Stock is 1:1 as of all periods presented. The Senior Preferred Stock will automatically convert to Common Stock (i) at any time upon the affirmative election of the holders at least fifty percent of the outstanding shares of such series voting as a single class, or (ii) upon the closing of an underwritten public offering pursuant to an effective registration statement if (x) the per share price is at least one hundred and twenty five percent of the original issue price (as adjusted for stock splits, etc.), (y) the gross cash proceeds to the Company are, for the Series E, at least $40.0 million, and for the Series F, at least $50.0 million, and (z) the Common Stock is listed on a specified national securities exchange.

The issuance price of each series of Senior Preferred Stock exceeded the fair value of Common Stock on the date of issuance and there have been no subsequent adjustments to the conversion prices in the periods presented. Accordingly, no beneficial conversion amounts, measured as the intrinsic value of the conversion feature as of the issuance date, have resulted from issuances of senior preferred stock.

Voting—The holders of Senior Preferred Stock are entitled to vote together with the Common Stock on all matters submitted for a vote of the stockholders. The holder of each share of Senior Preferred Stock has the number of votes equal to the number of shares of Common Stock into which it is convertible. In addition, the holders of Senior Preferred Stock have special series voting rights ("protective provisions") which provide that the Company may not, without the approval of the holders of at least a majority of the outstanding shares of each series of the Senior Preferred Stock, each voting as a separate class, take any of the following actions:

- authorize or issue, or increase or decrease the authorized number of, (other than by redemption or conversion) any shares of Common Stock or Preferred Stock or shares of any new class or series of stock or any other securities convertible into the Company's equity securities ranking (i) on a parity with or senior to the Senior Preferred Stock in liquidation preference, voting or dividends or (ii) senior to the Senior Preferred Stock in rights of redemption;
- redeem or repurchase any capital stock or pay dividends or other distributions with respect to the Company's capital stock (except for acquisitions of Common Stock by the Company pursuant to agreements which permit the Company to repurchase such shares upon termination of services to the Company or in exercise of the Company's right of first refusal upon a proposed transfer);

- take any action or agreement by the Company or its stockholders regarding a reorganization in which the consideration paid or proposed to be paid to the holders of capital stock of the Company implies a price or value per share of the respective series of Senior Preferred Stock less than the Liquidation Amount of such series of Senior Preferred Stock;
- take any action or knowingly fail to take any action that would result in or effectuate the liquidation, dissolution or winding up of the Company; or
- effectuate any amendment, alteration, or repeal of any provision of the certificate of incorporation or bylaws of the Company that alters or changes the voting powers, preferences, or other special rights or privileges, qualifications, limitations, or restrictions of the Senior Preferred Stock.

Dividends—The holders of shares of Senior Preferred Stock are entitled to receive non-cumulative cash dividends at a rate of 8% of the original issue price, per annum, when and if declared by the board of directors, in preference to holders of Junior Preferred Stock and the Common Stock. Subsequent to the payment of the 8% cash dividend, the Senior Preferred Stock holders do not participate to the same extent as, on the same basis as, or at the same rate as and contemporaneously with the Common Stock.

Contingent Redemption—In the event of a reorganization of the Company, the holders of Senior Preferred Stock may be entitled to cash or stock distributions, which may differ from the form of consideration given to the Junior Preferred Stock and Common Stock holders. As a result, the Company has classified the Senior Preferred Stock outside of permanent equity in the accompanying consolidated balance sheets.

Junior Preferred Stock

The holders of the Company's Junior Preferred Stock have the following rights, preferences and privileges:

Liquidation—In the event of liquidation, dissolution, or winding up of the Company, either voluntary or involuntary, (i) the holders of Junior Preferred Stock (other than Royalty Acquisition) are entitled to be paid an amount equal to the product of the number of shares held by a holder of shares of Junior Preferred Stock (other than Royalty Acquisition) and the original issue price of $1.00, $1.30, $2.00, $5.50 and $7.50 per share for Series A, Series B, Series C, Series D and Series G-1, respectively (subject to equitable adjustment for any stock dividend, combination, split, reclassification, recapitalization) plus all declared and unpaid dividends thereon after any distribution has been made with respect to the Senior Preferred Stock and before any distribution may be made with respect to the Royalty Acquisition and Common Stock, and (ii) the holders of Royalty Acquisition are entitled to be paid an amount equal to the product of the number of shares held by a holder of shares of Royalty Acquisition and the original issue price of $1.60 per share for Royalty Acquisition (subject to equitable adjustment for any stock dividend, combination, split, reclassification, recapitalization) plus all declared and unpaid dividends thereon after any distribution has been made with respect to the Senior Preferred Stock and Junior Preferred Stock (other than Royalty Acquisition) and before any distribution may be made with respect to the Common Stock.

Conversion—Each share of Junior Preferred Stock is convertible at the option of the holder thereof into the number of fully paid and non-assessable shares of Common Stock that results from dividing the original issue price by the conversion price in effect at the time of the conversion, subject to adjustments for stock splits, stock dividends, reclassifications and like events. For the Junior Preferred Stock, the conversion price is equal to the original issuance price such that the conversion ratio to Common Stock is 1:1 as of all periods presented. In general, the Junior Preferred Stock will automatically convert to Common Stock upon an initial public offering ("IPO") of Common Stock if (x) the IPO offering price is at (i) $2.00 per share for the Series A, Series B and Royalty Acquisition, and (ii) $2.75 per share for the Series C, and (y) the gross cash proceeds to the Company are at least $10.0 million. However, the Series D and Series G-1 do not have the minimum per share price requirement.

The issuance price of each series of Junior Preferred Stock exceeded the fair value of Common Stock on the date of issuance and there have been no subsequent adjustments to the conversion prices in the periods

presented. Accordingly, no beneficial conversion amounts, measured as the intrinsic value of the conversion feature as of the issuance date, have resulted from issuances of Junior Preferred Stock.

Voting—The holders of Junior Preferred Stock are entitled to vote together with the Common Stock on all matters submitted for a vote of the stockholders. The holder of each share of Junior Preferred Stock has the number of votes equal to the number of shares of Common Stock into which it is convertible.

Dividends—There is no prescribed dividend rate for the Junior Preferred Stock, and thus, after payment of the 8% noncumulative cash dividend to the Senior Preferred Stock, the holders of Junior Preferred Stock are entitled to receive cash dividends when and if declared by the Board of Directors of the Company, to the same extent as, on the same basis as, and at the same rate as and contemporaneously with the holders of Common Stock.

Subsidiary Stock and Non-Controlling Interests

FibroGen Europe

FibroGen Europe currently has a total of 42,619,022 shares of Preferred Stock outstanding, of which there are 1,700,845 shares of Series A Preferred Stock, 1,875,000 shares of Series B Preferred Stock, 1,599,503 shares of Series C Preferred Stock, 1,520,141 shares of Series D Preferred Stock, 459,565 shares of Series E Preferred Stock, 5,714,332 shares of Series F Preferred Stock, 9,927,500 shares of Series G Preferred Stock and 19,822,136 shares of Series H Preferred Stock.

The holders of Series A Preferred Stock have the right to exchange their shares of Series A Preferred Stock for shares of Common Stock of FibroGen, Inc. (“FibroGen”) pursuant to a specific exchange ratio provided in the exchange option agreements upon certain triggering events, including but not limited to, (i) the initial public offering of FibroGen’s Common Stock, (ii) sale of all of FibroGen Europe’s business or a transfer of all of FibroGen’s recombinant collagen production technology (except to an affiliate of FibroGen or FibroGen Europe), or (iii) sale of substantially all of FibroGen’s assets or a merger or consolidation of FibroGen with an unrelated third party after which the stockholder of FibroGen immediately before such transaction do not possess at least fifty percent of the voting power of the surviving corporation immediately after the transaction as the result of their holdings of FibroGen stock.

The holders of Series B Preferred Stock have the right to exchange their shares of Series B Preferred Stock for shares of FibroGen’s Common Stock pursuant to a specific exchange ratio provided in their exchange option agreements upon certain triggering events, including but not limited to, (i) the initial public offering of FibroGen’s Common Stock, (ii) sale of all of FibroGen Europe’s business or a transfer of all of FibroGen’s recombinant collagen and gelatin production technology (except to an affiliate of FibroGen or FibroGen Europe), or (iii) sale of substantially all of FibroGen’s business operation or assets or a transfer of all of FibroGen’s recombinant collagen and gelatin production technology (except to an affiliate) or a merger or consolidation of FibroGen with an unrelated third party after which the stockholder of FibroGen immediately before such transaction do not possess at least fifty percent of the voting power of the surviving corporation immediately after the transaction as the result of their holdings of FibroGen stock.

The holders of Series D Preferred Stock and Series E Preferred Stock have the right to exchange their shares of Series D Preferred Stock and Series E Preferred Stock for shares of FibroGen’s Common Stock pursuant to a specific exchange ratio provided in their exchange option agreements upon certain triggering events, which include, but are not limited to, (i) the initial public offering of FibroGen’s Common Stock, and (ii) sale of all of FibroGen’s assets or a merger or consolidation of FibroGen with an unrelated third party after which the stockholder of FibroGen immediately before such transaction do not possess at least fifty percent of the voting power of the surviving corporation immediately after the transaction as the result of their holdings of FibroGen stock, or (iii) the sale by FibroGen of all or substantially all of its shares of capital stock of FibroGen Europe.

The holders of FibroGen Europe's shares of Preferred Stock ("Preferred Shares") also have the following rights, preferences and privileges:

Dividend Rights—When the assets of FibroGen Europe are distributed (except for distribution in a liquidation), Preferred Shares shall have the same rights to dividend or other forms of distribution as shares of Common Stock of FibroGen Europe. In the event of a merger, holders of Preferred Shares do not have the right to demand FibroGen Europe to redeem all or part of their Preferred Shares. FibroGen Europe may repurchase shares of Common Stock or Preferred Shares for consideration.

Pre-emptive Right—Preferred Shares shall have pre-emptive subscription right in accordance with the Finnish Limited Liability Companies Act if additional shares are issued, option rights are given, or convertible loan is taken, *provided*, *however*, that the foregoing pre-emptive right does not apply to a directed share issue, for which two thirds (2/3) of the voting shares represented at a general meeting of shareholders approve for an important legitimate cause.

Redemption Right—If a Preferred Share can be redeemed by a majority shareholder owning more than ninety percent (90%) of the shares of FibroGen Europe in accordance with the provisions of the Finnish Limited Liability Companies Act, the minority holders of Preferred Shares have the right to request redemption of their shares.

Voting Right—Each share has one vote. Preferred Shares have voting rights only in situations that are specifically provided in the Articles of Association, which include a merger transaction and directed share issue. In addition, Preferred Shares have right to vote in a general shareholder meeting for amending the Articles of Association if the amendment will affect the rights of Preferred Shares.

Conversion Right (1-for-1 basis into Common Stock of FibroGen Europe):

- Voluntary conversion right: Preferred Shares can be converted into common shares upon the written request of a shareholder provided that the conversion is feasible within the maximum and minimum amounts of shares of classes of FibroGen Europe as set forth in its Articles of Association. Such request can be withdrawn before the notification of conversion is filed with the Finnish Trade Register.
- Compulsory conversion right: Preferred Shares will be converted into common shares if (i) FibroGen Europe's shares are listed in a stock exchange or other trading system in the European Economic Area, or (ii) FibroGen Europe's recombinant collagen and gelatin production technology is being put into commercial use in the area of EU and certain other European states. Commercial use means there is income generated from the first commercial sale of the products incorporating the above mentioned technology and does not include licence fees, development financing, milestone payments or income from test products or equipment used in research. The board of directors of FibroGen Europe shall notify the shareholders of the compulsory conversion in writing, and the shareholders shall request to convert their shares within the timeframe provided in the notification. Should the shareholders fail to make the conversion request within the time limit, FibroGen Europe may redeem the shares of such shareholders.

Liquidation Right—In the event of a dissolution of FibroGen Europe, holders of Preferred Shares are entitled to be paid in an amount equal to the subscription price of the shares before any distribution is made to holders of common shares. Among holders of Preferred Shares, holders of shares of Series F Preferred Stock are entitled to be paid in an amount equal to the subscription price of Series F Preferred Stock before any distribution is made to holders of other Preferred Shares.

FibroGen China

During the years ended December 31, 2012 and 2013 FibroGen China, issued a total of 6,758,000 Series A Preference Shares. The holders of the FibroGen China Series A Preference Shares have the following rights, preferences and privileges:

Liquidation—In the event of liquidation, dissolution, or winding up of the Company, either voluntary or involuntary, including by means of a merger, the holders of FibroGen China Series A Preference Shares are

entitled to be paid an amount equal to the product of the number of shares held by a holder of shares of FibroGen China Series A Preference Shares and the original issue price of $1.00 (subject to equitable adjustment for any stock dividend, combination, split, reclassification, recapitalization) plus all declared and unpaid dividends thereon.

Conversion—Each share of FibroGen China Series A Preference Shares is convertible into the number of fully paid and non-assessable shares of Common Stock of FibroGen China that results from dividing the original issue price by the conversion price in effect at the time of the conversion, subject to adjustments for stock splits, stock dividends, reclassifications and like events. The FibroGen China Series A Preference Shares have a conversion price that is equal to the original issuance price such that the conversion ratio to FibroGen China Common Stock is 1:1 as of all periods presented.

Voting—The holders of FibroGen China Series A Preference Shares are entitled to vote together with the FibroGen China Common Stock holders on all matters submitted for a vote of the stockholders. The holder of each share of FibroGen China Series A Preference Shares has the number of votes equal to the number of shares of FibroGen China Common Stock into which it is convertible.

Dividends—The holders of FibroGen China Series A Preference Shares are entitled to receive cash dividends when and if declared, at a rate of 6%.

Non-Controlling Interests

Non-controlling interest positions related to the issuance of subsidiary stock as described above are reported as a separate component of consolidated equity from the equity attributable to the Company's stockholders at December 31, 2012 and 2013, and as of June 30, 2014. In addition, the Company does not allocate losses to the non-controlling interests as the outstanding shares representing the non-controlling interest do not represent a residual equity interest in the subsidiary.

Common Stock

Each share of Common Stock is entitled to one vote. The holders of Common Stock are also entitled to receive dividends whenever funds are legally available and when declared by the board of directors, subject to the prior rights of holders of all classes of stock outstanding.

Shares of Common Stock reserved for future issuance relate to FibroGen Europe preferred stock, FibroGen China Preferred stock, warrants, and stock options as follows (in thousands):

	As of December 31, 2013	As of June 30, 2014 (unaudited)
Common Stock	33,003	33,714
Convertible Preferred Stock:		
Series A Preferred Stock	7,383	7,383
Series B Preferred Stock	14,037	14,037
Royalty Acquisition	7,074	7,074
Series C Preferred Stock	3,535	3,535
Series D Preferred Stock	7,098	7,098
Series E Preferred Stock	12,621	12,621
Series F Preferred Stock	25,719	25,719
Series G-1 Preferred Stock	7,333	7,333
Stock Options Outstanding	27,710	26,923
Common Stock Warrants	433	433
FibroGen Europe Shares	2,398	2,398
Stock Options Available for Grant	1	77
Total Shares of Common Stock Reserved	148,345	148,345

Stock Plans

Under the 2005 Stock Plan, the Company may issue shares of Common Stock and options to purchase Common Stock and other forms of equity incentives to employees, directors and consultants. Options granted under the 2005 Stock Plan may be incentive stock options or nonqualified stock options. Incentive stock options ("ISO") may be granted only to employees and officers of the Company. Nonqualified stock options ("NSO") and stock purchase rights may be granted to employees, directors and consultants. The board of directors has the authority to determine to whom options will be granted, the number of options, the term and the exercise price. Options are to be granted at an exercise price not less than fair market value for an ISO or an NSO. Options generally vest over four years. Options expire no more than 10 years after date of grant.

Certain Common Stock option holders have the right to exercise unvested options, subject to a right held by the Company to repurchase the stock, at the original exercise price, in the event of voluntary or involuntary termination of employment of the stockholder. The shares are generally released from repurchase provisions ratably over four years. The Company accounts for the cash received in consideration for the early exercised options as a liability. At December 31, 2013, and June 30, 2014, no shares of Common Stock were subject to repurchase by the Company.

Stock option transactions, including forfeited options granted under the 2005 Stock Plan as well as prior plans, are summarized below:

	Options Available for Grant	Number of Options Outstanding	Weighted-Average Exercise Price
Balance at December 31, 2011	506,424	21,914,072	$ 1.19
Granted	(5,457,166)	5,457,166	1.87
Authorized	5,500,000	—	
Exercised	—	(124,500)	1.21
Forfeited	448,236	(448,236)	1.66
Balance at December 31, 2012	997,494	26,798,502	$ 1.32
Granted	(1,402,525)	1,402,525	4.53
Exercised	—	(85,317)	0.99
Expired	51,319	(51,319)	1.12
Forfeited	354,324	(354,324)	2.71
Balance at December 31, 2013	612	27,710,067	$ 1.47
Exercised (unaudited)	—	(710,947)	1.17
Expired (unaudited)	21,437	(21,437)	0.80
Forfeited (unaudited)	55,250	(55,250)	3.29
Balance at June 30, 2014 (unaudited)	77,299	26,922,433	$ 1.48
Vested and expected to vest, December 31, 2013		27,447,415	$ 1.45
Vested and expected to vest, June 30, 2014 (unaudited)		26,780,493	$ 1.47

The table above excludes 5,661,682 options granted during the six months ended June 30, 2014 that are subject to shareholder approval (which had not yet been received as of June 30, 2014). In July 2014, the Company obtained the required shareholder approval, and accordingly, for accounting purposes, the grant date was established at this time. Stock-based compensation expense for these option grants will be accounted for beginning with the quarter ended September 30, 2014.

Stock options outstanding and exercisable as of December 31, 2013 are as follows:

	Options Outstanding			Options Vested		
Exercise Price	Number of Options	Weighted-Average Remaining Contractual Life (In years)	Aggregate Intrinsic Value (in thousands)	Number of Options	Weighted-Average Exercise Price	Aggregate Intrinsic Value (in thousands)
$0.80	936,119	1.85	$ 4,400	936,119	$ 0.80	$ 4,400
0.94	3,501,239	4.34	15,966	3,501,239	0.94	15,966
1.16	11,905,888	6.49	51,672	11,276,858	1.16	48,942
1.40	3,710,304	7.44	15,212	2,457,992	1.40	10,078
1.44	1,430,000	5.19	5,806	1,430,000	1.44	5,806
1.57	660,369	5.94	2,595	634,682	1.57	2,494
1.61	1,927,411	3.38	7,498	1,927,411	1.61	7,498
2.00	60,000	2.73	210	60,000	2.00	210
2.38	2,120,812	8.49	6,617	989,325	2.38	3,087
3.07	160,400	8.70	390	50,126	3.07	122
3.91	814,375	9.03	1,295	290,731	3.91	462
5.49	445,650	9.75	5	—	5.49	—
5.50	37,500	9.93	—	—	5.50	—
$1.47	27,710,067	6.18	$111,666	23,554,483	$ 1.29	$ 99,065

The Company has computed the aggregate intrinsic value amounts disclosed in the above table based upon the difference between the original exercise price of the options and the Company's estimate of the deemed fair value of the Company's Common Stock at December 31, 2013. The total intrinsic value of options exercised for the years ended December 31, 2012 and 2013, and for the six months ended June 30, 2014 was approximately $0.2 million, $0.3 million and $3.3 million (unaudited), respectively.

Stock-Based Compensation

Stock-based compensation related to options granted is allocated to research and development and general and administrative expense for the periods ended December 31 and June 30 was as follows (in thousands):

	Years Ended December 31,		Six Months Ended June 30, (unaudited)	
	2012	2013	2013	2014
Research and development	$ 2,277	$ 1,925	$ 953	$ 883
General and administrative	2,284	1,519	802	582
Total stock-based compensation expense	$ 4,561	$ 3,444	$ 1,755	$ 1,465

The Company, in making its determinations of the fair value of its Common Stock, considered a variety of quantitative and qualitative factors, including (i) the fair market value of the stock of comparable publicly-traded companies, (ii) net present value of the Company's projected earnings, (iii) any third party transactions involving the Company's convertible preferred stock, (iv) liquidation preferences of the Company's preferred stock and the likelihood of conversion of the preferred stock, (v) changes in the Company's business operations, financial condition and results of operations over time, including cash balances and burn-rate, (vi) the status of new product development and (vii) general financial market conditions.

The Company estimates the fair value of stock options using the Black-Scholes option valuation model. The fair value of employee stock options is being amortized on a straight-line basis over the requisite service period of the awards. The estimated weighted-average fair value of the employee stock options granted during the years ended December 31, 2012 and 2013 was $1.56 per share and $2.48 per share, respectively.

The fair value of employee stock options was estimated using the following assumptions:

Expected Term. Expressed as a weighted-average, the expected life of the options is based on the average period the stock options are expected to be outstanding and was based on the Company's historical information of the option exercise patterns and post-vesting termination behavior.

Expected Volatility. Since the Company is a private entity to date with no historical data regarding the volatility of its Common Stock, the expected volatility is based upon the historical volatility of comparable public entities. In evaluating comparable companies, the Company considered factors such as industry, stage of life cycle, size and duration as a public company.

Risk-Free Interest Rate. Expressed as a weighted-average, the risk-free interest rate assumption is based on the U.S. Treasury instruments whose term was consistent with the expected term of the Company's stock options.

Expected Dividend Yield. The Company has never declared or paid any cash dividends and does not plan to pay cash dividends in the foreseeable future.

The weighted-average assumptions used to estimate the fair value of stock options using the Black-Scholes option valuation model were as follows:

	Years Ended December 31,	
	2012	2013
Expected term (in years)	4.5	4.1
Expected volatility	78.1%	71.6%
Risk-free interest rate	0.7%	0.8%
Expected dividend yield	0.0%	0.0%

As of December 31, 2013 and June 30, 2014 there was $5.2 million and $4.0 million (unaudited), respectively of total unrecognized compensation costs, net of estimated forfeitures, related to non-vested stock option awards granted that will be recognized on a straight-line basis over the weighted-average period of 2.1 years and 1.8 years (unaudited), respectively.

Warrants

The following warrants to purchase shares of Common Stock were issued in connection with certain facility and equipment lease financing arrangements and are outstanding at December 31, 2012 and 2013 and June 30, 2014 (unaudited):

Year of Issuance	Number of shares	Exercise Price per share	Reason for Issuance	Expiration date
1995	67,200	$ 1.25	Issued in connection with equipment lease	One year after initial public offering or upon merger or sale of the Company's assets, whichever occurs first
1996	184,000	$ 1.75	Issued in connection with lease agreement	Five years after initial public offering or upon merger or sale of the Company's assets, whichever occurs first
1997	43,140	$ 1.75	Issued in connection with equipment lease	One year after initial public offering or upon merger or sale of the Company's assets, whichever occurs first
2000	138,450	$ 6.00	Issued in connection with lease agreement	Five years after initial public offering or upon merger or sale of the Company's assets, whichever occurs first

Note 10—Net Income (Loss) Per Share

The Company applies the two-class method to calculate basic and diluted net income (loss) per share of Common Stock. The Junior Preferred Stock are participating securities due to their dividend rights and the Senior Preferred Stock has stated dividend rates. The two-class method is an earnings allocation method under which earnings per share is calculated for Common Stock considering a participating security's rights to undistributed earnings as if all such earnings had been distributed during the period. The Company's participating securities are not included in the computation of net income (loss) per share in periods of net loss because the preferred stockholders have no contractual obligation to participate in losses.

The following table presents the calculation of basic and diluted net loss per share (in thousands, except per share data):

	Years Ended December 31,		Six Months Ended June 30,	
	2012	2013	2013	2014
			(unaudited)	
Net income (loss)	$(32,571)	$(14,943)	$(27,473)	$ 30,591
Less: Undistributed earnings allocated to preferred stockholders	—	—	—	(20,738)
Net income (loss) attributable to common stockholders	(32,571)	(14,943)	(27,473)	9,853
Weighted-average shares used to compute basic net income (loss) per share	32,820	32,964	32,938	33,198
Weighted-average shares used to compute diluted net income (loss) per share	32,820	32,964	32,938	53,970
Basic net income (loss) per share	$ (0.99)	$ (0.45)	$ (0.83)	$ 0.30
Diluted net income (loss) per share	$ (0.99)	$ (0.45)	$ (0.83)	$ 0.18

The following securities were excluded from the calculation of diluted net loss per share because their effect would have been anti-dilutive for the periods presented (in thousands):

	Years Ended December 31,		Six Months Ended June 30,	
	2012	2013	2013	2014
			(unaudited)	
Senior Preferred Stock	38,340	38,340	46,460	46,460
Junior Preferred Stock	46,460	46,460	38,340	38,340
Employee stock options	26,799	27,710	27,406	—
Warrants	433	433	433	—
FibroGen Europe Preferred stock	2,398	2,398	2,398	—
	114,430	115,341	115,037	84,800

Unaudited Pro Forma Net Income (Loss) per Share

Pro forma basic and diluted net income (loss) per share were computed to give effect to the automatic conversion of all of the Senior and Junior Preferred Stock using the as-if converted method into common shares as of the beginning of the first period presented or the original date of issuance, if later. Pro forma diluted net income (loss) per share includes the dilutive effect of employee stock options and warrants using the treasury stock method, as well as the effect of the conversion of preferred stock held by investors of FibroGen Europe into a maximum total of 2,397,505 shares of FibroGen, Inc. common stock.

The following table presents the calculation of basic and diluted pro forma net loss per share (in thousands, except per share data):

	Year Ended December 31, 2013	Six Months Ended June 30, 2014
Net income (loss)	$ (14,943)	$ 30,591
Basic shares:		
Weighted-average shares used to compute basic net income (loss) per share	32,964	33,198
Pro forma adjustment to reflect assumed conversion of Senior and Junior Preferred Stock to occur upon consummation of the Company's initial public offering	84,800	84,800
Weighted-average shares used to compute basic pro forma net income (loss) per share	117,764	117,998
Effect of potentially dilutive securities:		
Employee stock options	—	19,558
Common stock warrants	—	210
FibroGen Europe shares	—	2,398
Weighted-average shares used to compute diluted pro forma net income (loss) per share	117,764	140,164
Pro forma net income (loss) per share:		
Basic	$ (0.13)	$ 0.26
Diluted	$ (0.13)	$ 0.22

Note 11—FibroGen, Inc. 401(k) Plan

Substantially all of the Company's full-time United States of America-based employees are eligible to make contributions to the Company's 401(k) Plan. Under this plan, participating employees may defer up to 20% of their pretax salary during 2013, but not more than statutory limits. The Company may elect to match employee contributions; no such matching contributions were made for the years ended December 31, 2012 and 2013, or the six months ended June 30, 2013. Matching contributions of $1.2 million were made during the six months ended June 30, 2014.

Note 12—Income Taxes

The components of loss before income taxes are as follows (in thousands):

	Years ended December 31,	
	2012	2013
Domestic	$(20,399)	$ (3,107)
Foreign	(12,272)	(11,836)
Loss before provision for income taxes	$(32,671)	$(14,943)

The benefit from income taxes consists of the following at December 31 (in thousands):

	Years ended December 31,	
	2012	2013
Current:		
Federal	$ —	$ —
State	(2)	—
Foreign	—	—
Total current	(2)	—
Deferred:		
Federal	96	—
State	6	—
Foreign	—	—
Total deferred	102	—
Total benefit from income taxes	$ 100	$ —

The following is a reconciliation between the statutory federal income tax rate and the Company's effective tax rate:

	Years ended December 31,	
	2012	2013
Tax at statutory federal rate	34.0 %	34.0 %
State tax	0.0 %	0.0 %
Stock compensation expense	(2.9)%	(5.7)%
Deferred tax expense (benefit) on unrealized gain (loss) on investments	0.3 %	— %
Net operating losses not benefitted	(17.8)%	(1.6)%
Foreign net operating losses not benefitted	(12.8)%	(26.9)%
Other	(0.5)%	0.2 %
Total	0.3 %	— %

Significant components of the Company's deferred tax assets are as follows (in thousands):

	As of December 31,	
	2012	2013
Federal and state net operating loss carryforwards	$ 45,237	$ 43,526
Foreign net operating loss carryforwards	4,777	3,603
Tax credit carryforwards	17,609	20,369
Deferred revenue	1,719	1,179
Reserves and accruals	6,406	8,460
Other	1,140	973
Subtotal	76,888	78,110
Less: Valuation allowance	(73,997)	(74,196)
Net deferred tax assets	2,891	3,914
Deferred tax liabilities:		
Fixed assets	(4,412)	(4,440)
Unrealized gain on investments	1,521	526
Net deferred tax liabilities	(2,891)	(3,914)
Total net deferred tax assets	$ —	$ —

A valuation allowance has been provided to reduce the deferred tax assets to an amount management believes is more likely than not to be realized. Expected realization of the deferred tax assets for which a valuation allowance has not been recognized is based on upon the reversal of existing temporary differences and future taxable income.

The valuation allowance increased by $4.1 million and $0.2 million for the years ended December 31, 2012 and 2013, respectively. Due to uncertainty surrounding the realization of the favorable tax attributes in the future returns, the Company has established a valuation allowance against its otherwise recognizable net deferred tax assets.

At December 31, 2013, the Company had net operating loss carryforwards available to offset future taxable income of approximately $115.4 million and $171.7 million for federal and state tax purposes, respectively. These carryforwards will begin to expire in 2024 for federal and 2014 for state purposes, if not utilized before these dates. The Company also had foreign net operating loss carryforwards of approximately $17.3 million which expire between 2014 and 2023 if not utilized.

At December 31, 2013, the Company had approximately $18.4 million of federal and $14.0 million of California research and development tax credit and other tax credit carryforwards available to offset future taxable income. The federal credits begin to expire in 2018 and the California research credits have no expiration dates.

The Company tracks a portion of its deferred tax assets attributable to stock option benefits in a separate memorandum account. Therefore, these amounts are not included in the Company's gross or net deferred tax assets. The benefit of these stock options will not be recorded in equity unless it reduces taxes payable. As of December 31, 2013, the portion of the federal and state net operating losses related to stock option benefits was approximately $1.3 million.

Utilization of net operating losses and tax credit carryforwards may be limited by the "ownership change" rules, as defined in Section 382 of the Internal Revenue Code (any such limitation, a "Section 382 limitation"). Similar rules may apply under state tax laws. The Company has performed an analysis to determine whether an "ownership change" occurred from inception to December 31, 2013. Based on this analysis, management determined that the Company did experience historical ownership changes of greater than 50% during this period. Therefore, the utilization of a portion of the Company's net operating losses and credit carryforwards is currently limited. However, these Section 382 limitations are not expected to result in a permanent loss of the net operating losses and credit carryforwards. As such, a reduction of the Company's gross deferred tax asset for its net operating loss and

tax credit carryforwards is not necessary prior to considering the valuation allowance. In the event the Company experiences any subsequent changes in ownership, the amount of net operating losses and research and development credit carryforwards useable in any taxable year could be limited and may expire unutilized.

Uncertain Tax Positions

The Company had unrecognized tax benefits of approximately $13.5 million as of December 31, 2013. These unrecognized tax benefits, if recognized, would not affect the effective tax rate. There are no interest or penalties accrued as of December 31, 2012 or 2013.

A reconciliation of the beginning and ending amounts of unrecognized income tax benefits during the years ended December 31, 2012 and 2013 is as follows (in thousands):

	Federal and State
Balance as of January 1, 2012	$ 12,685
Increase (decrease) due to prior positions	(216)
Increase (decrease) due to current year position	76
Balance as of December 31, 2012	12,545
Increase (decrease) due to prior positions	294
Increase (decrease) due to current year position	680
Balance as of December 31, 2013	$ 13,519

Unrecognized tax benefits may change during the next twelve months for items that arise in the ordinary course of business. The Company does not anticipate a material change to its unrecognized tax benefits over the next twelve months that would affect the Company's effective tax rate.

The Company classifies interest and penalties as a component of tax expense, if any.

The Company files income tax returns in the U.S. federal jurisdiction, U.S. state and other foreign jurisdictions. The U.S. federal and U.S. state taxing authorities may choose to audit tax returns for tax years beyond the statute of limitation period due to significant tax attribute carryforwards from prior years, making adjustments only to carryforward attributes. The foreign statute of limitation generally remains open from 2007 to 2013. The Company is not currently under audit in any tax jurisdiction.

Note 13—Related Party Transactions

On February 16, 2012, the Company's Chief Executive Officer and Chairman of the Board, Thomas B. Neff, repaid a June 2002 stockholder note that was issued by the Company in connection with its previous policy of allowing officers of the Company to exercise stock options to purchase Company Common Stock using a promissory note. The note related to the exercise of Mr. Neff's outstanding stock options prior to 2002 and was repaid in accordance with its terms.

Astellas is an equity investor in the Company and considered a related party. During the years ended December 31, 2012 and 2013 and the six months ended June 30, 2013 and 2014, the Company recorded revenue related to collaboration agreements with Astellas of $65.1 million, $25.7 million, $18.5 million (unaudited) and $8.1 million (unaudited), respectively. During the years ended December 31, 2012 and 2013 and the six months ended June 30, 2013 and 2014, the Company recorded expense related to collaboration agreements with Astellas of $0.3 million, $4.0 million, $0.8 million (unaudited) and $4.5 million (unaudited), respectively.

As of December 31, 2012 and 2013 and as of June 30, 2014, accounts receivable from Astellas were $8.8 million, $6.0 million and $7.2 million (unaudited), respectively, and amounts due to Astellas were

$1.1 million, $2.8 million and $4.5 million (unaudited), as of the same periods. The amounts due are included in Accrued liabilities on the consolidated balance sheets.

On July 11, 2012, Julian N. Stern (trustee of Stern Family Trust) and Roberto Pedro Rosenkranz (President of Grama Ventures LLC), who are also members of the Company's board of directors, purchased 500,000 shares and 350,000 shares, respectively, of FibroGen China Series A Preference Shares at a purchase price of $1.00 per share. In addition, on December 28, 2012, Grama Ventures purchased an additional 100,000 shares of FibroGen China Series A Preference Shares at a purchase price of $1.00 per share.

Note 14—Segment and Geographic Information

The Company has determined that the chief executive officer is the chief operating decision maker ("CODM"). The CODM reviews financial information presented for the Company's various clinical trial programs as well as results on a consolidated basis. License, milestone and collaboration services revenues received are not allocated to various programs for purposes of determining a profit measure and resource allocation decisions are made by the CODM based primarily on consolidated results. As such, the Company has concluded that it operates as one segment. Supplemental enterprise-wide information has been presented below.

Geographic Revenues

Geographic revenues, which are based on the bill to region, are as follows (in thousands):

	Years Ended December 31,		Six Months Ended June 30,	
	2012	2013	2013	2014
			(unaudited)	
Europe	$ —	$ 76,478	$ —	$ 99,713
Japan—Related party	65,120	25,661	18,523	8,078
All Other	813	31	9	43
Total revenue	$ 65,933	$ 102,170	$ 18,532	$ 107,834

Geographic Long-Lived Assets

Property and equipment, net by geographic location are as follows (in thousands):

	December 31,		June 30,
	2012	2013	2014
			(unaudited)
United States	$123,422	$118,336	$ 117,283
China	242	11,562	16,054
Total Property and equipment	$123,664	$129,898	$ 133,337

Customer Concentration

The following collaboration partners accounted for more than 10% of the Company's total revenue or accounts receivable:

	As of or for the year ended December 31,			
	Percentage of Revenue		Percentage of Accounts Receivable	
	2012	2013	2012	2013
Astellas—Related party	99%	25%	100%	34%
AstraZeneca	— %	75%	— %	66%

	Percentage of Revenue Six Months Ended June 30,		Percentage of Accounts Receivable June 30,
	2013	2014	2014
		(unaudited)	
Astellas—Related party	100%	8%	45%
AstraZeneca	— %	92%	55%

Note 15—Subsequent Events

The Company has evaluated subsequent events that occurred after December 31, 2013 through June 11, 2014, the date that the audited consolidated financial statements were issued.

Note 16—Subsequent Events (unaudited)

The Company has evaluated subsequent events that occurred after June 30, 2014 through September 3, 2014, the date that the unaudited interim consolidated financial statements were issued.

Shares

Common Stock

Goldman, Sachs & Co.

Citigroup

Leerink Partners

RBC Capital Markets

Stifel

William Blair

Through and including , 2014 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth all expenses, other than the underwriting discounts and commissions, payable by us in connection with the sale of the common stock being registered. All the amounts shown are estimates except the SEC registration fee, the FINRA filing fee and the NASDAQ Global Market listing fee.

	Amount to be Paid
SEC registration fee	$ 16,100
FINRA filing fee	*
NASDAQ listing fee	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Blue Sky fees and expenses	*
Miscellaneous fees and expenses	*
Total	$

* To be provided by Amendment.

Item 14. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers under certain circumstances and subject to certain limitations. The terms of Section 145 of the Delaware General Corporation Law are sufficiently broad to permit such indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act of 1933, as amended, or the Securities Act.

Our amended and restated certificate of incorporation that will be in effect upon the completion of this offering provides for indemnification of our directors, officers, employees and other agents to the maximum extent permitted by the Delaware General Corporation Law, and our amended and restated bylaws that will be in effect upon the completion of this offering provide for indemnification of our directors, officers, employees and other agents to the maximum extent permitted by the Delaware General Corporation Law.

We have entered into indemnification agreements with our directors and officers whereby we have agreed to indemnify our directors and officers to the fullest extent permitted by law, including indemnification against expenses and liabilities incurred in legal proceedings to which the director or officer was, or is threatened to be made, a party by reason of the fact that such director or officer is or was a director, officer, employee or agent of FibroGen, provided that such director or officer acted in good faith and in a manner that the director or officer reasonably believed to be in, or not opposed to, the best interest of FibroGen. At present, there is no pending litigation or proceeding involving a director or officer of FibroGen regarding which indemnification is sought, nor is the registrant aware of any threatened litigation that may result in claims for indemnification.

We maintain insurance policies that indemnify our directors and officers against various liabilities arising under the Securities Act and the Exchange Act of 1934, as amended, that might be incurred by any director or officer in his capacity as such.

The underwriters are obligated, under certain circumstances, pursuant to the underwriting agreement to be filed as Exhibit 1.1 hereto, to indemnify us, our officers and directors against liabilities under the Securities Act.

Item 15. Recent Sales of Unregistered Securities

Since January 1, 2011, we have made the following sales of unregistered securities:

(1) We granted stock options under our 2005 Plan to purchase an aggregate of 13,902,573 shares of our common stock having exercise prices ranging from $1.16 to $5.83 per share to our employees, directors and consultants.

(2) We have issued and sold to our employees an aggregate of 955,539 shares of our common stock upon the exercise of options under our 2005 Plan at exercise prices ranging from $0.80 to $5.83 per share, for an aggregate amount of approximately $1,151,755.

(3) We have granted stock appreciation rights for an aggregate of 45,000 shares of our common stock under our 2005 Plan to our employees, directors and consultants.

(4) We have issued and sold to our employees an aggregate of 117,456 shares of our common stock upon the exercise of options under our 1999 Plan at exercise prices ranging from $0.55 to $0.80 per share, for an aggregate amount of approximately $85,340.

The offers, sales and issuances of the securities described in paragraphs (1), (2), (3) and (4) were exempt from registration under either (a) Section 4(a)(2) of the Securities Act in that the transactions were by an issuer not involving any public offerings or under (b) compensatory benefit plans and contracts relating to compensation as provided under Rule 701 promulgated under the Securities Act.

Item 16. Exhibits and Financial Statement Schedule

(a) Exhibits.

The following exhibits are included herein or incorporated herein by reference:

Exhibit Number	Description of Document
1.1*	Form of Underwriting Agreement.
3.1	Certificate of Incorporation of the Registrant, as amended and as presently in effect.
3.2	Bylaws of the Registrant, as amended and as presently in effect.
3.3*	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon completion of this offering.
3.4*	Form of Amended and Restated Bylaws of the Registrant, to be in effect upon completion of this offering.
4.1*	Form of Common Stock Certificate
4.2	Investor Rights Agreement by and among the Registrant and certain of its stockholders, dated as of December 1995.
4.3	Investor Rights Agreement by and among the Registrant and certain of its stockholders, dated as of February 20, 1998.
4.4	Investor Rights Agreement by and among the Registrant and certain of its stockholders, dated as of May 12, 2000, as amended in December 2004 and September 2005.
4.5	Investor Rights Agreement by and among the Registrant and certain of its stockholders, dated as of December 22, 2004, as amended in September 2005.
4.6	Investor Rights Agreement by and among the Registrant and certain of its warrant holders, dated as of June 3, 1999.

Exhibit Number	Description of Document
4.7	Investor Rights Agreement by and among the Registrant and certain of its warrant holders, dated as of February 8, 2000.
4.8	Warrant to Purchase 67,200 Shares of Common Stock issued to Lease Management Services, Inc., dated as of June 6, 1995; as amended by Amendment to Warrant to Purchase 67,200 Shares of Common Stock by and between the Registrant and Phoenixcor, Inc. (as successor in interest to Lease Management Services, Inc.), dated as of June 5, 2001.
4.9	Warrant to Purchase 43,140 Shares of Common Stock issued to Lease Management Services, Inc., dated as of December 11, 1997; as amended by Amendment to Warrant to Purchase 43,140 Shares of Common Stock by and between the Registrant and General Electric Capital Corporation (as successor in interest to Lease Management Services, Inc.), dated as of December 9, 2003.
4.10	Warrant to Purchase 4,000 Shares of Common Stock issued to Laurence S. Shushan and Magdalena Shushan, Trustees of The Laurence and Magdalena Shushan Family Trust, dated as of June 3, 1999.
4.11	Warrant to Purchase 180,000 Shares of Common Stock issued to Slough Estates USA, Inc., dated as of June 3, 1999.
4.12	Warrant to Purchase 11,076 Shares of Common Stock issued to Bristow Investments, L.P, dated as of February 8, 2000.
4.13	Warrant to Purchase 2,769 Shares of Common Stock issued to Laurence S. Shushan and Magdalena Shushan, Trustees of The Laurence and Magdalena Shushan Family Trust, dated as of February 8, 2000.
4.14	Warrant to Purchase 124,605 Shares of Common Stock issued to Slough Estates USA, Inc., dated as of February 8, 2000.
4.15	Shareholders' Agreement by and among FibroGen China Anemia Holdings, Ltd. and certain of its shareholders, dated as of July 11, 2012.
4.16	Share Purchase Agreement by and among FibroGen China Anemia Holdings, Ltd. and the purchasers party thereto, dated as of July 11, 2012.
5.1*	Opinion of Cooley LLP regarding legality.
10.1+	FibroGen, Inc. Amended and Restated 1994 Stock Plan, and forms of agreement thereunder.
10.2(i)+	FibroGen, Inc. Amended and Restated 1999 Stock Plan.
10.2(ii)+	Form of incentive stock option agreement under the FibroGen, Inc. Amended and Restated 1999 Stock Plan.
10.2(iii)+	Forms of 2010 and 2013 amendments to the form of incentive stock option agreement under the FibroGen, Inc. Amended and Restated 1999 Stock Plan applicable to options amended pursuant to the Registrant's 2010 amendment and exchange offer.
10.3(i)+	FibroGen, Inc. Amended and Restated 2005 Stock Plan.
10.3(ii)+	Forms of stock option agreement, restricted stock purchase agreement and stock appreciation right agreement under the FibroGen, Inc. Amended and Restated 2005 Stock Plan.
10.3(iii)+	Form of stock option agreement under the FibroGen, Inc. Amended and Restated 2005 Stock Plan applicable to options exchanged pursuant to the Registrant's 2010 amendment and exchange offer.
10.3(iv)+	Form of 2010 amendment to the form of stock option agreement under the FibroGen, Inc. Amended and Restated 2005 Stock Plan applicable to options amended pursuant to the Registrant's 2010 amendment and exchange offer.

Exhibit Number	Description of Document
10.3(v)+	Form of 2013 amendment to the form of stock option agreement under the FibroGen, Inc. Amended and Restated 2005 Stock Plan applicable to options amended or exchanged pursuant to the Registrant's 2010 amendment and exchange offer.
10.4+*	FibroGen, Inc. 2014 Equity Incentive Plan, and forms of agreement thereunder, to be in effect upon completion of this offering.
10.5+*	FibroGen, Inc. 2014 Employee Stock Purchase Plan, to be in effect upon completion of this offering.
10.6+*	FibroGen, Inc. 2014 Director Compensation Plan.
10.7+*	FibroGen,Inc. 2014 Employee Compensation and Bonus Plan.
10.8	Lease Agreement by and between the Registrant and X-4 Dolphin LLC, dated as of September 22, 2006; as amended by First Amendment to Lease by and between the Registrant and X-4 Dolphin LLC, dated as of October 10, 2007; as amended by Second Amendment to Lease by and between the Registrant and X-4 Dolphin LLC, dated as of June 29, 2009; as amended by Third Amendment to Lease by and between the Registrant and Are-San Francisco No. 43, LLC (as successor in interest to X-4 Dolphin LLC), dated as of May 19, 2011; as amended by Fourth Amendment to Lease by and between the Registrant and Are-San Francisco No. 43, LLC, dated as of September 8, 2011.
10.9	Lease for Premises in Beijing BDA Biomedical Park by and among Beijing FibroGen Medical Technology Development Co., Ltd., Beijing Economic and Technology Investment Development Parent Company and Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd., effective as of February 1, 2013, as supplemented by the Supplementary Agreement to Lease of Premises in Beijing BDA Biomedical Park by and among Beijing FibroGen Medical Technology Development Co., Ltd., Beijing Economic Technology Investment Development Parent Company and Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd., dated as of January 30, 2013.
10.10+	Form of Employment Offer Letter.
10.11†	Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., effective as of June 1, 2005.
10.12†	Anemia License and Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., effective as of April 28, 2006.
10.13†	Amendment to Anemia License and Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., effective as of August 31, 2006.
10.14	Amendment No. 2 to Anemia License and Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., effective as of December 1, 2006.
10.15†	Supplement to Anemia License and Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., effective as of April 28, 2006.
10.16†	Amendment No. 3 to Anemia License and Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., dated as of May 10, 2012.
10.17†*	License, Development and Commercialization Agreement (China) by and among FibroGen China Anemia Holdings, Ltd., Beijing FibroGen Medical Technology Development Co., Ltd., FibroGen International (Hong Kong) Limited and AstraZeneca AB, dated as of July 30, 2013.
10.18†*	License, Development and Commercialization Agreement by and between Registrant and AstraZeneca AB, dated as of July 30, 2013.
10.19†	License Agreement by and between the Registrant and the University of Miami and its School of Medicine, dated as of May 23, 1997.

Exhibit Number	Description of Document
10.20†	First Amendment to May 23, 1997 License Agreement by and between the Registrant and University of Miami, effective as of July 29, 1999.
10.21	Research and Commercialization Agreement by and among the Registrant, GenPharm International Inc., Medarex, Inc. and FibroPharma, Inc., effective as of July 9, 1998.
10.22	Amendment No. 1 to Research and Commercialization Agreement by and among the Registrant, GenPharm International Inc., Medarex, Inc. and FibroPharma, Inc., effective as of June 30, 2001.
10.23†	Amendment No. 2 to Research and Commercialization Agreement by and among the Registrant, GenPharm International Inc., Medarex, Inc. and FibroPharma, Inc., effective as of January 28, 2002.
10.24†	License Agreement by and between the Registrant and the Dana-Farber Cancer Institute, Inc., effective as of March 29, 2006.
10.25	Amendment No. 1 to License agreement by and between the Registrant and Dana-Farber Cancer Institute, Inc., effective as of February 28, 2006.
10.26	Amendment No. 2 to License Agreement by and between the Registrant and Dana-Farber Cancer Institute, Inc., effective as of March 14, 2006.
10.27+*	Form of Indemnity Agreement by and between the Registrant and its directors and officers.
10.28(i)†	Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of November 29, 2007.
10.28(ii)†	Letter Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of June 26, 2008.
10.28(iii)†	Letter Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of August 18, 2008.
10.28(iv)†	Amendment No. 1 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of May 28, 2009.
10.28(v)†	Amendment No. 3 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of November 5, 2010.
10.28(vi)†	Amendment No. 4 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of January 24, 2011.
10.28(vii)†	Amendment No. 5 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of April 15, 2011.
10.28(viii)†	Amendment No. 6 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of May 26, 2011.
10.28(ix)†	Amendment No. 7 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of January 1, 2012.
10.28(x)†	Amendment No. 8 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of July 10, 2012.
10.28(xi)†	Amendment No. 9 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of November 26, 2012.

Exhibit Number	Description of Document
10.28(xii)†	Amendment No. 10 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of June 21, 2013.
10.28(xiii)†	Amendment No. 11 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of July 9, 2013.
10.28(xiv)†	Amendment No. 12 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of August 1, 2013.
10.28(xv)†	Amendment No. 13 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of March 6, 2014.
10.28(xvi)†	Amendment No. 14 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of February 5, 2014.
10.29+	Offer Letter, by and between the Registrant and Frank Valone, dated as of November 3, 2008.
10.30+	Offer Letter, by and between the Registrant and K. Peony Yu, dated as of November 21, 2008.
10.31+	Offer Letter, by and between the Registrant and Pat Cotroneo, dated as of October 23, 2000.
21.1	Subsidiaries of the Registrant.
23.1	Consent of PricewaterhouseCoopers LLP.
23.2*	Consent of Cooley LLP (included in Exhibit 5.1).
24.1	Power of Attorney (included in signature pages).

* To be filed by Amendment.
† Confidential Treatment Requested.
\+ Indicates a management contract or compensatory plan.

(b) Financial Statement Schedules.

See index to Consolidated Financial Statements on page F-1. All other schedules have been omitted because they are not required or are not applicable.

Item 17. Undertakings

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post- effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Francisco, State of California on the 30th day of September, 2014.

FIBROGEN, INC.

By: /S/ THOMAS B. NEFF
Name: Thomas B. Neff
Title: Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose individual signature appears below constitutes and appoints Thomas B. Neff and Pat Cotroneo, and each of them, as his true and lawful attorneys-in-fact and agents, each with the full power of substitution and resubstitution and full power to act without the other, for him and in his name, place or stead, in any and all capacities, to sign any and all amendments to this Registration Statement (including post-effective amendments), and to sign any registration statement for the same offering covered by this Registration Statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act of 1933, as amended, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their, his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title	Date
/S/ THOMAS B. NEFF **Thomas B. Neff**	Chief Executive Officer and Chairman of the Board *(Principal Executive Officer)*	September 30, 2014
/S/ PAT COTRONEO **Pat Cotroneo**	Vice President, Finance, and Chief Financial Officer *(Principal Financial and Accounting Officer)*	September 30, 2014
/S/ THOMAS F. KEARNS JR. **Thomas F. Kearns Jr.**	Director	September 30, 2014
/S/ KALEVI KURKIJÄRVI, PH.D. **Kalevi Kurkijärvi, Ph.D.**	Director	September 30, 2014
/S/ MIGUEL MADERO **Miguel Madero**	Director	September 30, 2014
/S/ RORY B. RIGGS **Rory B. Riggs**	Director	September 30, 2014

Signature	Title	Date
/S/ ROBERTO PEDRO ROSENKRANZ, PH.D. M.B.A **Roberto Pedro Rosenkranz, Ph.D. M.B.A**	Director	September 30, 2014
/S/ JORMA ROUTTI, PH.D. **Jorma Routti, Ph.D.**	Director	September 30, 2014
/S/ JAMES A. SCHOENECK **James A. Schoeneck**	Director	September 30, 2014
/S/ JULIAN N. STERN **Julian N. Stern**	Director	September 30, 2014
/S/ TOSHINARI TAMURA, PH.D. **Toshinari Tamura, Ph.D.**	Director	September 30, 2014

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EXHIBIT INDEX

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3.3*	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon completion of this offering.
3.4*	Form of Amended and Restated Bylaws of the Registrant, to be in effect upon completion of this offering.
4.1*	Form of Common Stock Certificate
4.2	Investor Rights Agreement by and among the Registrant and certain of its stockholders, dated as of December 1995.
4.3	Investor Rights Agreement by and among the Registrant and certain of its stockholders, dated as of February 20, 1998.
4.4	Investor Rights Agreement by and among the Registrant and certain of its stockholders, dated as of May 12, 2000, as amended in December 2004 and September 2005.
4.5	Investor Rights Agreement by and among the Registrant and certain of its stockholders, dated as of December 22, 2004, as amended in September 2005.
4.6	Investor Rights Agreement by and among the Registrant and certain of its warrant holders, dated as of June 3, 1999.
4.7	Investor Rights Agreement by and among the Registrant and certain of its warrant holders, dated as of February 8, 2000.
4.8	Warrant to Purchase 67,200 Shares of Common Stock issued to Lease Management Services, Inc., dated as of June 6, 1995; as amended by Amendment to Warrant to Purchase 67,200 Shares of Common Stock by and between the Registrant and Phoenixcor, Inc. (as successor in interest to Lease Management Services, Inc.), dated as of June 5, 2001.
4.9	Warrant to Purchase 43,140 Shares of Common Stock issued to Lease Management Services, Inc., dated as of December 11, 1997; as amended by Amendment to Warrant to Purchase 43,140 Shares of Common Stock by and between the Registrant and General Electric Capital Corporation (as successor in interest to Lease Management Services, Inc.), dated as of December 9, 2003.
4.10	Warrant to Purchase 4,000 Shares of Common Stock issued to Laurence S. Shushan and Magdalena Shushan, Trustees of The Laurence and Magdalena Shushan Family Trust, dated as of June 3, 1999.
4.11	Warrant to Purchase 180,000 Shares of Common Stock issued to Slough Estates USA, Inc., dated as of June 3, 1999.
4.12	Warrant to Purchase 11,076 Shares of Common Stock issued to Bristow Investments, L.P, dated as of February 8, 2000.
4.13	Warrant to Purchase 2,769 Shares of Common Stock issued to Laurence S. Shushan and Magdalena Shushan, Trustees of The Laurence and Magdalena Shushan Family Trust, dated as of February 8, 2000.
4.14	Warrant to Purchase 124,605 Shares of Common Stock issued to Slough Estates USA, Inc., dated as of February 8, 2000.
4.15	Shareholders' Agreement by and among FibroGen China Anemia Holdings, Ltd. and certain of its shareholders, dated as of July 11, 2012.

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Exhibit Number	Description of Document
4.16	Share Purchase Agreement by and among FibroGen China Anemia Holdings, Ltd. and the purchasers party thereto, dated as of July 11, 2012.
5.1*	Opinion of Cooley LLP regarding legality.
10.1+	FibroGen, Inc. Amended and Restated 1994 Stock Plan, and forms of agreement thereunder.
10.2(i)+	FibroGen, Inc. Amended and Restated 1999 Stock Plan.
10.2(ii)+	Form of incentive stock option agreement under the FibroGen, Inc. Amended and Restated 1999 Stock Plan.
10.2(iii)+	Forms of 2010 and 2013 amendments to the form of incentive stock option agreement under the FibroGen, Inc. Amended and Restated 1999 Stock Plan applicable to options amended pursuant to the Registrant's 2010 amendment and exchange offer.
10.3(i)+	FibroGen, Inc. Amended and Restated 2005 Stock Plan.
10.3(ii)+	Forms of stock option agreement, restricted stock purchase agreement and stock appreciation right agreement under the FibroGen, Inc. Amended and Restated 2005 Stock Plan.
10.3(iii)+	Form of stock option agreement under the FibroGen, Inc. Amended and Restated 2005 Stock Plan applicable to options exchanged pursuant to the Registrant's 2010 amendment and exchange offer.
10.3(iv)+	Form of 2010 amendment to the form of stock option agreement under the FibroGen, Inc. Amended and Restated 2005 Stock Plan applicable to options amended pursuant to the Registrant's 2010 amendment and exchange offer.
10.3(v)+	Form of 2013 amendment to the form of stock option agreement under the FibroGen, Inc. Amended and Restated 2005 Stock Plan applicable to options amended or exchanged pursuant to the Registrant's 2010 amendment and exchange offer.
10.4+*	FibroGen, Inc. 2014 Equity Incentive Plan, and forms of agreement thereunder, to be in effect upon completion of this offering.
10.5+*	FibroGen, Inc. 2014 Employee Stock Purchase Plan, to be in effect upon completion of this offering.
10.6+*	FibroGen, Inc. 2014 Director Compensation Plan.
10.7+*	FibroGen,Inc. 2014 Employee Compensation and Bonus Plan.
10.8	Lease Agreement by and between the Registrant and X-4 Dolphin LLC, dated as of September 22, 2006; as amended by First Amendment to Lease by and between the Registrant and X-4 Dolphin LLC, dated as of October 10, 2007; as amended by Second Amendment to Lease by and between the Registrant and X-4 Dolphin LLC, dated as of June 29, 2009; as amended by Third Amendment to Lease by and between the Registrant and Are-San Francisco No. 43, LLC (as successor in interest to X-4 Dolphin LLC), dated as of May 19, 2011; as amended by Fourth Amendment to Lease by and between the Registrant and Are-San Francisco No. 43, LLC, dated as of September 8, 2011.
10.9	Lease for Premises in Beijing BDA Biomedical Park by and among Beijing FibroGen Medical Technology Development Co., Ltd., Beijing Economic and Technology Investment Development Parent Company and Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd., effective as of February 1, 2013, as supplemented by the Supplementary Agreement to Lease of Premises in Beijing BDA Biomedical Park by and among Beijing FibroGen Medical Technology Development Co., Ltd., Beijing Economic Technology Investment Development Parent Company and Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd., dated as of January 30, 2013.
10.10+	Form of Employment Offer Letter.

Exhibit Number	Description of Document
10.11†	Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., effective as of June 1, 2005.
10.12†	Anemia License and Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., effective as of April 28, 2006.
10.13†	Amendment to Anemia License and Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., effective as of August 31, 2006.
10.14	Amendment No. 2 to Anemia License and Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., effective as of December 1, 2006.
10.15†	Supplement to Anemia License and Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., effective as of April 28, 2006.
10.16†	Amendment No. 3 to Anemia License and Collaboration Agreement, by and between the Registrant and Astellas Pharma Inc., dated as of May 10, 2012.
10.17†*	License, Development and Commercialization Agreement (China) by and among FibroGen China Anemia Holdings, Ltd., Beijing FibroGen Medical Technology Development Co., Ltd., FibroGen International (Hong Kong) Limited and AstraZeneca AB, dated as of July 30, 2013.
10.18†*	License, Development and Commercialization Agreement by and between Registrant and AstraZeneca AB, dated as of July 30, 2013.
10.19†	License Agreement by and between the Registrant and the University of Miami and its School of Medicine, dated as of May 23, 1997.
10.20†	First Amendment to May 23, 1997 License Agreement by and between the Registrant and University of Miami, effective as of July 29, 1999.
10.21	Research and Commercialization Agreement by and among the Registrant, GenPharm International Inc., Medarex, Inc. and FibroPharma, Inc., effective as of July 9, 1998.
10.22	Amendment No. 1 to Research and Commercialization Agreement by and among the Registrant, GenPharm International Inc., Medarex, Inc. and FibroPharma, Inc., effective as of June 30, 2001.
10.23†	Amendment No. 2 to Research and Commercialization Agreement by and among the Registrant, GenPharm International Inc., Medarex, Inc. and FibroPharma, Inc., effective as of January 28, 2002.
10.24†	License Agreement by and between the Registrant and the Dana-Farber Cancer Institute, Inc., effective as of March 29, 2006.
10.25	Amendment No. 1 to License agreement by and between the Registrant and Dana-Farber Cancer Institute, Inc., effective as of February 28, 2006.
10.26	Amendment No. 2 to License Agreement by and between the Registrant and Dana-Farber Cancer Institute, Inc., effective as of March 14, 2006.
10.27+*	Form of Indemnity Agreement by and between the Registrant and its directors and officers.
10.28(i)†	Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of November 29, 2007.
10.28(ii)†	Letter Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of June 26, 2008.
10.28(iii)†	Letter Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of August 18, 2008.

Exhibit Number	Description of Document
10.28(iv)†	Amendment No. 1 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of May 28, 2009.
10.28(v)†	Amendment No. 3 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of November 5, 2010.
10.28(vi)†	Amendment No. 4 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of January 24, 2011.
10.28(vii)†	Amendment No. 5 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of April 15, 2011.
10.28(viii)†	Amendment No. 6 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of May 26, 2011.
10.28(ix)†	Amendment No. 7 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of January 1, 2012.
10.28(x)†	Amendment No. 8 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of July 10, 2012.
10.28(xi)†	Amendment No. 9 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of November 26, 2012.
10.28(xii)†	Amendment No. 10 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of June 21, 2013.
10.28(xiii)†	Amendment No. 11 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of July 9, 2013.
10.28(xiv)†	Amendment No. 12 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of August 1, 2013.
10.28(xv)†	Amendment No. 13 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of March 6, 2014.
10.28(xvi)†	Amendment No. 14 to the Process Development and Clinical Supply Agreement by and between the Registrant and Boehringer Ingelheim Pharma GmbH & Co. KG, effective as of February 5, 2014.
10.29+	Offer Letter, by and between the Registrant and Frank Valone, dated as of November 3, 2008.
10.30+	Offer Letter, by and between the Registrant and K. Peony Yu, dated as of November 21, 2008.
10.31+	Offer Letter, by and between the Registrant and Pat Cotroneo, dated as of October 23, 2000.

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Exhibit Number	Description of Document
21.1	Subsidiaries of the Registrant.
23.1	Consent of PricewaterhouseCoopers LLP.
23.2*	Consent of Cooley LLP (included in Exhibit 5.1).
24.1	Power of Attorney (included in signature pages).

* To be filed by Amendment.
† Confidential Treatment Requested.
+ Indicates a management contract or compensatory plan.

Exhibit 3.1

CERTIFICATE OF INCORPORATION

OF

FIBROGEN, INC.

*** * * * * * * ***

FIRST. The name of the corporation is FibroGen, Inc.

SECOND. The address of its registered office in the State of Delaware is 32 Loockerman Square, Suite L-100, Dover, Delaware 19901. The name of its registered agent at such address is The Prentice-Hall Corporation System, Inc. County of Kent.

THIRD. The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

FOURTH. The total number of shares of all classes of capital stock which the corporation shall have authority to issue is Seventy Million (70,000,000) shares, comprised of Fifty Million (50,000,000) shares of Common Stock with a par value of One Cent ($.01) per share (the "Common Stock") and Twenty Million (20,000,000) shares of Preferred Stock with a par value of One Cent ($.01) per share (the "Preferred Stock").

A description of the respective classes of stock and a statement of the designations, preferences, voting powers (or no voting powers), relative, participating, optional or other special rights and privileges and the qualifications, limitations and restrictions of the Preferred Stock and Common Stock are as follows:

A. PREFERRED STOCK

The Preferred Stock may be issued in one or more series at such time or times and for such consideration or considerations as the board of directors may determine. Each series shall be so designated as to distinguish the shares thereof from the shares of all other series and classes. Except as may be expressly provided in this Certificate of Incorporation, including any certificate of designations for a series of Preferred Stock, different series of Preferred Stock shall not be construed to constitute different classes of shares for the purpose of voting by classes.

The board of directors is expressly authorized, subject to the limitations prescribed by law and the provisions of this Certificate of Incorporation, to provide for the issuance

of all or any shares of the Preferred Stock in one or more series, each with such designations, preferences, voting powers (or no voting powers), relative, participating, optional or other special rights and privileges and such qualifications, limitations or restrictions thereof as shall be stated in the resolution or resolutions adopted by the board of directors to create such series, and a certificate of designations setting forth a copy of said resolution or resolutions shall be filed in accordance with the General Corporation Law of the State of Delaware. The authority of the board of directors with respect to each such series shall include without limitation of the foregoing the right to specify the number of shares of each such series and to authorize an increase or decrease in such number of shares and the right to provide that the shares of each such series may be: (i) subject to redemption at such time or times and at such price or prices; (ii) entitled to receive dividends (which may be cumulative or non-cumulative) at such rates, on such conditions, and at such times, and payable in preference to, or in such relation to, the dividends payable on any other class or classes or any other series; (iii) entitled to such rights upon the dissolution of, or upon any distribution of the assets of, the corporation; (iv) convertible into, or exchangeable for, shares of any other class or classes of stock, or of any other series of the same or any other class or classes of stock of the corporation at such price or prices or at such rates of exchange and with such adjustments, if any; (v) entitled to the benefit of such limitations, if any, on the issuance of additional shares of such series or shares of any other series of Preferred Stock; or (vi) entitled to such other preferences, powers, qualifications, rights and privileges, all as the board of directors may deem advisable and as are not inconsistent with law and the provisions of this Certificate of Incorporation.

B. COMMON STOCK

1. Relative Rights of Preferred Stock and Common Stock. All preferences, voting powers, relative, participating, optional or other special rights and privileges, and qualifications, limitations, or restrictions of the Common Stock are expressly made subject and subordinate to those that may be fixed with respect to any shares of the Preferred Stock.

2. Voting Rights. Except as otherwise required by law or this Certificate of Incorporation, including any certificate of designations for a series of Preferred Stock, each holder of Common Stock shall have one vote in respect of each share of stock held by him of record on the books of the corporation for the election of directors and on all matters submitted to a vote of stockholders of the corporation.

3. Dividends. Subject to the preferential rights of the Preferred Stock, the holders of shares of Common Stock shall be entitled to receive, when and if declared by the board of directors, out of the assets of the corporation which are by

law available therefor, dividends payable either in cash, in property or in shares of capital stock.

4. Dissolution, Liquidation or Winding Up. In the event of any dissolution, liquidation or winding up of the affairs of the corporation, after distribution in full of the preferential amounts, if any, to be distributed to the holders of shares of the Preferred Stock, holders of Common Stock shall be entitled, unless otherwise provided by law or this Certificate of Incorporation, including any certificate of designations for a series of Preferred Stock, to receive all of the remaining assets of the corporation of whatever kind available for distribution to stockholders ratably in proportion to the number of shares of Common Stock held by them respectively.

FIFTH. The name and mailing address of the sole incorporator is as follows:

Name	Mailing Address
JULIAN N. STERN	525 University Avenue, Suite 1100 Palo Alto, Ca. 94301

SIXTH. The corporation is to have perpetual existence.

SEVENTH. In furtherance and not in limitation of the powers conferred by the laws of the State of Delaware:

A. The board of directors of the corporation is expressly authorized:

(i) To make, alter or repeal the by-laws of the corporation.

(ii) To authorize and cause to be executed mortgages and liens upon the real and personal property of the corporation.

(iii) To set apart out of any of the funds of the corporation available for dividends a reserve or reserves for any proper purpose and to abolish any such reserve in the manner in which it was created.

(iv) By a majority of the whole board, to designate one or more committees, each committee to consist of one or more of the directors of the corporation. The board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member of any committee. The by-laws may provide that in the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may

unanimously appoint another member of the board of directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the board of directors, or in the by-laws of the corporation, shall have and may exercise all the powers and authority of the board of directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to amending the Certificate of Incorporation (except that a committee may, to the extent authorized in the resolution or resolutions providing for the issuance of shares of stock adopted by the board of directors as provided in Section 151(a) of the General Corporation Law of the State of Delaware, fix any of the preferences or rights of such shares relating to dividends, redemption, dissolution, any distribution of assets of the corporation or the conversion into, or the exchange of such shares for, shares of any other class or classes or any other series of the same or any other class or classes of stock of the corporation), adopting an agreement of merger or consolidation under Sections 251 or 252 of the General Corporation Law of the State of Delaware, recommending to the stockholders the sale, lease or exchange, of all or substantially all of the corporation's property and assets, recommending to the stockholders a dissolution of the corporation or a revocation of a dissolution, or amending the by-laws of the corporation; and, unless the resolution or by-laws expressly so provide, no such committee shall have the power or authority to declare a dividend, to authorize the issuance of stock, or to adopt a certificate of ownership and merger pursuant to Section 253 of the General Corporation Law of the State of Delaware.

(v) When and as authorized by the stockholders in accordance with statute, to sell, lease or exchange all or substantially all of the property and assets of the corporation, including its good will and its corporate franchises, upon such terms and conditions and for such consideration, which may consist in whole or in part of money or property including shares of stock in, and/or other securities of, any other corporation or corporations, as its board of directors shall deem expedient and for the best interests of the corporation.

B. Elections of directors need not be by written ballot unless the by-laws of the corporation shall so provide.

C. The books of the corporation may be kept at such place within or without the State of Delaware as the by-laws of the corporation may provide or as may be designated from time to time by the board of directors of the corporation.

EIGHTH. Whenever a compromise or arrangement is proposed between this corporation and its creditors or any class of them and/or between this corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of

Delaware may, on the application in a summary way of this corporation or of any creditor or stockholder thereof or on the application of any receiver or receivers appointed for this corporation under the provisions of Section 291 of Title 8 of the Delaware Code or on the application of trustees in dissolution or of any receiver or receivers appointed for this corporation under the provisions of Section 279 of Title 8 of the Delaware Code, order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this corporation, as the case may be, to be summoned in such manner as the said court directs. If a majority in number representing three-fourths in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of this corporation as consequence of such compromise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all the creditors or class of creditors, and/or on all the stockholders or class of stockholders, of this corporation, as the case may be, and also on this corporation.

NINTH. A director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law, or (iv) for any transaction from which the director derived any improper personal benefit. If the Delaware General Corporation Law is amended hereafter to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the corporation shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended.

Any repeal or modification of the foregoing paragraph by the stockholders of the corporation shall not adversely affect any right or protection of a director of the corporation existing at the time of such repeal or modification.

TENTH.

A. RIGHT TO INDEMNIFICATION

Each person who was or is made a party or is threatened to be made a party to or is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative ("proceeding"), by reason of the fact that he or she or a person of whom he or she is the legal representative, is or was a director or officer, employee or agent of the Corporation or is or was serving at the request of the

Corporation as a director or officer, employee or agent of another corporation, or of a partnership, joint venture, trust or other enterprise, including service with respect to employee benefit plans, whether the basis of such proceeding is alleged action in an official capacity as a director, officer, employee or agent or in any other capacity while serving as a director, officer, employee or agent, shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the Delaware General Corporation Law, as the same exists or may hereafter be amended, (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than said Law permitted the Corporation to provide prior to such amendment) against all expenses, liability and loss including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid or to be paid in settlement) reasonably incurred or suffered by such person in connection therewith and such indemnification shall continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of his or her heirs, executors and administrators; provided, however, that the Corporation shall indemnify any such person seeking indemnity in connection with an action, suit or proceeding (or part thereof) initiated by such person only if such action, suit or proceeding (or part thereof) was authorized by the board of directors of the Corporation. Such right shall be a contract right and shall include the right to be paid by the Corporation expenses incurred in defending any such proceeding in advance of its final disposition; provided, however, that the payment of such expenses incurred by a director or officer of the Corporation in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such person while a director or officer, including, without limitation, service to an employee benefit plan) in advance of the final disposition of such proceeding, shall be made only upon delivery to the Corporation of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it should be determined ultimately that such director or officer is not entitled to be indemnified under this Section or otherwise.

B. RIGHT OF CLAIMANT TO BRING SUIT

If a claim under Paragraph A of Article TENTH is not paid in full by the Corporation within ninety (90) days after a written claim has been received by the Corporation, the claimant may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim and, if successful in whole or in part, the claimant shall be entitled to be paid also the expense of prosecuting such claim. It shall be a defense to any such action (other than an action brought to enforce a claim for expenses incurred in defending any proceeding in advance of its final disposition where the required undertaking, if any, has been tendered to this Corporation) that the claimant has not met the standards of conduct which make it permissible under the Delaware General Corporation Law for the

Corporation to indemnify the claimant for the amount claimed, but the burden of proving such defense shall be on the Corporation. Neither the failure of the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such action that indemnification of the claimant is proper in the circumstances because he or she has met the applicable standard of conduct set forth in the Delaware General Corporation Law, nor an actual determination by the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) that the claimant has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that claimant has not met the applicable standard of conduct.

C. NON-EXCLUSIVITY OF RIGHTS

The rights conferred on any person by Paragraphs A and B of Article TENTH shall not be exclusive of any other right which such persons may have or hereafter acquire under any statute, provision of the Certificate of Incorporation, by-law, agreement, vote of stockholders or disinterested directors or otherwise.

D. INSURANCE

The Corporation may maintain insurance, at its expense, to protect itself and any such director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any such expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the Delaware General Corporation Law.

ELEVENTH. The corporation reserves the right to amend or repeal any provision contained in this Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon a stockholder herein are granted subject to this reservation.

I, the undersigned, being the sole incorporator hereinabove named, for the purpose of forming a corporation pursuant to the General Corporation Law of the State of Delaware, do make this certificate, hereby declaring and certifying that this is my act and deed and the facts her are true, and accordingly have hereunto set my hand this 28th day September, 1993.

/s/ Julian N. Stern
JULIAN N. STERN, Incorporator

CERTIFICATE OF DESIGNATIONS
OF
SERIES A CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

FIBROGEN, INC., a Delaware corporation (the **"Corporation"**), pursuant to the provisions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Designations and does hereby state and certify that, pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation of the Corporation, the Board of Directors has duly adopted the following resolutions:

RESOLVED, that, pursuant to Article FOURTH of the Certificate of Incorporation, which authorizes 20,000,000 shares of preferred stock, $.01 par value (**"Preferred Stock"**), the Board of Directors hereby fixes the powers, designations, preferences and relative, participating, optional and other rights, and the qualifications, limitations and restrictions, of a series of Preferred Stock.

RESOLVED, that each share of such series of Preferred Stock shall rank equally in all respects and shall be subject to the following provisions:

(1) Number and Designation. 10,000,000 shares of the Preferred Stock of the Corporation shall be designated as Series A Convertible Preferred Stock (the "**Series A Preferred Stock**").

(2) Rank. The Series A Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank prior to all classes of the Corporation's common stock, $.01 par value ("**Common Stock**"). All equity securities of the Corporation to which the Series A Preferred Stock ranks prior (whether with respect to liquidation, dissolution, winding up or otherwise), including the Common Stock, are collectively referred to herein as the "**Junior Securities**." All equity securities of the Corporation with which the Series A Preferred Stock ranks on a parity (whether with respect to liquidation, dissolution, winding up or otherwise) are collectively referred to herein as the "**Parity Securities**." All equity securities of the Corporation to which the Series A Preferred Stock ranks junior (whether with respect to liquidation, dissolution, winding up or otherwise), are collectively referred to herein as the "**Senior Securities**". The respective definitions of Junior Securities, Parity Securities and Senior Securities shall also include any rights, options or warrants exercisable for any of the Junior

Securities, Parity Securities and Senior Securities, as the case may be. The Series A Preferred Stock shall be subject to the creation of Junior Securities, Parity Securities and Senior Securities.

(3) Dividends. The holders of shares of Series A Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of funds legally available for the payment of dividends, to the extent as, on the same basis as, at the same rate as, and contemporaneously with, cash dividends when, as and if declared by the Board of Directors with respect to shares of any Common Stock or Parity Securities. Such dividends shall be paid to the holders of record at the close of business on the record date specified by the Board of Directors of the Corporation at the time such dividend is declared, provided, however, that such record date shall not be more than 60 days or less than 10 days prior to the applicable dividend payment date.

(4) Conversion.

(a) Each share of Series A Preferred Stock shall be convertible, at the option of the holder thereof except as otherwise provided in paragraph (4) (b) below, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and non-assessable shares (calculated as to each conversion to the nearest 1/100th of a share) of Common Stock as is determined by dividing $1.00 by the Conversion Price (as defined below) applicable to such share, determined as hereinafter provided, in effect on the date the certificate is surrendered for conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series A Preferred Stock (the "**Conversion Price**") shall initially be $1.00 per share of Common Stock. Such initial Conversion Price shall be adjusted as hereinafter provided.

(b) Notwithstanding anything to the contrary herein, each outstanding share of Series A Preferred stock shall automatically convert upon a public offering of Common Stock at a price of at least $2.00 per share if the total aggregate proceeds to the Corporation before underwriting commissions and expenses are at least $10,000,000.

(c) Before any holder of Series A Preferred Stock shall be entitled to receive a certificate or certificates for shares of Common Stock upon conversion, such holder shall surrender the certificate or certificates for the holder's shares of Series A Preferred Stock, duly endorsed, at the office of the Corporation or of any transfer agent for such stock, and, unless such conversion is automatic pursuant to clause (b) above, shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name or names in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. The

Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series A Preferred Stock, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made (i) in the case such conversion is automatic pursuant to clause (b) above, upon the effectiveness of the registration statement relating to such offering, and (ii) in all other cases, immediately prior to the close of business on the date of surrender of the shares of Series A Preferred Stock to be converted (in either case, the "**Conversion Date**"), and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or record holders of such shares of Common Stock on such date.

(d) All shares of Series A Preferred Stock which have been converted as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall forthwith cease and terminate, except only the right of the holders thereof, subject to the provisions of clause (c) of this paragraph (4), to receive shares of Common Stock in exchange therefor.

(e) (i) For the purposes of this clause (e), the following definitions shall apply:

(A) "Options" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Additional Shares of Common Stock or Convertible Securities (as defined below);

(B) "Original Issue Date" shall mean the date on which a share of Series A Preferred Stock was first issued;

(C) "Convertible Securities" shall mean any evidences of indebtedness, shares (other than Common Stock) or other securities convertible into or exchangeable for Additional Shares of Common Stock; and

(D) "Additional Shares of Common Stock" shall mean all shares of Common Stock issued (or, pursuant to clause (e) (iii) hereof, deemed to be issued) by the Corporation after the Original Issue Date, other than shares of Common Stock issued or issuable:

(I) to officers, directors or employees of, or consultants to, the Corporation pursuant to stock option or stock purchase plans or agreements on terms approved by the Board of Directors of the Corporation;

(II) as a dividend or distribution on shares of the Series A Preferred Stock; or

(III) for which adjustment of the Conversion Price is made pursuant to clause (j) or (k) of this paragraph (4).

(ii) Any provision herein to the contrary notwithstanding, no adjustment in the Conversion Price shall be made in respect of the issuance of Additional Shares of Common Stock unless the consideration per share (determined pursuant to subclause (e) (v) hereof) for an Additional Share of Common Stock issued or deemed to be issued by the Corporation is less than the Conversion Price in effect on the date of, and immediately prior to, such issue.

(iii) In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities or shall fix a record date for the determination of holders of any class of securities then entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein designed to protect against dilution) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided, that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(1) no further adjustments in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(2) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or decrease or increase in the number of shares of Common Stock issuable, upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities (provided, however, that no such adjustment of the Conversion Price shall affect Common Stock previously issued upon conversion of the Series A Preferred Stock);

(3) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the

Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(A) in the case of Convertible Securities or Options for Common Stock the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(B) in the case of Options for Convertible Securities only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(4) no readjustment pursuant to clause (2) or (3) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date (before adjustment) and (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(5) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustments of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (3) above.

(iv) In the event this Corporation, at any time after the Original Issue Date, shall issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to subclause (e)(iii) hereof) without consideration or for a consideration per share less than the Conversion Price in effect on the date of and immediately prior to such issue, then and in such event, the Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest cent) determined by multiplying the Conversion Price by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately

prior to such issue plus the number of shares of Common Stock which the aggregate consideration received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price in effect immediately prior to such issuance, and the denominator of which shall be the number of shares of Common Stock outstanding immediately prior to such issue plus the number of such Additional Shares of Common Stock so issued. For the purpose of the above calculation, the number of shares of Common Stock outstanding immediately prior to such issue shall be calculated as if (i) all outstanding shares of Preferred Stock and all other outstanding evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock had been fully converted into or exchanged for shares of Common Stock immediately prior to such issuance, and (ii) all outstanding rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock (or to acquire evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock) had been fully exercised (and had been fully converted and exchanged if, upon such exercise, evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock would be issued) immediately prior to such issuance, but not including in such calculation any additional shares of Common Stock issuable with respect to shares of Preferred Stock, other evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock or rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock solely as a result of the adjustment of the respective Conversion Prices (or other conversion ratios or exercise prices) resulting from the issuance of Additional Shares of Common Stock causing such adjustment.

(v) For purposes of this clause (e), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows;

(1) If such consideration consists of cash and property, such consideration shall:

(A) insofar an it consists of cash, be computed at the aggregate amount of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(B) insofar as it consists of property other than cash, be computed at the fair value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(C) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (A) and (B) above, as determined in good faith by the Board of Directors.

(2) If such consideration consists of Options and Convertible Securities, the consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to subclause (e)(iii), relating to Options and Convertible Securities, shall be determined by dividing:

(A) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against dilution) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(B) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against the dilution) issuable upon the exercise of such Options or conversion or exchange of such Convertible Securities.

(f) In case:

(i) the Corporation shall declare a dividend (or any other distribution) on Common Stock payable otherwise than in cash out of its retained earnings; or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any other rights; or

(iii) of any reclassification of the Common Stock (other than a subdivision, split or combination of its outstanding shares of Common Stock), or of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation is required, or of the sale or transfer of all or substantially all of the assets of the Corporation; or

(iv) of the voluntary or involuntary dissolution, liquidation or winding up of the Corporation;

then the Corporation shall cause to be mailed to each holder of shares of Series A Preferred Stock at its address as shown on the books of the Corporation, at least 30 days (or 20 days in any case specified in clause (i) or (ii) above) prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, rights or warrants,

or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined, or (y) the date on which such reclassification, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding up.

(g) For the purposes of this paragraph (4), the term "Common Stock" shall mean (i) the class of stock designated as the Common Stock of the Corporation on the date of this Certificate of Designations, and (ii) any other class of common stock, including any class resulting from successive changes or reclassifications of such Common Stock consisting solely of changes in par value or from no par value to par value or from par value to no par value.

(h) No fractional share of Common Stock, or scrip representing a fractional share, shall be issuable upon the conversion of any Series A Preferred Stock. If a certificate or certificates representing more than one share of Series A Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares of Common Stock issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares represented by certificates so surrendered. If any fractional interest in a share of Common Stock would be deliverable upon the conversion of any shares of Series A Preferred Stock, the Corporation shall pay, in lieu thereof, in cash the Conversion Price thereof as of the business day immediately preceding the date of such conversion.

(i) Such number of shares of Common Stock as may from time to time be required for such purpose shall be reserved for issuance upon conversion of outstanding shares of Series A Preferred Stock.

(j) If the Corporation shall at any time or from time to time effect a subdivision or stock split of the outstanding Common Stock, the Conversion Price of the Series A Preferred Stock then in effect immediately before that subdivision or stock split shall be proportionately decreased. If the Corporation shall at any time or from time to time combine the outstanding shares of Common Stock, the Conversion Price of the Series A Preferred Stock then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision, stock split or combination, as the case may be, becomes effective.

(k) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive,

a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price of the Series A Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of the Series A Preferred Stock then in effect by a fraction:

(1) the denominator of which shall be the sum of the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, plus the number of shares of Common Stock issuable in payment of such dividend or distribution, and

(2) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of Series A Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of Series A Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment or issuance of such dividends or distributions.

(l) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of Series A Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of such other securities of the Corporation that they would have received had their Series A Preferred Stock been converted into Common Stock on the date, or the record date, of such event and had thereafter, during the period from the date of such event to and including the Conversion Date, retained such securities receivable by them as aforesaid during such period, all subject to further adjustment as provided herein during such period.

(m) If the Common Stock issuable upon the conversion of the Series A Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, exchange, substitution or otherwise, then and in each such event the holder of each such share of Series A Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, exchange,

substitution or other change, by holders of the number of shares of Common Stock into which such shares of Series A Preferred Stock might have been converted immediately prior to such reorganization, reclassification, exchange, substitution or other change, all subject to further adjustment as provided herein.

(5) Liquidation Preference.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, the holders of shares of Series A Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its shareholders an amount in cash equal to $1.00 for each share outstanding, plus an amount in cash equal to all declared but unpaid dividends thereon to the date fixed for liquidation, dissolution or winding up before any payment shall be made or any assets distributed to the holders of any Junior Securities. If the assets of the Corporation, or the proceeds thereof, are not sufficient to pay in full the liquidation payments payable to the holders of outstanding shares of the Series A Preferred Stock and any Parity Securities, then the holders of all such shares shall share ratably in such distribution of assets, or the proceeds thereof, in accordance with the amount which would have been payable on such distribution if the amounts to which the holders of outstanding shares of Series A Preferred Stock and the holders of outstanding shares of such Parity Securities are entitled were paid in full. Except as provided in this paragraph (5) (a), holders of Series A Preferred Stock shall not be entitled to any distribution in the event of liquidation, dissolution or winding up of the affairs of the Corporation.

(b) For the purposes of this paragraph (5), neither the voluntary sale, conveyance, exchange or transfer (for cash, shares of stock, securities or other consideration) of all or substantially all the property or assets of the Corporation nor the consolidation or merger of the Corporation with or into one or more other corporations shall be deemed to be a liquidation, dissolution or winding up of the Corporation, voluntary or involuntary unless such voluntary sale, conveyance, exchange or transfer, or merger or consolidation, shall be in connection with a plan of liquidation, dissolution or winding up of the Corporation.

(6) Voting. In addition to any voting rights provided by law and to any voting rights of the holders of the Series A Preferred Stock, as or as part of a separate class or series, pursuant to this Certificate or any provision of the Certificate of Incorporation of the Corporation, the holder of each outstanding share of Series A Preferred Stock shall be entitled to vote on any matter voted on by holders of Common Stock, voting together as a single class with the holders of the Common Stock, and any other shares entitled to vote in the ordinary course. With respect to any such vote, each share of Series A Preferred Stock shall entitle the holder thereof to cast one vote.

(7) Reports. So long as any of the Series A Preferred Stock is outstanding, the Corporation will furnish the holders thereof with the quarterly and annual financial reports, if any, that the Corporation is required to file with the Securities and Exchange Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934.

(8) General Provisions.

(a) The term "**person**" as used herein means any corporation, partnership, trust, organization, association, other entity or individual.

(b) The term "**outstanding**," when used with reference to shares of stock, shall mean issued shares, excluding shares held by the Corporation or any subsidiary of the Corporation.

(c) The headings of the paragraphs, subparagraphs, clauses and subclauses of this Certificate of Designations are for convenience of reference only and shall not define, limit or affect any of the provisions hereof.

IN WITNESS WHEREOF, FIBROGEN, Inc. has caused this Certificate of Designations to be signed and attested by the undersigned this 10th day of December, 1993.

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Name:
Title: CEO FibroGen

ATTEST:

/s/ Jenny Larsson
Name:
Title:

CERTIFICATE OF DESIGNATIONS
OF
SERIES B CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

FIBROGEN, INC., a Delaware corporation (the **"Corporation"**), pursuant to the provisions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Designations and does hereby state and certify that, pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation of the Corporation, the Board of Directors has duly adopted the following resolutions:

RESOLVED, that, pursuant to Article FOURTH of the Certificate of Incorporation, which authorizes 20,000,000 shares of preferred stock, $.01 par value (**"Preferred Stock"**), the Board of Directors hereby fixes the powers, designations, preferences and relative, participating, optional and other rights, and the qualifications, limitations and restrictions, of a series of Preferred Stock.

RESOLVED, that each share of such series of Preferred Stock shall rank equally in all respects and shall be subject to the following provisions:

(1) Number and Designation. 7,692,307 shares of the Preferred Stock of the Corporation shall be designated as Series B Convertible Preferred Stock (**"Series B Preferred Stock"**).

(2) Rank. The Series B Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank prior to all classes of the Corporation's common stock, $.01 par value (**"Common Stock"**). The Series B Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank equally with the Series A Convertible Preferred Stock (**"Series A Preferred Stock"**). All equity securities of the Corporation to which the Series B Preferred Stock ranks prior (whether with respect to liquidation, dissolution, winding up or otherwise), including the Common Stock, are collectively referred to herein as the **"Junior Securities."** All equity securities of the Corporation with which the Series B Preferred Stock ranks on a parity (whether with respect to liquidation, dissolution, winding up or otherwise), including Series A Preferred Stock, are collectively referred to herein as the **"Parity Securities."** All equity securities of the Corporation to which the Series B Preferred Stock ranks junior (whether with respect to liquidation, dissolution, winding up or otherwise), are collectively referred to herein as the **"Senior Securities"**. The respective definitions of Junior Securities, Parity Securities and Senior Securities shall also include any rights, options or warrants exercisable for any of the Junior Securities, Parity

Securities and Senior Securities, as the case may be. The Series B Preferred Stock shall be subject to the creation of Junior Securities, Parity Securities and Senior Securities.

(3) Dividends. The holders of shares of Series B Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of funds legally available for the payment of dividends, to the extent as, on the same basis as, at the same rate as, and contemporaneously with, cash dividends when, as and if declared by the Board of Directors with respect to shares of any Common Stock or Parity Securities. Such dividends shall be paid to the holders of record at the close of business on the record date specified by the Board of Directors of the Corporation at the time such dividend is declared, provided, however, that such record date shall not be more than 60 days or less than 10 days prior to the applicable dividend payment date.

(4) Conversion.

(a) Each share of Series B Preferred Stock shall be convertible, at the option of the holder thereof except as otherwise provided in paragraph (4) (b) below, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and non-assessable shares (calculated as to each conversion to the nearest 1/100th of a share) of Common Stock as is determined by dividing $1.30 by the Conversion Price (as defined below) applicable to such share, determined as hereinafter provided, in effect on the date the certificate is surrendered for conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series B Preferred Stock (the **"Conversion Price"**) shall initially be $1.30 per share of Common Stock. Such initial Conversion Price shall be adjusted as hereinafter provided.

(b) Notwithstanding anything to the contrary herein, each outstanding share of Series B Preferred stock shall automatically convert upon a public offering of Common Stock at a price of at least $2.00 per share if the total aggregate proceeds to the Corporation before underwriting commissions and expenses are at least $10,000,000.

(c) Before any holder of Series B Preferred Stock shall be entitled to receive a certificate or certificates for shares of Common Stock upon conversion, such holder shall surrender the certificate or certificates for the holder's shares of Series B Preferred Stock, duly endorsed, at the office of the Corporation or of any transfer agent for such stock, and, unless such conversion is automatic pursuant to clause (b) above, shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name or names in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. The Corporation shall, as soon as practicable thereafter, issue and

deliver at such office to such holder of Series B Preferred Stock, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made (i) in the case such conversion is automatic pursuant to clause (b) above, upon the effectiveness of the registration statement relating to such offering, and (ii) in all other cases, immediately prior to the close of business on the date of surrender of the shares of Series B Preferred Stock to be converted (in either case, the **"Conversion Date"**), and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or record holders of such shares of Common Stock on such date.

(d) All shares of Series B Preferred Stock which have been converted as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall forthwith cease and terminate, except only the right of the holders thereof, subject to the provisions of clause (c) of this paragraph (4), to receive shares of Common Stock in exchange therefor.

(e) (i) For the purposes of this clause (e), the following definitions shall apply:

(A) "Options" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Additional Shares of Common Stock or Convertible Securities (as defined below);

(B) "Original Issue Date" shall mean the date on which a share of Series B Preferred Stock was first issued;

(C) "Convertible Securities" shall mean any evidences of indebtedness, shares (other than Common Stock) or other securities convertible into or exchangeable for Additional Shares of Common Stock; and

(D) "Additional Shares of Common Stock" shall mean all shares of Common Stock issued (or, pursuant to clause (e) (iii) hereof, deemed to be issued) by the Corporation after the Original Issue Date, other than shares of Common Stock issued or issuable:

(I) to officers, directors or employees of, or consultants to, the Corporation pursuant to stock option or stock purchase plans or agreements on terms approved by the Board of Directors of the Corporation;

(II) as a dividend or distribution on shares of the Series B Preferred Stock; or

(III) for which adjustment of the Conversion Price is made pursuant to clause (j) or (k) of this paragraph (4).

(ii) Any provision herein to the contrary notwithstanding, no adjustment in the Conversion Price shall be made in respect of the issuance of Additional Shares of Common Stock unless the consideration per share (determined pursuant to subclause (e) (v) hereof) for an Additional Share of Common Stock issued or deemed to be issued by the Corporation is less than the Conversion Price in effect on the date of, and immediately prior to, such issue.

(iii) In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities or shall fix a record date for the determination of holders of any class of securities then entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein designed to protect against dilution) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided, that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(1) no further adjustments in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(2) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or decrease or increase in the number of shares of Common Stock issuable, upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities (provided, however, that no such adjustment of the Conversion Price shall affect Common Stock previously issued upon conversion of the Series B Preferred Stock);

(3) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the

Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(A) in the case of Convertible Securities or Options for Common stock the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(B) in the case of Options for Convertible Securities only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(4) no readjustment pursuant to clause (2) or (3) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date (before adjustment) and (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(5) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustments of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (3) above.

(iv) In the event this Corporation, at any time after the Original Issue Date, shall issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to subclause (e) (iii) hereof) without consideration or for a consideration per share less than the Conversion Price in effect on the date of and immediately prior to such issue, then and in such event, the Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest cent) determined by multiplying the Conversion Price by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately

prior to such issue plus the number of shares of Common Stock which the aggregate consideration received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price in effect immediately prior to such issuance, and the denominator of which shall be the number of shares of Common Stock outstanding immediately prior to such issue plus the number of such Additional Shares of Common Stock so issued. For the purpose of the above calculation, the number of shares of Common Stock outstanding immediately prior to such issue shall be calculated as if (i) all outstanding shares of Preferred Stock and all other outstanding evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock had been fully converted into or exchanged for shares of Common Stock immediately prior to such issuance, and (ii) all outstanding rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock (or to acquire evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock) had been fully exercised (and had been fully converted and exchanged if, upon such exercise, evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock would be issued) immediately prior to such issuance, but not including in such calculation any additional shares of Common Stock issuable with respect to shares of Preferred Stock, other evidences of indebtedness, shares or other securities convertible, into or exchangeable for Common Stock or rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock solely as a result of the adjustment of the respective Conversion Prices (or other conversion ratios or exercise prices) resulting from the issuance of Additional Shares of Common Stock causing such adjustment.

(v) For purposes of this clause (e), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows;

(1) If such consideration consists of cash and property, such consideration shall:

(A) insofar an it consists of cash, be computed at the aggregate amount of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(B) insofar as it consists of property other than cash, be computed at the fair value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(C) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (A) and (B) above, as determined in good faith by the Board of Directors.

(2) If such consideration consists of Options and Convertible Securities, the consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to subclause (e) (iii), relating to Options and Convertible Securities, shall be determined by dividing:

(A) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against dilution) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(B) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against the dilution) issuable upon the exercise of such Options or conversion or exchange of such Convertible Securities.

(f) In case:

(i) the Corporation shall declare a dividend (or any other distribution) on Common Stock payable otherwise than in cash out of its retained earnings; or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any other rights; or

(iii) of any reclassification of the Common Stock (other than a subdivision, split or combination of its outstanding shares of Common Stock), or of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation is required, or of the sale or transfer of all or substantially all of the assets of the Corporation; or

(iv) of the voluntary or involuntary dissolution; liquidation or winding up of the Corporation;

then the Corporation shall cause to be mailed to each holder of shares of Series B Preferred Stock at its address as shown on the books of the Corporation, at least 30 days (or 20 days in any case specified in clause (i) or (ii) above) prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, rights or warrants,

or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined, or (y) the date on which such reclassification, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding up.

(g) For the purposes of this paragraph (4), the term "Common Stock" shall mean (i) the class of stock designated as the Common Stock of the Corporation on the date of this Certificate of Designations, and (ii) any other class of common stock, including any class resulting from successive changes or reclassifications of such Common Stock consisting solely of changes in par value or from no par value to par value or from par value to no par value.

(h) No fractional share of Common Stock, or scrip representing a fractional share, shall be issuable upon the conversion of any Series B Preferred Stock. If a certificate or certificates representing more than one share of Series B Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares of Common Stock issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares represented by certificates so surrendered. If any fractional interest in a share of Common Stock would be deliverable upon the conversion of any shares of Series B Preferred Stock, the Corporation shall pay, in lieu thereof, in cash the Conversion Price thereof as of the business day immediately preceding the date of such conversion.

(i) Such number of shares of Common Stock as may from time to time be required for such purpose shall be reserved for issuance upon conversion of outstanding shares of Series B Preferred Stock.

(j) If the Corporation shall at any time or from time to time effect a subdivision or stock split of the outstanding Common Stock, the Conversion Price of the Series B Preferred Stock then in effect immediately before that subdivision or stock split shall be proportionately decreased. If the Corporation shall at any time or from time to time combine the outstanding shares of Common Stock, the Conversion Price of the Series B Preferred Stock then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision, stock split or combination, as the case may be, becomes effective.

(k) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive,

a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price of the Series B Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of the Series B Preferred Stock then in effect by a fraction;

(1) the denominator of which shall be the sum of the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, plus the number of shares of Common Stock issuable in payment of such dividend or distribution, and

(2) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of Series B Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of Series B Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment or issuance of such dividends or distributions.

(l) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of Series B Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of such other securities of the Corporation that they would have received had their Series B Preferred Stock been converted into Common Stock on the date, or the record date, of such event and had thereafter, during the period from the date of such event to and including the Conversion Date, retained such securities receivable by them as aforesaid during such period, all subject to further adjustment as provided herein during such period.

(m) If the Common Stock issuable upon the conversion of the Series B Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, exchange, substitution or otherwise, then and in each such event the holder of each such share of Series B Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, exchange,

substitution or other change, by holders of the number of shares of Common Stock into which such shares of Series B Preferred Stock might have been converted immediately prior to such reorganization, reclassification, exchange, substitution or other change, all subject to further adjustment as provided herein.

(5) Liquidation Preference.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, the holders of shares of Series B Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its shareholders an amount in cash equal to $1.30 for each share outstanding, plus an amount in cash equal to all declared but unpaid dividends thereon to the date fixed for liquidation, dissolution or winding up before any payment shall be made or any assets distributed to the holders of any Junior Securities. If the assets of the Corporation, or the proceeds thereof, are not sufficient to pay in full the liquidation payments payable to the holders of outstanding shares of the Series B Preferred Stock and any Parity Securities, then the holders of all such shares shall share ratably in such distribution of assets, or the proceeds thereof, in accordance with the amount which would have been payable on such distribution if the amounts to which the holders of outstanding shares of Series B Preferred Stock and the holders of outstanding shares of such Parity Securities are entitled were paid in full. Except as provided in this paragraph (5) (a), holders of Series B Preferred Stock shall not be entitled to any distribution in the event of liquidation, dissolution or winding up of the affairs of the Corporation.

(b) For the purposes of this paragraph (5), neither the voluntary sale, conveyance, exchange or transfer (for cash, shares of stock, securities or other consideration) of all or substantially all the property or assets of the Corporation nor the consolidation or merger of the Corporation with or into one or more other corporations shall be deemed to be a liquidation, dissolution or winding up of the Corporation, voluntary or involuntary unless such voluntary sale, conveyance, exchange or transfer, or merger or consolidation, shall be in connection with a plan of liquidation, dissolution or winding up of the Corporation.

(6) Voting. In addition to any voting rights provided by law and to any voting rights of the holders of the Series B Preferred Stock, as or as part of a separate class or series, pursuant to this Certificate or any provision of the Certificate of Incorporation of the Corporation, the holder of each outstanding share of Series B Preferred Stock shall be entitled to vote on any matter voted on by holders of Common Stock, voting together as a single class with the holders of the Common Stock, and any other shares entitled to vote in the ordinary course. With respect to any such vote, each share of Series B Preferred Stock shall entitle the holder thereof to cast one vote.

(7) Reports. So long as any of the Series B Preferred Stock is outstanding, the Corporation will furnish the holders thereof with the quarterly and annual financial reports, if any, that the Corporation is required to file with the Securities and Exchange Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934.

(8) General Provisions.

(a) The term "**person**" as used herein means any corporation, partnership, trust, organization, association, other entity or individual.

(b) The term "**outstanding**," when used with reference to shares of stock, shall mean issued shares, excluding shares held by the Corporation or any subsidiary of the Corporation.

(c) The headings of the paragraphs, subparagraphs, clauses and subclauses of this Certificate of Designations are for convenience of reference only and shall not define, limit or affect any of the provisions hereof.

IN WITNESS WHEREOF, FIBROGEN, Inc. has caused this Certificate of Designations to be signed and attested by the undersigned this 7th day of November 1995.

FIBROGEN, INC.

By: /s/ Julian N. Stern
Julian N. Stern
Secretary

CERTIFICATE OF AMENDMENT OF
THE CERTIFICATE OF INCORPORATION OF
FIBROGEN, INC.,
a Delaware corporation

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FIBROGEN, INC.

2. The certificate of incorporation of the Corporation is hereby amended by striking out the first paragraph of Article FOURTH thereof and by substituting in lieu of said paragraph the following new paragraph:

> "FOURTH. The total number of shares of all classes of capital stock which the corporation shall have the authority to issue is Eighty Five Million (85,000,000) shares, comprised of Fifty Million (50,000,000) shares of Common Stock with a par value of One Cent ($.01) per share (the "Common Stock") and Thirty Five Million (35,000,000) shares of Preferred Stock with a par value of One Cent ($.01) per share (the "Preferred Stock")."

3. The amendment of the certificate of incorporation herein certified has been duly adopted in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the State of Delaware. Prompt written notice of the adoption of the amendment herein certified has been given to those stockholders who have not consented in writing thereto, as provided in Section 228 of the General Corporation Law of the State of Delaware.

Executed effective the 18th day of April, 1996.

/s/ Julian N. Stern
Julian N. Stern, Secretary

AMENDED DESIGNATION
OF
SERIES B CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

FIBROGEN, INC., a Delaware corporation (the **"Corporation"**), pursuant to the provisions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Designations and does hereby state and certify that, pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation of the Corporation, the Board of Directors has duly adopted the following resolutions:

RESOLVED, that, pursuant to Article FOURTH of the Certificate of Incorporation, as amended, which authorizes 35,000,000 shares of preferred stock, $.01 par value (**"Preferred Stock"**), the Board of Directors hereby fixes the powers, designations, preferences and relative, participating, optional and other rights, and the qualifications, limitations and restrictions, of a series of Preferred Stock. No shares of the class or series of stock have been issued.

RESOLVED, that each share of such series of Preferred Stock shall rank equally in all respects and shall be subject to the following provisions:

(1) Number and Designation. 13,846,153 shares of the Preferred Stock of the Corporation shall be designated as Series B Convertible Preferred Stock ("Series B Preferred Stock").

(2) Rank. The Series B Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank prior to all classes of the Corporation's common stock, $.01 par value (**"Common Stock"**). The Series B Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank equally with the Series A Convertible Preferred Stock (**"Series A Preferred Stock"**). All equity securities of the Corporation to which the Series B Preferred Stock ranks prior (whether with respect to liquidation, dissolution, winding up or otherwise), including the Common Stock, are collectively referred to herein as the **"Junior Securities."** All equity securities of the Corporation with which the Series B Preferred Stock ranks on a parity (whether with respect to liquidation, dissolution, winding up or otherwise), including Series A Preferred Stock, are collectively referred to herein as the "**Parity Securities."** All equity securities of the Corporation to which the Series B Preferred Stock ranks junior (whether with respect to liquidation, dissolution, winding up or otherwise), are collectively referred to herein as the **"Senior Securities".** The respective definitions of Junior Securities, Parity Securities and Senior Securities shall also include any rights, options or

warrants exercisable for any of the Junior Securities, Parity Securities and Senior Securities, as the case may be. The Series B Preferred Stock shall be subject to the creation of Junior Securities, Parity Securities and Senior Securities.

(3) Dividends. The holders of shares of Series B Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of funds legally available for the payment of dividends, to the extent as, on the same basis as, at the same rate as, and contemporaneously with, cash dividends when, as and if declared by the Board of Directors with respect to shares of any Common Stock or Parity Securities. Such dividends shall be paid to the holders of record at the close of business on the record date specified by the Board of Directors of the Corporation at the time such dividend is declared, provided, however, that such record date shall not be more than 60 days or less than 10 days prior to the applicable dividend payment date.

(4) Conversion.

(a) Each share of Series B Preferred Stock shall be convertible, at the option of the holder thereof except as otherwise provided in paragraph (4) (b) below, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and non-assessable shares (calculated as to each conversion to the nearest 1/100th of a share) of Common Stock as is determined by dividing $1.30 by the Conversion Price (as defined below) applicable to such share, determined as hereinafter provided, in effect on the date the certificate is surrendered for conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series B Preferred Stock (the “Conversion Price”) shall initially be $1.30 per share of Common Stock. Such initial Conversion Price shall be adjusted as hereinafter provided.

(b) Notwithstanding anything to the contrary herein, each outstanding share of Series B Preferred stock shall automatically convert upon a public offering of Common Stock at a price of at least $2.00 per share if the total aggregate proceeds to the Corporation before underwriting commissions and expenses are at least $10,000,000.

(c) Before any holder of Series B Preferred Stock shall be entitled to receive a certificate or certificates for shares of Common Stock upon conversion, such holder shall surrender the certificate or certificates for the holder’s shares of Series Preferred Stock, duly endorsed, at the office of the Corporation or of any transfer agent for such stock, and, unless such conversion is automatic pursuant to clause (b) above, shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name or names in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. The

Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series B Preferred Stock, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made (i) in the case such conversion is automatic pursuant to clause (b) above, upon the effectiveness of the registration statement relating to such offering, and (ii) in all other cases, immediately prior to the close of business on the date of surrender of the shares of Series B Preferred Stock to be converted (in either case, the "Conversion Date"), and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or record holders of such shares of Common Stock on such date.

(d) All shares of Series B Preferred Stock which have been converted as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall forthwith cease and terminate, except only the right of the holders thereof, subject to the provisions of clause (c) of this paragraph (4), to receive shares of Common Stock in exchange therefor.

(e) (i) For the purposes of this clause (e), the following definitions shall apply:

(A) "Options" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Additional shares of Common Stock or Convertible Securities (as defined below);

(B) "Original Issue Date" shall mean the date on which a share of Series B Preferred Stock was first issued;

(C) "Convertible Securities" shall mean any evidences of indebtedness, shares (other than Common Stock) or other securities convertible into or exchangeable for Additional Shares of Common Stock; and

(D) "Additional Shares of Common Stock" shall mean all shares of common stock issued (or, pursuant to clause (e) (iii) hereof, deemed to be issued) by the Corporation after the Original Issue Date, other than shares of Common Stock issued or issuable:

(I) to officers, directors or employees of, or consultants to, the Corporation pursuant to stock option or stock purchase plans or agreements on terms approved by the Board of Directors of the Corporation;

(II) as a dividend or distribution on shares of the Series B Preferred Stock; or

(III) for which adjustment of the Conversion Price is made pursuant to clause (j) or (k) of this paragraph (4).

(ii) Any provision herein to the contrary notwithstanding, no adjustment in the Conversion Price shall be made in respect of the issuance of Additional Shares of Common Stock unless the consideration per share (determined pursuant to subclause (e) (v) hereof) for an Additional Share of Common Stock issued or deemed to be issued by the Corporation is less than the Conversion Price in effect on the date of, and immediately prior to, such issue,

(iii) In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities or shall fix a record date for the determination of holders of any class of securities then entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein designed to protect against dilution) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided, that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(1) no further adjustments in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(2) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or decrease or increase in the number of shares of Common Stock issuable, upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities (provided, however, that no such adjustment of the Conversion Price shall affect Common Stock previously issued upon conversion of the Series B Preferred Stock);

(3) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the

Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(A) in the case of Convertible Securities or Options for Common Stock the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(B) in the case of Options for Convertible Securities only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(4) no readjustment pursuant to clause (2) or (3) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date (before adjustment) and (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(5) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustments of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (3) above.

(iv) In the event this Corporation, at any time after the Original Issue Date, shall issue Additional Shares of Common Stock (including Additional Shares of Common stock deemed to be issued pursuant to subclause (e)(iii) hereof) without consideration or for a consideration per share less than the Conversion Price in effect on the date of and immediately prior to such issue, then and in such event, the Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest cent) determined by multiplying the Conversion Price by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately

prior to such issue plus the number of shares of Common Stock which the aggregate consideration received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price in effect immediately prior to such issuance, and the denominator of which shall be the number of shares of common Stock outstanding immediately prior to such issue plus the number of such Additional Shares of Common Stock so issued. For the purpose of the above calculation, the number of shares of Common Stock outstanding immediately prior to such issue shall be calculated as if (i) all outstanding shares of Preferred Stock and all other outstanding evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock had been fully converted into or exchanged for shares of Common Stock immediately prior to such issuance, and (ii) all outstanding rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock (or to acquire evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock) had been fully exercised (and had been fully converted and exchanged if, upon such exercise, evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock would be issued) immediately prior to such issuance, but not including in such calculation any additional shares of Common Stock issuable with respect to shares of Preferred Stock, other evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock or rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock solely as a result of the adjustment of the respective Conversion Prices (or other conversion ratios or exercise prices) resulting from the issuance of Additional Shares of Common Stock causing such adjustment.

(v) For purposes of this clause (e), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows;

(1) If such consideration consists of cash and property, such consideration shall:

(A) insofar an it consists of cash, be computed at the aggregate amount of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(B) insofar as it consists of property other than cash, be computed at the fair value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(C) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (A) and (B) above, as determined in good faith by the Board of Directors.

(2) If such consideration consists of Options and Convertible Securities, the consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to subclause (e)(iii), relating to Options and Convertible Securities, shall be determined by dividing:

(A) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against dilution) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(B) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against the dilution) issuable upon the exercise of such Options or conversion or exchange of such Convertible Securities.

(f) In case:

(i) the Corporation shall declare a dividend (or any other distribution) on Common Stock payable otherwise than in cash out of its retained earnings; or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any other rights; or

(iii) of any reclassification of the Common Stock (other than a subdivision, split or combination of its outstanding shares of Common Stock), or of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation is required, or of the sale or transfer of all or substantially all of the assets of the Corporation; or

(iv) of the voluntary or involuntary dissolution, liquidation or winding up of the Corporation;

then the Corporation shall cause to be mailed to each holder of shares of Series B Preferred Stock at its address as shown on the books of the Corporation, at least 30 days (or 20 days in any case specified in clause (i) or (ii) above) prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, rights or warrants,

or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined, or (y) the date on which such reclassification, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding up.

(g) For the purposes of this paragraph (4), the term "Common Stock" shall mean (i) the class of stock designated as the Common Stock of the corporation on the date of this Certificate of Designations, and (ii) any other class of common stock, including any class resulting from successive changes or reclassifications of such Common Stock consisting solely of changes in par value or from no par value to par value or from par value to no par value.

(h) No fractional share of Common Stock, or scrip representing a fractional share, shall be issuable upon the conversion of any Series B Preferred Stock. If a certificate or certificates representing more than one share of series B Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares of Common Stock issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares represented by certificates so surrendered. If any fractional interest in a share of Common Stock would be deliverable upon the conversion of any shares of Series B Preferred Stock, the Corporation shall pay, in lieu thereof, in cash the Conversion Price thereof as of the business day immediately preceding the date of such conversion.

(i) Such number of shares of Common Stock as may from time to time be required for such purpose shall be reserved for issuance upon conversion of outstanding shares of Series B Preferred Stock.

(j) if the Corporation shall at any time or from time to time effect a subdivision or stock split of the outstanding Common Stock, the Conversion Price of the Series B Preferred Stock then in effect immediately before that subdivision or stock split shall be-proportionately decreased. If the Corporation shall at any time or from time to time combine the outstanding shares of Common Stock, the conversion Price of the Series B Preferred Stock then in effect immediately before the Combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision, stock split or combination, as the case may be, becomes effective.

(k) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive,

a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price of the Series B Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of the Series B Preferred Stock then in effect by a fraction:

(1) the denominator of which shall be the sum of the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, plus the number of shares of Common Stock issuable in payment of such dividend or distribution, and

(2) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of Series B Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of Series B Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment or issuance of such dividends or distributions.

(l) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of Series B Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of such other securities of the Corporation that they would have received had their Series B Preferred Stock been converted into Common Stock on the date, or the record date, of such event and had thereafter, during the period from the date of such event to and including the Conversion Date, retained such securities receivable by them as aforesaid during such period, all subject to further adjustment as provided herein during such period.

(m) If the Common Stock issuable upon the conversion of the Series B Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, exchange, substitution or otherwise, then and in each such event the holder of each such share of Series B Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, exchange,

substitution or other change, by holders of the number of shares of Common Stock into which such shares of Series B Preferred Stock might have been converted immediately prior to such reorganization, reclassification, exchange, substitution or other change, all subject to further adjustment as provided herein.

(5) Liquidation Preference.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, the holders of shares of Series B Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its shareholders an amount in cash equal to $1.30 for each share outstanding, plus an amount in cash equal to all declared but unpaid dividends thereon to the date fixed for liquidation, dissolution or winding up before any payment shall be made or any assets distributed to the holders of any Junior Securities. If the assets of the Corporation, or the proceeds thereof, are not sufficient to pay in full the liquidation payments payable to the holders of outstanding shares of the Series B Preferred Stock and any Parity Securities, then the holders of all such shares shall share ratably in such distribution of assets, or the proceeds thereof, in accordance with the amount which would have been payable on such distribution if the amounts to which the holders of outstanding shares of Series B Preferred Stock and the holders of outstanding shares of such Parity Securities are entitled were paid in full. Except as provided in this paragraph (5)(a), holders of Series B Preferred Stock shall not be entitled to any distribution in the event of liquidation, dissolution or winding up of the affairs of the Corporation.

(b) For the purposes of this paragraph (5), neither the voluntary sale, conveyance, exchange or transfer (for cash, shares of stock, securities or other consideration) of all or substantially all the property or assets of the Corporation nor the consolidation or merger of the Corporation with or into one or more other corporations shall be deemed to be a liquidation, dissolution or winding up of the Corporation, voluntary or involuntary unless such voluntary sale, conveyance, exchange or transfer, or merger or consolidation, shall be in connection with a plan of liquidation, dissolution or winding up of the Corporation.

(6) Voting. In addition to any voting rights provided by law and to any voting rights of the holders of the Series B Preferred Stock, as or as part of a separate class or series, pursuant to this Certificate or any provision of the Certificate of Incorporation of the Corporation, the holder of each outstanding share of Series B Preferred Stock shall be entitled to vote on any matter voted on by holders of Common Stock, voting together as a single class with the holders of the Common Stock, and any other shares entitled to vote in the ordinary course. With respect to any such vote, each share of Series B Preferred Stock shall entitle the holder thereof to cast one vote.

(7) Reports. So long as any of the Series B Preferred Stock is outstanding, the Corporation will furnish the holders thereof with the quarterly and annual financial reports, if any, that the Corporation is required to file with the Securities and Exchange Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934.

(8) General Provisions.

(a) The term **"person"** as used herein means any corporation, partnership, trust, organization, association, other entity or individual.

(b) The term **"outstanding,"** when used with reference to shares of stock, shall mean issued shares, excluding shares held by the Corporation or any subsidiary of the Corporation.

(c) The headings of the paragraphs, subparagraphs, clauses and subclauses of this Certificate of Designations are for convenience of reference only and shall not define, limit or affect any of the provisions hereof.

IN WITNESS WHEREOF, FIBROGEN, Inc. has caused this Amended and Restated Certificate of Designations to be signed by the undersigned this 18th day of April, 1996.

FIBROGEN, INC.

/s/ Julian N. Stern
Julian N. Stern
Secretary

CERTIFICATE OF DESIGNATIONS
OF
SERIES C CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

FIBROGEN, INC., a Delaware corporation (the "**Corporation**"), pursuant to the provisions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Designations and does hereby state and certify that, pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation of the Corporation, the Board of Directors has duly adopted the following resolutions:

RESOLVED, that, pursuant to Article FOURTH of the Certificate of Incorporation, as amended, which authorizes 35,000,000 shares of preferred stock, $.01 par value ("**Preferred Stock**"), the Board of Directors hereby fixes the powers, designations, preferences and relative, participating, optional and other rights, and the qualifications, limitations and restrictions, of a series of Preferred Stock.

RESOLVED, that each share of Series C Preferred Stock shall rank equally in all respects and shall be subject to the following provisions:

(1) Number and Designation. 8,000,000 shares of the Preferred Stock of the Corporation shall be designated as Series C Convertible Preferred Stock ("**Series C Preferred Stock**").

(2) Rank. The Series C Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank prior to all classes of the Corporation's common stock, $.01 par value ("**Common Stock**"). The Series C Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank junior to the Series A Convertible Preferred Stock ("**Series A Preferred Stock**") and the Series B Convertible Preferred Stock ("**Series B Preferred Stock**") and pari passu with the Series D Convertible Preferred Stock. All equity securities of the Corporation to which the Series C Preferred Stock ranks prior (whether with respect to liquidation, dissolution, winding up or otherwise), including the Common Stock, are collectively referred to herein as the "**Junior Securities**." All equity securities of the Corporation with which the Series C Preferred Stock ranks on a parity (whether with respect to liquidation, dissolution, winding up or otherwise), are collectively referred to herein as the "**Parity Securities**." All equity securities of the Corporation to which the Series C Preferred Stock ranks junior (whether with respect to liquidation, dissolution, winding up or otherwise), are collectively referred to herein as the

"**Senior Securities**". The respective definitions of Junior Securities, Parity Securities and Senior Securities shall also include any rights, options or warrants exercisable for any of the Junior Securities, Parity Securities and Senior Securities, as the case may be. The Series C Preferred Stock shall be subject to the creation of Junior Securities, Parity Securities and Senior Securities.

(3) Dividends. The holders of shares of Series C Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of funds legally available for the payment of dividends, to the extent as, on the same basis as, at the same rate as, and contemporaneously with, cash dividends when, as and if declared by the Board of Directors with respect to shares of any Common Stock. Such dividends shall be paid to the holders of record at the close of business on the record date specified by the Board of Directors of the Corporation at the time such dividend is declared, provided, however, that such record date shall not be more than 60 days after or less than 10 days prior to the applicable dividend payment date.

(4) Conversion.

(a) Each share of Series C Preferred Stock shall be convertible, at the option of the holder thereof except as otherwise provided in paragraph (4) (b) below, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and non-assessable shares (calculated as to each conversion to the nearest 1/100th of a share) of Common Stock as is determined by dividing $1.60 by the Conversion Price (as defined below) applicable to such share, determined as hereinafter provided, in effect on the date the certificate is surrendered for conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series C Preferred Stock (the "**Conversion Price**") shall initially be $1.60 per share of Common Stock. Such initial Conversion Price shall be adjusted as hereinafter provided.

(b) Notwithstanding anything to the contrary herein, each outstanding share of Series C Preferred Stock shall automatically convert upon a public offering of Common Stock at a price of at least $2.00 per share if the total aggregate proceeds to the Corporation before underwriting commissions and expenses are, at least $10,000,000.

(c) Before any holder of Series C Preferred Stock shall be entitled to receive a certificate or certificates for shares of Common Stock upon conversion, such holder shall surrender the certificate or certificates for the holder's shares of Series C Preferred Stock, duly endorsed, at the office of the Corporation or of any transfer agent for such stock, and, unless such conversion is automatic pursuant to clause (b) above, shall give written notice to the Corporation at such office that such

holder elects to convert the same and shall state therein the name or names in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series C Preferred Stock, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made (i) in the case such conversion is automatic pursuant to clause (b) above, upon the effectiveness of the registration statement relating to such offering, and (ii) in all other cases, immediately prior to the close of business on the date of surrender of the shares of Series C Preferred Stock to be converted (in either case, the "**Conversion Date**"), and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or record holders of such shares of Common Stock on such date.

(d) All shares of Series C Preferred Stock which have been converted as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall forthwith cease and terminate, except only the right of the holders thereof, subject to the provisions of clause (c) of this paragraph (4), to receive shares of Common Stock in exchange therefor.

(e) In case:

(i) the Corporation shall declare a dividend (or any other distribution) on Common Stock payable otherwise than in cash out of its retained earnings; or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any other rights; or

(iii) of any reclassification of the Common Stock (other than a subdivision, split or combination of its outstanding shares of Common Stock), or of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation is required, or of the sale or transfer of all or substantially all of the assets of the Corporation; or

(iv) of the voluntary or involuntary dissolution, liquidation or winding up of the Corporation; then the Corporation shall cause to be mailed to each holder of shares of Series C Preferred Stock at its address as shown on the books of the Corporation, at least 30 days (or 20 days in any case specified in clause (i) or (ii) above) prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, rights or warrants,

or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined, or (y) the date on which such reclassification, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding up.

(f) For the purposes of this paragraph (4), the term "Common Stock" shall mean (i) the class of stock designated as the Common Stock of the Corporation on the date of this Certificate of Designations, and (ii) any other class of common stock, including any class resulting from successive changes or reclassifications of such Common Stock consisting solely of changes in par value or from no par value to par value or from par value to no par value.

(g) No fractional share of Common Stock, or scrip representing a fractional share, shall be issuable upon the conversion of any Series C Preferred Stock. If a certificate or certificates representing more than one share of Series C Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares of Common Stock issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares represented by certificates so surrendered. If any fractional interest in a share of Common Stock would be deliverable upon the conversion of any shares of Series C Preferred Stock, the Corporation shall pay, in lieu thereof, in cash the Conversion Price thereof as of the business day immediately preceding the date of such conversion.

(h) Such number of shares of Common Stock as may from time to time be required for such purpose shall be reserved for issuance upon conversion of outstanding shares of Series C Preferred Stock.

(i) If the Corporation shall at any time or from time to time effect a subdivision or stock split of the outstanding Common Stock, the Conversion Price of the Series C Preferred Stock then in effect immediately before that subdivision or stock split shall be proportionately decreased. If the Corporation shall at any time or from time to time combine the outstanding shares of Common Stock, the Conversion Price of the Series C Preferred Stock then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision, stock split or combination, as the case may be, becomes effective.

(j) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive,

a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price of the Series C Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of the Series C Preferred Stock then in effect by a fraction:

(1) the denominator of which shall be the sum of the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, plus the number of shares of Common Stock issuable in payment of such dividend or distribution, and

(2) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of Series C Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of Series C Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment or issuance of such dividends or distributions.

(k) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of Series C Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of such other securities of the Corporation that they would have received had their Series C Preferred Stock been converted into Common Stock on the date, or the record date, of such event and had thereafter, during the period from the date of such event to and including the Conversion Date, retained such securities receivable by them as aforesaid during such period, all subject to further adjustment as provided herein during such period

(l) If the Common Stock issuable upon the conversion of the Series C Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, exchange, substitution or otherwise, then and in each such event the holder of each such share of Series C Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, exchange,

substitution or other change, by holders of the number of shares of Common Stock into which such shares of Series C Preferred Stock might have been converted immediately prior to such reorganization, reclassification, exchange, substitution or other change, all subject to further adjustment as provided herein.

(5) Liquidation Preference.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, the holders of shares of Series C Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its shareholders an amount in cash equal to $1.60 for each share outstanding, plus an amount in cash equal to all declared but unpaid dividends thereon to the date fixed for liquidation, dissolution or winding up before any payment shall be made or any assets distributed to the holders of any Junior Securities. If the assets of the Corporation, or the proceeds thereof, are not sufficient to pay in full the liquidation payments payable to the holders of outstanding shares of the Series C Preferred Stock and any Parity Securities, then the holders of all such shares shall share ratably in such distribution of assets, or the proceeds thereof, in accordance with the amount which would have been payable on such distribution if the amounts to which the holders of outstanding shares of Series C Preferred Stock and the holders of outstanding shares of such Parity Securities are entitled were paid in full. Except as provided in this paragraph (5)(a), holders of Series C Preferred Stock shall not be entitled to any distribution in the event of liquidation, dissolution or winding up of the affairs of the Corporation.

(b) For the purposes of this paragraph (5), neither the voluntary sale, conveyance, exchange or transfer (for cash, shares of stock, securities or other consideration) of all or substantially all the property or assets of the Corporation nor the consolidation or merger of the corporation with or into one or more other corporations shall be deemed to be a liquidation, dissolution or winding up of the Corporation, voluntary or involuntary unless such voluntary sale, conveyance, exchange or transfer, or merger or consolidation, shall be in connection with a plan of liquidation, dissolution or winding up of the Corporation.

(6) Voting. In addition to any voting rights provided by law and to any voting rights of the holders of the Series C Preferred Stock, as or as part of a separate class or series, pursuant to this Certificate or any provision of the Certificate of Incorporation of the Corporation, the holder of each outstanding share of Series C Preferred Stock shall be entitled to vote on any matter voted on by holders of Common Stock, voting together as a single class with the holders of the Common Stock, and any other shares entitled to vote in the ordinary course. With respect to any such vote, each share of Series C Preferred Stock shall entitle the holder thereof to cast one vote.

(7) Reports. So long as any of the Series C Preferred Stock is outstanding, the Corporation will furnish the holders thereof with the quarterly and annual financial reports, if any, that the Corporation is required to file with the Securities and Exchange Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934.

(8) General Provisions.

(a) The term "person" as used herein means any corporation, partnership, trust, organization, association, other entity or individual,

(b) The term "outstanding," when used with reference to shares of stock, shall mean issued shares, excluding shares held by the Corporation or any subsidiary of the Corporation.

(c) The headings of the paragraphs, subparagraphs, clauses and subclauses of this Certificate of Designations are for convenience of reference only and shall not define, limit or affect any of the provisions hereof.

IN WITNESS WHEREOF, FIBROGEN, Inc. has caused this Certificate of Designations to be signed by the undersigned this sixth day of June, 1997.

FIBROGEN, INC.

By: /s/ Julian N. Stern
Julian N. Stern, Secretary

CERTIFICATE OR DESIGNATIONS
OF
SERIES D REOPRO TRACKING PREFERRED STOCK
OF
FIBROGEN, INC.

FIBROGEN, INC., a Delaware corporation (the "**Corporation**"), pursuant to the provisions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Designations and does hereby state and certify that, pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation of the Corporation, the Board of Directors has duly adopted the following resolutions:

RESOLVED, that, pursuant to Article FOURTH of the Certificate of Incorporation, which authorizes 35,000,000 shares of preferred stock, $.01 par value ("**Preferred Stock**"), the Board of Directors hereby fixes the powers, designations, preferences and relative, participating, optional and other rights, and the qualifications, limitations and restrictions, of a series of Preferred Stock.

RESOLVED, that each share of Series D Preferred Stock shall rank equally in all respects and shall be subject to the following provisions:

(1) Number and Designation. 3,475 shares of the Preferred Stock of the Corporation shall be designated as Series D ReoPro Tracking Preferred Stock ("**Series D Preferred Stock**").

(2) Rank. The Series D Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank prior to all classes of the corporation's common stock, $.01 par value ("**Common Stock**"), and rank junior to the Series A and Series B Preferred Stock and pari passu with the Series C Preferred Stock, but only to the extent provided in Paragraph 5 hereof. All equity securities of the Corporation to which the Series D Preferred Stock ranks prior (whether with respect to liquidation, dissolution, winding up or otherwise), including the Common Stock, are collectively referred to herein as the "Junior Securities." The definition of Junior Securities shall also include any rights, options or warrants exercisable for any Junior Securities,

(3) Dividends. The holder of each share of Series D Preferred Stock shall be entitled to receive, as legally available for the payment of dividends, 1/3475 of the following amounts:

(i) 62.5% of the net proceeds received by the Corporation as a result of a cash tender offer for or exercise by Centocor, Inc., of its rights to purchase the limited partnership interests in Centocor Clinical Partners III, L.P. (**"CPIII"**), to the extent that such net proceeds received by the Corporation exceed the sum of (x) $1.60 multiplied by the number of shares of Series C Preferred Stock that the Corporation issues to the holders of the outstanding shares of stock of Antibody Technologies, Ltd., pursuant to a tender offer by the Corporation for all such outstanding shares or to Antibody Technologies, Ltd. for the entire remaining limited partnership interest in Pharmaceutical Partners II, of Antibody Technologies, Ltd., plus (y) any cash taxes that would be payable by the Corporation solely as the result of its receipt of such net proceeds as if they were the only net income received by the Corporation and there were no deductible expenses or other income tax deductions or offsets of the Corporation other than any costs of collecting such net proceeds, and plus (z) any costs of collecting such net proceeds;

(ii) 62.5% of the net proceeds received by the Corporation from any litigation or settlement of any litigation or threatened litigation brought by the limited partners of CPIII or by the Corporation based on its interest in the contingent payment rights held by Pharmaceutical Partners II, L.P. against Centocor, Inc. and/or Eli Lilly which are based on transactions in 1992 between Centocor, Inc. and Eli Lilly that involved CPIII and rights to commercialize ReoPro, which net proceeds shall be reduced by (x) any cash taxes payable by the Corporation solely as the result of its receipt of such net proceeds and (y) any costs of collecting such net proceeds; and

(iii) 49.9% of the net proceeds received by the Corporation as a successor limited partner in CPIII attributable to favorable adjustment of the royalty rates or net sales base or other consideration to which the CPIII limited partners become entitled as the result of the litigation or settlement of the litigation or threatened litigation described in (ii) above, reduced by (x) any cash taxes payable by the Corporation solely as the result of the receipt of such net proceeds and (y) any costs of collecting such net proceeds.

(iv) Such dividends shall be paid (x) so long as the Corporation has outstanding Series C Preferred Stock and there is not a public trading market for its Common Stock as the result of an initial public offering of such Common Stock, in the form of Series C Convertible Preferred Stock of the Corporation valued at $1.60 per share (which valuation shall be adjusted in the same manner as the Conversion Price of the Corporation's Series C Preferred Stock is adjusted) and (y) after such initial public offering of the Corporation's Common Stock, in the form of Common Stock of the Corporation valued at the average closing price of the Corporation's Common Stock on the principal market in which it is traded for the 20 trading days prior to the date of declaration of the dividend. Payment shall be made to the

holders of record at the close of business on the record date specified by the Board of Directors of the Corporation at the time such dividend is declared, provided, however, that such record date shall be the last day of each calendar quarter unless the Board of Directors, for good and sufficient reason shall determine a different reasonable record date that shall be not more than 60 days after or less than 10 days prior to the applicable dividend payment date.

(4) Conversion.

(a) Each share of Series D Preferred Stock shall automatically convert at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and nonassessable shares (calculated as to each conversion to the nearest 1/100th of a share) of Series C Convertible Preferred Stock (or the number of shares of Common Stock into which each share of such series may have been automatically converted) as follows:

(i) If final decision in any litigation or settlement of any litigation or threatened litigation described in Paragraph 3(ii) above occurs prior to September 30, 1997, each share of Series D Preferred Stock shall automatically convert into that number of shares of Series C Convertible Preferred stock valued at $1.60 per share (which valuation shall be adjusted in the same manner as the Conversion Price of the Corporation's Series C Preferred Stock is adjusted) equal to 1/3475 of the present value of projected future distributions under Paragraph 3(i), (ii) and (iii) above, which present value of net proceeds (after the reductions specified therein) shall be determined as of January 1, 1997, using a 15% annual discount rate and otherwise determined by the same methodology used by representatives of the Corporation and the shareholders of Antibody Technologies, Ltd. in arriving at the offer to exchange 2,250,225 shares of the Corporation's Series C Preferred Stock for all of the outstanding shares of Antibody Technologies, Ltd., or the aforesaid limited partnership interest, without taking into consideration the inclusion of any shares of Series D Preferred Stock in the exchange for the contingent interest in net proceeds from final decision in or settlement of possible litigation or threatened litigation described in Paragraph 3(ii) above.

(ii) If final decision in any litigation or settlement of any litigation or threatened litigation described in Paragraph 3(ii) above occurs after September 30, 1997, each share of Series D Preferred Stock shall not automatically convert into shares of Series C Convertible Preferred Stock pursuant to paragraph 4(a)(i) above; nevertheless, the holders of a majority in number of the outstanding Series D Preferred Stock and the Corporation may agree to a substituted conversion formula and event or events that may trigger conversion, in which case such

agreement shall be binding on all holders of Series D Preferred Stock.

(b) Before any holder of Series D Preferred Stock shall be entitled to receive a certificate or certificates for shares of Common Stock upon conversion, such holder shall surrender the certificate or certificates for the holder's shares of Series D Preferred Stock, duly endorsed, at the office of the Corporation or of any transfer agent for such stock. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series D Preferred Stock, a certificate or certificates for the number of shares of Series C Convertible Preferred Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of surrender of the shares of Series D Preferred Stock to be converted (in either case, the "**Conversion Date**"), and the person or persons entitled to receive the shares of Series C Convertible Preferred Stock issuable upon such conversion shall be treated for all purposes as the record holder or record holders of such shares of Series C Convertible Preferred Stock on such date.

(d) All shares of Series D Preferred Stock which have been converted as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall forthwith cease and terminate, except only the right of the holders thereof, subject to the provisions of clause (c) of this paragraph (4), to receive shares of Series C Convertible Preferred Stock in exchange therefor.

(5) Liquidation Preference.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, the holders of each share of Series D Preferred Stock then outstanding shall be entitled to receive one contractual contingent right to receive payments equivalent to the contingent dividend payments provided to be paid with respect to such share pursuant to Paragraph 3 ("Dividends") above as if no liquidation had occurred, plus an amount in cash equal to all declared but unpaid dividends thereon to the date fixed for liquidation, dissolution or winding up before any payment shall be made or any assets distributed to the holders of any Junior Securities. Except as provided in this paragraph (5)(a), holders of Series D Preferred Stock shall not be entitled to any distribution in the event of liquidation, dissolution or winding up of the affairs of the Corporation.

(b) For the purposes of this paragraph (5), neither the voluntary sale, conveyance, exchange or transfer (for cash, shares of stock, securities or other consideration) of all or substantially all the property or assets of the Corporation nor the consolidation or merger of the Corporation with or into one or more other corporations shall be deemed to be a

liquidation, dissolution or winding up of the Corporation, voluntary or involuntary unless such voluntary sale, conveyance, exchange or transfer, or merger or consolidation, shall be in connection with a plan of liquidation, dissolution or winding up of the Corporation.

(6) Voting. In addition to any voting rights provided by law and to any voting rights of the holders of the Series D Preferred Stock, as or as part of a separate class or series, pursuant to this Certificate or any provision of the Certificate of Incorporation of the Corporation, the holder of each outstanding share of Series D Preferred Stock shall be entitled to vote on any matter voted on by holders of Common Stock, voting together as a single class with the holders of the Common Stock, and any other shares entitled to vote in the ordinary course. With respect to any such vote, each share of Series D Preferred Stock shall entitle the holder thereof to cast one vote.

(7) General Provisions.

(a) The term "**person**" as used herein means any corporation, partnership, trust, organization, association, other entity or individual.

(b) The term "**outstanding**," when used with reference to shares of stock, shall mean issued shares, excluding shares held by the Corporation or any subsidiary of the Corporation.

(c) The headings of the paragraphs, subparagraphs, clauses and subclauses of this Certificate of Designations are for convenience of reference only and shall not define, limit or affect any of the provisions hereof.

IN WITNESS WHEREOF, FIBROGEN, Inc. has caused this Certificate of Designations to be signed and attested by the undersigned this sixth day of June, 1997.

FIBROGEN, INC.

By: /s/ Julian N. Stern
JULIAN N. STERN, Secretary

CERTIFICATE OF AMENDMENT OF
THE AMENDED DESIGNATION Of
SERIES B CONVERTIBLE PREFERRED STOCK OF
FIBROGEN, INC.,
a Delaware corporation

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FIBROGEN, INC.

2. The Amended Designation of Series B Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State effective April 19, 1996 is hereby amended by striking out paragraph (1) thereor and by substituting in lieu or said paragraph the following new paragraph:

> "(1) Number and Designation. 14,100,000 shares of the Preferred Stock of the Corporation shall be designated as Series B Convertible Preferred Stock ("Series B Preferred Stock").

3. The amendment of the Amended Designation of Series B Convertible Preferred Stock herein certified has been duly adopted in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the state of Delaware. Prompt written notice of the adoption of the amendment herein certified has been given to those stockholders who have not consented in writing thereto, as provided in Section 228 of the General Corporation Law of the State of Delaware.

Executed effective the 26th day of July, 1997.

/s/ Julian N. Stern
Julian N. Stern, Secretary

Series B Preferred Stock shall be subject to the creation of Junior Securities, Parity Securities and Senior Securities.

(3) Dividends. The holders of shares of Series B Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of funds legally available for the payment of dividends, to the extent as, on the same basis as, at the same rate as, and contemporaneously with, cash dividends when, as and if declared by the Board of Directors with respect to shares of any Common Stock or Parity Securities. Such dividends shall be paid to the holders of record at the close of business on the record date specified by the Board of Directors of the Corporation at the time such dividend is declared, provided, however, that such record date shall not be more than 60 days or less than 10 days prior to the applicable dividend payment date.

(4) Conversion.

(a) Each share of Series B Preferred Stock shall be convertible, at the option of the holder thereof except as otherwise provided in paragraph (4) (b) below, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and non-assessable shares (calculated as to each conversion to the nearest 1/100th of a share) of Common Stock as is determined by dividing $1.30 by the Conversion Price (as defined below) applicable to such share, determined as hereinafter provided, in effect on the date the certificate is surrendered for conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series B Preferred Stock (the **"Conversion Price"**) shall initially be $1.30 per share of Common Stock. Such initial Conversion Price shall be adjusted as hereinafter provided.

(b) Notwithstanding anything to the contrary herein, each outstanding share of Series B Preferred stock shall automatically convert upon a public offering of Common Stock at a price of at least $2.00 per share if the total aggregate proceeds to the Corporation before underwriting commissions and expenses are at least $10,000,000.

(c) Before any holder of Series B Preferred Stock shall be entitled to receive a certificate or certificates for shares of Common Stock upon conversion, such holder shall surrender the certificate or certificates for the holder's shares of Series B Preferred Stock, duly endorsed, at the office of the corporation or of any transfer agent for such stock, and, unless such conversion is automatic pursuant to clause (b) above, shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name or names in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series B Preferred

Stock, a certificate or certificates for the number of shares of Common stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made (i) in the case such conversion is automatic pursuant to clause (b) above, upon the effectiveness of the registration statement relating to such offering, and (ii) in all other cases, immediately prior to the close of business on the date of surrender of the shares of Series B Preferred Stock to be converted (in either case, the "Conversion Date"), and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or record holders of such shares of Common Stock on such date.

(d) All shares of Series B Preferred Stock which have been converted as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall forthwith cease and terminate, except only the right of the holders thereof, subject to the provisions of clause (c) of this paragraph (4), to receive shares of Common Stock in exchange therefor.

(e) (i) For the purposes of this clause (e), the following definitions shall apply:

(A) "Options" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Additional Shares of Common Stock or Convertible Securities (as defined below);

(B) "Original Issue Date" shall mean the date on which a share of Series B Preferred Stock was first issued;

(C) "Convertible Securities" shall mean any evidences of indebtedness, shares (other than Common Stock) or other securities convertible into or exchangeable for Additional Shares of Common Stock; and

(D) "Additional Shares of Common Stock" shall mean all shares of Common Stock issued (or, pursuant to clause (e) (iii) hereof, deemed to be issued) by the Corporation after the Original Issue Date, other than shares of Common Stock issued or issuable:

(I) to officers, directors or employees of, or consultants to, the Corporation pursuant to stock option or stock purchase plans or agreements on terms approved by the Board of Directors of the Corporation;

(II) as a dividend or distribution on shares of the Series B Preferred Stock; or

(III) for which adjustment of the Conversion Price is made pursuant to clause (j) or (k) of this paragraph (4).

(ii) Any provision herein to the contrary notwithstanding, no adjustment in the Conversion Price shall be made in respect of the issuance of Additional Shares of Common Stock unless the consideration per share (determined pursuant to subclause (e) (v) hereof) for an Additional Share of Common Stock issued or deemed to be issued by the corporation is less than the Conversion Price in effect on the date of, and immediately prior to, such issue.

(iii) In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities or shall fix a record date for the determination of holders of any class of securities then entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein designed to protect against dilution) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided, that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(1) no further adjustments in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such options or conversion or exchange of such Convertible Securities;

(2) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the corporation, or decrease or increase in the number of shares of Common Stock issuable, upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible securities (provided, however, that no such adjustment of the Conversion Price shall affect Common Stock previously issued upon conversion of the Series B Preferred Stock);

(3) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the

Conversion Price computed upon the original issue thereof (or upon the occurrence of a record data with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(A) in the case of Convertible Securities or Options for Common Stock the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(B) in the case of Options for Convertible Securities only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation upon the issue of the Convertible Securities with respect to which such options were actually exercised;

(4) no readjustment pursuant to clause (2) or (3) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date (before adjustment) and (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(5) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustments of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (3) above.

(iv) In the event this Corporation, at any time after the Original Issue Date, shall issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to subclause (e) (iii) hereof) without consideration or for a consideration per share less than the Conversion Price in effect on the date of and immediately prior to such issue, then and in such event, the Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest cent) determined by multiplying the Conversion Price by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately

prior to such issue plus the number of shares of Common Stock which the aggregate consideration received by the corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price in effect immediately prior to such issuance, and the denominator of which shall be the number of shares of Common Stock outstanding immediately prior to such issue plus the number of such Additional Shares of Common Stock so issued. For the purpose of the above calculation, the number of shares of Common Stock outstanding immediately prior to such issue shall be calculated as if (i) all outstanding shares of Preferred Stock and all other outstanding evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock had been fully converted into or exchanged for shares of Common Stock immediately prior to such issuance, and (ii) all outstanding rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock (or to acquire evidences of indebtedness, shares or other Securities convertible into or exchangeable for Common Stock) had been fully exercised (and had been fully converted and exchanged if, upon such exercise, evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock would be issued) immediately prior to such issuance, but not including in such calculation any additional shares of Common stock issuable with respect to shares of Preferred Stock, other evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock or rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock solely as a result of the adjustment of the respective Conversion Prices (or other conversion ratios or exercise prices) resulting from the issuance of Additional Shares of Common Stock causing such adjustment.

(v) For purposes of this clause (e), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows;

(1) If such consideration consists of cash and property, such consideration shall:

(A) insofar an it consists of cash, be computed at the aggregate amount of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(B) insofar as it consists of property other than cash, be computed at the fair value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(C) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (A) and (B) above, as determined in good faith by the Board of Directors.

(2) If such consideration consists of Options and Convertible Securities, the consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to subclause (e) (iii), relating to Options and Convertible Securities, shall be determined by dividing:

(A) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against dilution) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(B) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against the dilution) issuable upon the exercise of such Options or conversion or exchange of such Convertible Securities.

(f) In case:

(i) the Corporation shall declare a dividend (or any other distribution) on Common Stock payable otherwise than in cash out of its retained earnings; or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any other rights; or

(iii) of any reclassification of the Common Stock (other than a subdivision, split or combination of its outstanding shares of Common Stock), or of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation is required, or of the sale or transfer of all or substantially all of the assets of the Corporation; or

(iv) of the voluntary or involuntary dissolution, liquidation or winding up of the Corporation;

then the Corporation shall cause to be mailed to each holder of shares of Series B Preferred Stock at its address as shown on the books of the corporation, at least 30 days (or 20 days in any case specified in clause (i) or (ii) above) prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, rights or warrants,

or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined, or (y) the date on which such reclassification, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding up.

(g) For the purposes of this paragraph (4), the term "Common Stock" shall mean (i) the class of stock designated as the Common Stock of the Corporation on the date of this Certificate of Designations, and (ii) any other class of common stock, including any class resulting from successive changes or reclassifications of such Common Stock consisting solely of changes in par value or from no par value to par value or from par value to no par value.

(h) No fractional share of Common Stock, or scrip representing a fractional share, shall be issuable upon the conversion of any Series B Preferred Stock. If a certificate or certificates representing more than one share of Series B Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares of Common Stock issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares represented by certificates so surrendered. If any fractional interest in a share of Common Stock would be deliverable upon the conversion of any shares of Series B Preferred Stock, the Corporation shall pay, in lieu thereof, in cash the Conversion Price thereof as of the business day immediately preceding the date of such conversion.

(i) Such number of shares of Common Stock as may from time to time be required for such purpose shall be reserved for issuance upon conversion of outstanding shares of Series B Preferred Stock.

(j) If the corporation shall at any time or from time to time effect a subdivision or stock split of the outstanding Common Stock, the Conversion Price of the Series B Preferred Stock then in effect immediately before that subdivision or stock split shall be proportionately decreased. If the Corporation shall at any time or from time to time combine the outstanding shares of Common Stock, the Conversion Price of the Series B Preferred Stock then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision, stock split or combination, as the case may be, becomes effective.

(k) In the event the corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive,

a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price of the Series B Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of the Series B Preferred Stock then in effect by a fraction:

(1) the denominator of which shall be the sum of the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, plus the number of shares of Common Stock issuable in payment of such dividend or distribution, and

(2) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of Series B Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of Series B Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment or issuance of such dividends or distributions.

(l) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of Series B Preferred Stack shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of such other securities of the Corporation that they would have received had their Series B Preferred Stock been converted into Common Stock on the date, or the record date, of such event and had thereafter, during the period from the date of such event to and including the Conversion Date, retained such securities receivable by them as aforesaid during such period, all subject to further adjustment as provided herein during such period.

(m) If the Common Stock issuable upon the conversion of the Series B Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, exchange, substitution or otherwise, then and in each such event the holder of each such share of Series B Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, exchange,

substitution or other change, by holders of the number of shares of Common Stock into which such shares of Series B Preferred Stock might have been converted immediately prior to such reorganization, reclassification, exchange, substitution or other change, all subject to further adjustment as provided herein.

(5) Liquidation Preference.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, the holders of shares of Series B Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its shareholders an amount in cash equal to $1.30 for each share outstanding, plus an amount in cash equal to all declared but unpaid dividends thereon to the date fixed for liquidation, dissolution or winding up before any payment shall be made or any assets distributed to the holders of any Junior Securities. If the assets of the Corporation, or the proceeds thereof, are not sufficient to pay in full the liquidation payments payable to the holders of outstanding shares of the Series B Preferred Stock and any Parity Securities, then the holders of all such shares shall share ratably in such distribution of assets, or the proceeds thereof, in accordance with the amount which would have been payable on such distribution if the amounts to which the holders of outstanding shares of Series B Preferred Stock and the holders of outstanding shares of such Parity Securities are entitled were paid in full. Except as provided in this paragraph (5) (a), holders of Series B Preferred Stock shall not be entitled to any distribution in the event of liquidation, dissolution or winding up of the affairs of the Corporation.

(b) For the purposes of this paragraph (5), neither the voluntary sale, conveyance, exchange or transfer (for cash, shares of stock, securities or other consideration) of all or substantially all the property or assets of the Corporation nor the consolidation or merger of the Corporation with or into one or more other corporations shall be deemed to be a liquidation, dissolution or winding up of the Corporation, voluntary or involuntary unless such voluntary sale, conveyance, exchange or transfer, or merger or consolidation, shall be in connection with a plan of liquidation, dissolution or winding up of the corporation.

(6) Voting. In addition to any voting rights provided by law and to any voting rights of the holders of the Series B Preferred Stock, as or as part of a separate class or series, pursuant to this Certificate or any provision of the Certificate of Incorporation of the Corporation, the holder of each outstanding share of Series B Preferred Stock shall be entitled to vote on any matter voted on by holders of Common Stock, voting together as a single class with the holders of the Common stock, and any other shares entitled to vote in the ordinary course. With respect to any such vote, each share of Series B Preferred Stock shall entitle the holder thereof to cast one vote.

(7) Reports. So long as any of the Series B Preferred Stock is outstanding, the Corporation will furnish the holders thereof with the quarterly and annual financial reports, if any, that the Corporation is required to file with the Securities and Exchange Commission pursuant to Section 13 or section 15(d) of the Securities Exchange Act of 1934.

(8) General Provisions.

(a) The term "person" as used herein means any corporation, partnership, trust, organization, association, other entity or individual.

(b) The term "outstanding," when used with reference to shares of stock, shall mean issued shares, excluding shares held by the Corporation or any subsidiary of the Corporation.

(c) The headings of the paragraphs, subparagraphs, clauses and subclauses of this Certificate of Designations are for convenience of reference only and shall not define, limit or affect any of the provisions hereof.

IN WITNESS WHEREOF, FIBROGEN, Inc. has caused this Amended and Restated Certificate of Designations to be signed by the undersigned this 11th day of July, 1997.

FIBROGEN, INC.

By: /s/ Julian N. Stern
Julian N. Stern
Secretary

CERTIFICATE OF AMENDMENT OF
THE DESIGNATIONS OF
SERIES D REOPRO TRACKING
PREFERRED STOCK OF FIBROGEN, INC.
a Delaware Corporation

It is hereby certified that:

1. The name of this corporation (hereinafter called the "Corporation") is FIBROGEN, INC.

2. The Certificate of Designations of Series D ReoPro Tracking Preferred Stock of the Corporation effective June 9, 1997 is hereby amended by striking out clause (a) of paragraph 4 (Conversion) and by substituting in lieu of said paragraph the following new paragraph:

(a) Each share of Series D Preferred Stock shall hereby automatically convert into 328.5 fully-paid, nonassessable shares of Series C Preferred Stock; provided, however, that on or before December 31, 1997, if there is a final settlement of pending Delaware litigation involving the partnership interests in Centocor Clinical Partners III, L.P. ("CCPIII"), which is more favorable than the settlement proposed by CCP III, Centocor, Inc. and Paine Webber R&D Partners II, L.P., among others as set forth in the June 27, 1997 Notice of Settlement, then the number of shares of Series C Preferred Stock to be received upon conversion shall be equitably increased. No fractional share of Series C Preferred Stock, or scrip representing a fractional share, shall be issuable upon the Conversion of any Series D Preferred Stock. If a certificate or certificates representing more than one share of Series D Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares of Series C Preferred Stock issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares represented by certificates so surrendered. If any fractional interest in a share of Series C Preferred Stock would be deliverable upon the conversion of any shares of Series D Preferred Stock, the Corporation shall pay, in lieu thereof, in cash such portion of the Conversion Price thereof represented by the fractional interest as of the business day immediately preceding the date of such conversion.

3. The Amendment of the Certificate of Designation of Series D ReoPro Tracking Preferred Stock herein certified has been duly adopted in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the State of Delaware.

Executed the 26th day of November, 1997.

/s/ Julian N. Stern
Julian N. Stern, Secretary

CERTIFICATE OF AMENDMENT OF
THE CERTIFICATE OF INCORPORATION OF
FIBROGEN, INC.,
a Delaware Corporation

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FIBROGEN, INC.

2. The certification of incorporation of the Corporation is hereby amended by striking out the first paragraph of Article FOURTH thereof and by substituting in lieu of said paragraph the following new paragraph:

> "FOURTH. The total number of shares of all classes of capital stock which the corporation shall have the authority to issue is One Hundred Fifty Million (150,000,000) shares, comprised of One Hundred Million (100,000,000) shares of Common Stock with a par value of One Cent ($.01) per share (the "Common Stock") and Fifty Million (50,000,000) shares of Preferred Stock with a par value of One Cent ($.01) per share (the "Preferred Stock")."

3. The amendment of the certificate of incorporation herein certified has been duly adopted in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the State of Delaware.

Executed the 30th day of March, 1998.

/s/ Julian N. Stern
Julian N. Stern, Secretary

AMENDED CERTIFICATE OF DESIGNATION
OF
SERIES C CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FIBROGEN, Inc.

2. The Certificate of Designation of Series C Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State effective June 9, 1997 is hereby amended by changing the name of Series C Convertible Preferred Stock to Royalty Acquisition Preferred Stock.

FIBROGEN, INC., a Delaware corporation (the **"Corporation"**), pursuant to the provisions ions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Designations and does hereby state and certify that, pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation of the Corporation, the Board of Directors has duly adopted the following resolutions:

RESOLVED, that, pursuant to Article FOURTH of the Certificate of Incorporation, as amended, which authorizes 50,000,000 shares of preferred stock, $.01 par value (**"Preferred Stock"**), the Board of Directors hereby fixes the powers, designations, preferences and relative, participating, optional and other rights, and the qualifications, limitations and restrictions, of a series of Preferred Stock.

RESOLVED, that each share of Royalty Acquisition Preferred Stock shall rank equally in all respects and shall be subject to the following provisions:

(1) Number and Designation. 8,000,000 shares of the Preferred Stock of the Corporation shall be designated as Royalty Acquisition Preferred Stock ("**Royalty Acquisition Preferred Stock**").

(2) Rank. The Royalty Acquisition Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank prior to all classes of the Corporation's common stock, $.01 par value ("**Common Stock**"). The Royalty Acquisition Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank junior to the Series A Convertible Preferred Stock ("**Series A Preferred Stock**") and the Series B Convertible Preferred Stock ("**Series B Preferred Stock**") and the Series C Convertible Preferred Stock ("**Series C Preferred Stock**"). All equity securities of the Corporation to which the Royalty Acquisition Preferred Stock ranks prior (whether with respect to liquidation,

dissolution, winding up or otherwise), including the Common Stock, are collectively referred to herein as the "**Junior Securities**." All equity securities of the Corporation with which the Royalty Acquisition Preferred Stock ranks on a parity (whether with respect to liquidation, dissolution, winding up or otherwise), are collectively referred to herein as the "**Parity Securities**." All equity securities of the Corporation to which the Royalty Acquisition Preferred Stock ranks junior (whether with respect to liquidation, dissolution, winding up or otherwise), are collectively referred to herein as the "**Senior Securities**". The respective definitions of Junior Securities, Parity Securities and Senior Securities shall also include any rights, options or warrants exercisable for any of the Junior Securities, Parity Securities and Senior Securities, as the case may be. The Royalty Acquisition Preferred Stock shall be subject to the creation of Junior Securities, Parity Securities and Senior Securities.

(3) Dividends. The holders of shares of Royalty Acquisition Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of funds legally available for the payment of dividends, to the extent as, on the same basis as, at the same rate as, and contemporaneously with, cash dividends when, as and if declared by the Board of Directors with respect to shares of any Common Stock. Such dividends shall be paid to the holders of record at the close of business on the record date specified by the Board of Directors of the Corporation at the time such dividend is declared, provided, however, that such record date shall not be more than 60 days after or less than 10 days prior to the applicable dividend payment date.

(4) Conversion.

(a) Each share of Royalty Acquisition Preferred Stock shall be convertible, at the option of the holder thereof except as otherwise provided in paragraph (4)(b) below, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and non-assessable shares (calculated as to each conversion to the nearest 1/100th of a share) of Common Stock as is determined by dividing $1.60 by the Conversion Price (as defined below) applicable to such share, determined as hereinafter provided, in effect on the date the certificate is surrendered for conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of Royalty Acquisition Preferred Stock (the "**Conversion Price**") shall initially be $1.60 per share of Common Stock. Such initial Conversion Price shall be adjusted as hereinafter provided.

(b) Notwithstanding anything to the contrary herein, each outstanding share of Royalty Acquisition Preferred stock shall automatically convert upon a public offering of Common Stock at a price of at least $2.00 per share if the total aggregate proceeds to the Corporation before underwriting commissions and expenses are at least $10,000,000.

(c) Before any holder of Royalty Acquisition Preferred Stock shall be entitled to receive a certificate or certificates for shares of Common Stock upon conversion, such holder shall surrender the certificate or certificates for the holder's shares of Royalty Acquisition Preferred Stock, duly endorsed, at the office of the Corporation or of any transfer agent for such stock, and, unless such conversion is automatic pursuant to clause (b) above, shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name or names in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Royalty Acquisition Preferred Stock, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made (i) in the case such conversion is

automatic pursuant to clause (b) above, upon the effectiveness of the registration statement relating to such offering, and (ii) in all other cases, immediately prior to the close of business on the date of surrender of the shares of Royalty Acquisition Preferred Stock to be converted (in either case, the "**Conversion Date**"), and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or record holders of such shares of Common Stock on such date.

(d) All shares of Royalty Acquisition Preferred Stock which have been converted as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any to receive notices and to vote, shall forthwith cease and terminate, except only the right of the holders thereof, subject to the provisions of clause (c) of this paragraph (4), to receive shares of Common Stock in exchange therefor.

(e) In case:

(i) the Corporation shall declare a dividend (or any other distribution) on Common Stock payable otherwise than in cash out of its retained earnings; or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any other rights; or

(iii) of any reclassification of the Common Stock (other than a subdivision, split or combination of its outstanding shares of Common Stock), or of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation is required, or of the sale or transfer of all or substantially all of the assets of the Corporation; or

(iv) of the voluntary or involuntary dissolution, liquidation or winding up of the Corporation; then the Corporation shall cause to be mailed to each holder of shares of Royalty Acquisition Preferred Stock at its address as shown on the books of the Corporation, at least 30 days (or 20 days in any case specified in clause (i) or (ii) above) prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, rights or warrants, or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined, or (y) the date on which such reclassification, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon, such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding up.

(f) For the purposes of this paragraph (4), the term "Common Stock" shall mean (i) the class of stock designated as the Common Stock of the Corporation on the date of this Certificate of Designations, and (ii) any other class of common stock, including any class resulting from successive changes or reclassifications of such Common Stock consisting solely of changes in par value or from no par value to par value or from par value to no par value.

(g) No fractional share of Common Stock, or scrip representing a fractional share, shall be issuable upon the conversion of any Royalty Acquisition Preferred Stock. If a certificate or certificates representing more than one share of Royalty Acquisition Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares of Common Stock issuable upon conversion thereof shall be computed on the basis

of the aggregate number of shares represented by certificates so surrendered. If any fractional interest in a share of Common Stock would be deliverable upon the conversion of any shares of Royalty Acquisition Preferred Stock, the Corporation shall pay, in lieu thereof, in cash the Conversion Price thereof as of the business day immediately preceding the date of such conversion.

(h) Such number of shares of Common Stock as may from time to time be required for such purpose shall be reserved for issuance upon conversion of outstanding shares of Royalty Acquisition Preferred Stock.

(i) If the Corporation shall at any time or from time to time effect a subdivision or stock split of the outstanding Common Stock, the Conversion Price of the Royalty Acquisition Preferred Stock than in effect immediately before that subdivision or stock split shall be proportionately decreased If the Corporation shall at any time or film time to time combine the outstanding shares of Common Stock, the Conversion Price of the Royalty Acquisition Preferred Stock then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision, stock split or combination, as the case may be, becomes effective.

(j) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price of the Royalty Acquisition Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of the Royalty Acquisition Preferred Stock then in effect by a fraction:

(1) the denominator of which shall be the sum of the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, plus the number of shares of Common Stock issuable in payment of such dividend or distribution, and

(2) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of Royalty Acquisition Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of Royalty Acquisition Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment or issuance of such dividends or distributions.

(k) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of Royalty Acquisition Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of such other securities of the Corporation that they would have received had their Royalty Acquisition Preferred Stock been converted into Common Stock on the date, or the record date, of such event and had thereafter, during the period from the date of such event to and including the Conversion Date,

retained such securities receivable by them as aforesaid during such period, all subject to further adjustment as provided herein during such period.

(l) If the Common Stock issuable upon the conversion of the Royalty Acquisition Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, exchange, substitution or otherwise, then and in each such event the holder of each such share of Royalty Acquisition Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, exchange, substitution or other change, by holders of the number of shares of Common Stock into which such shares of Royalty Acquisition Preferred Stock might have been converted immediately prior to such reorganization, reclassification, exchange, substitution or other change, all subject to further adjustment as provided herein.

(5) Liquidation, Preference.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, the holders of shares of Royalty Acquisition Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its shareholders an amount in cash equal to $1.60 for each share outstanding, plus an amount in cash equal to all declared but unpaid dividends thereon to the date fixed for liquidation, dissolution or winding up before any payment shall be made or any assets distributed to the holders of any Junior Securities. If the assets of the Corporation, or the proceeds thereof, are not sufficient to pay in full the liquidation payments payable to the holders of outstanding shares of the Royalty Acquisition Preferred Stock and any Parity Securities, then the holders of all such shares shall share ratably in such distribution of asses, or the proceeds thereof, in accordance with the amount which would have been payable on such distribution if the amounts to which the holders of outstanding shares of Royalty Acquisition Preferred Stock and the holders of outstanding shares of such Parity Securities are entitled were paid in full. Except as provided in this paragraph (5)(a), holders of Royalty Acquisition Preferred Stock shall not be entitled to any distribution in the event of liquidation, dissolution or winding up of the affairs of the Corporation.

(b) For the purposes of this paragraph (5), neither the voluntary sale, conveyance, exchange or transfer (for cash, shares of stock, securities or other consideration) of all or substantially all the property or assets of the Corporation nor the consolidation or merger of the Corporation with or into one or more other corporations shall be deemed to be a liquidation, dissolution or winding up of the Corporation, voluntary or involuntary unless such voluntary sale, conveyance, exchange or transfer, or merger or consolidation, shall be in connection with a plan of liquidation, dissolution or winding up of the Corporation.

(6) Voting. In addition to any voting rights provided by law and to any voting rights of the holders of the Royalty Acquisition Preferred Stock, as or as part of a separate class or series, pursuant to this Certificate or any provision of the Certificate of Incorporation of the Corporation, the holder of each outstanding share of Royalty Acquisition Preferred Stock shall be entitled to vote on any matter voted on by holders of Common Stock, voting together as a single class with the holders of the Common Stock, and any other shares entitled to vote in the ordinary course. With respect to any such vote, each share of Royalty Acquisition Preferred Stock shall entitle the holder thereof to cast one vote.

(7) Reports. So long as any of the Royalty Acquisition Preferred Stock is outstanding, the Corporation will furnish the holders thereof with the quarterly and annual

financial reports, if any, that the Corporation is required to file with the Securities and Exchange Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934.

(8) General Provisions.

(a) The term "person" as used herein means any corporation, partnership, trust, organization, association, other entity or individual.

(b) The term "outstanding," when used with reference to shares of stock, shall mean issued shares, excluding shares held by the Corporation or any subsidiary of the Corporation.

(c) The headings of the paragraphs, subparagraphs, clauses and subclauses of this Certificate of Designations are for convenience of reference only and shall not define, limit or affect any of the provisions hereof"

WITNESS WHEREOF, FIBROGEN, Inc. has caused this Amended Certificate of Designations to be signed by the undersigned this 30th day of March, 1998.

FIBROGEN, INC.

By: /s/ Julian N. Stern
Julian N. Stern, Secretary

CERTIFICATE OF DESIGNATIONS
OF
SERIES C CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

FIBROGEN, INC., a Delaware corporation (the "**Corporation**"), pursuant to the provisions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Designations and does hereby state and certify that, pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation of the Corporation, the Board of Directors has duly adopted the following resolutions:

RESOLVED, that, pursuant to Article FOURTH of the Certificate of Incorporation, which authorizes 50,000,000 shares of preferred stock, $.01 par value ("**Preferred Stock**"), the Board of Directors hereby fixes the powers, designations-, preferences and relative, participating, optional and other rights, and the qualifications, limitations and restrictions, of a series of Preferred Stock.

RESOLVED, that each share of such series of Preferred Stock shall rank equally in all respects and shall be subject to the following provisions:

(1) Number and Designation. 5,000,000 shares of the Preferred Stock of the Corporation shall be designated as Series C Convertible Preferred Stock ("**Series C Preferred Stock**").

(2) Rank. The Series C Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank prior to all classes of the Corporation's common stock, $.01 par value ("**Common Stock**") and the Royalty Acquisition Preferred Stock. The Series C Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank equally with the Series A Convertible Preferred Stock ("**Series A Preferred Stock**") and the Series B Convertible Preferred Stock ("**Series B Preferred Stock**"). All equity securities of the Corporation to which the Series C Preferred Stock ranks prior (whether with respect to liquidation, dissolution, winding up or otherwise), including the Common Stock, are collectively referred to herein as the "**Junior Securities**." All equity securities of the Corporation with which the Series C Preferred Stock ranks on a parity (whether with respect to liquidation, dissolution, winding up or otherwise), including Series A Preferred Stock and the Series B Convertible Preferred Stock, are collectively referred to herein as the "**Parity Securities**." All equity securities of the Corporation to which the Series C Preferred Stock ranks junior (whether with respect to liquidation, dissolution, winding up or otherwise), are collectively referred to herein as the "**Senior Securities**". The respective definitions of Junior Securities, Parity Securities and Senior Securities shall also include any rights, options or warrants exercisable for any of the Junior Securities, Parity Securities and Senior Securities, as the case may be. The Series C Preferred Stock shall be subject to the creation of Junior Securities, Parity Securities and Senior Securities.

(3) Dividends. The holders of shares of Series C Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of funds legally available for the payment of dividends, to the extent as, on the same basis as, at the same rate as,

and contemporaneously with, cash dividends when, as and if declared by the Board of Directors with respect to shares of any Common Stock, the Royalty Acquisition Preferred Stock, or Parity Securities. Such dividends shall be paid to the holders of record at the close of business on the record date specified by the Board of Directors of the Corporation at the time such dividend is declared, provided, however, that such record date shall not be more than 60 days or less than 10 days prior to the applicable dividend payment date.

(4) Conversion.

(a) Each share of Series C Preferred Stock shall be convertible, at the option of the holder thereof except as otherwise provided in paragraph (4)(b) below, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and non-assessable shares (calculated as to each conversion to the nearest 1/100th of a share) of Common Stock as is determined by dividing $2.00 by the Conversion Price (as defined below) applicable to such share, determined as hereinafter provided, in effect on the date the certificate is surrendered for conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series C Preferred Stock (the "**Conversion Price**") shall initially be $2.00 per share of Common Stock. Such initial Conversion Price shall be adjusted as hereinafter provided.

(b) Notwithstanding anything to the contrary herein, each outstanding share of Series C Preferred stock shall automatically convert upon a public offering of Common Stock at a price of at least $2.75 per share if the total aggregate proceeds to the Corporation before underwriting commissions and expenses are at least $10,000,000.

(c) Before any holder of Series C Preferred Stock shall be entitled to receive a certificate or certificates for shares of Common Stock upon conversion, such holder shall surrender the certificate or certificates for the holder's shares of Series C Preferred Stock, duly endorsed, at the office of the Corporation or of any transfer agent for such stock, and, unless such conversion is automatic pursuant to clause (b) above, shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name or names in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series C Preferred Stock, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made (i) in the case such conversion is automatic pursuant to clause (b) above, upon the effectiveness of the registration statement relating to such offering, and (ii) in all other cases, immediately prior to the close of business on the date of surrender of the shares of Series C Preferred Stock to be converted (in either case, the "**Conversion Date**"), and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or record holders of such shares of Common Stock on such date.

(d) All shares of Series C Preferred Stock which have been converted as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall forthwith cease and terminate, except only the right of the holders thereof, subject to the provisions of clause (c) of this paragraph (4), to receive shares of Common Stock in exchange therefor.

(e) (i) For the purposes of this clause (e), the following definitions shall apply:

(A) “Options” shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Additional Shares of Common Stock or Convertible Securities (as defined below);

(B) “Original Issue Date” shall mean the date on which a share of Series C Preferred Stock was first issued;

(C) “Convertible Securities” shall mean any evidences of indebtedness, shares (other than Common Stock) or other securities convertible into or exchangeable for Additional Shares of Common Stock; and

(D) “Additional Shares of Common Stock” shall mean all shares of Common Stock issued (or, pursuant to clause (e) (iii) hereof, deemed to be issued) by the Corporation after the Original Issue Date, other than shares of Common Stock issued or issuable:

(I) to officers, directors or employees of; or consultants to, the Corporation pursuant to stock option or stock purchase plans or agreements on terms approved by the Board of Directors of the Corporation;

(II) as a dividend or distribution on shares of the Series C Preferred Stock; or

(III) for which adjustment of the Conversion Price is made pursuant to clause (j) or (k) of this paragraph (4).

(ii) Any provision herein to the contrary notwithstanding, no adjustment in the Conversion Price shall be made in respect of the issuance of Additional Shares of Common Stock unless the consideration per share (determined pursuant to subclause (e)(v) hereof) for an Additional Share of Common Stock issued or deemed to be issued by the Corporation is less than the Conversion Price in effect on the date of, and immediately prior to, such issue.

(iii) In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities or shall fix a record date for the determination of holders of any class of securities then entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein designed to protect against dilution) of Common Stock issuable upon the exercise of such Options or, in the case Of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided, that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(1) no further adjustments in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(2) if such Options or Convertible Securities by their terms provides with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or decrease or increase in the number of shares of

Common Stock issuable, upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities (provided, however, that no such adjustment of the Conversion Price shall affect Common Stock previously issued upon conversion of the Series C Preferred Stock);

(3) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if

(A) in the case of Convertible Securities or Options for Common Stock the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon this exercise of such Options or the conversion or exchange of such Convertible Securities and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(B) in the case of Options for Convertible Securities only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(4) no readjustment pursuant to clause (2) or (3) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date (before adjustment) and (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(5) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustments of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (3) above.

(iv) In the event this Corporation, at any time after the Original Issue Date, shall issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to subclause (e)(iii) hereof) without consideration or for a consideration per share less than the Conversion Price in effect on the date of and immediately prior to such issue, then and in such event, the Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest cent) determined by multiplying the Conversion Price by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately prior to such issue plus the number of shares of Common Stock which the aggregate consideration received by the Corporation for the total

number of Additional Shares of Common Stock so issued would purchase at such Conversion Price in effect immediately prior to such issuance, and the denominator of which shall be the number of shares of Common Stock outstanding immediately prior to such issue plus the number of such Additional Shares of Common Stock so issued. For the purpose of the above calculation, the number of shares of Common Stock outstanding immediately prior to such issue shall be calculated as if (i) all outstanding shares of Preferred Stock and all other outstanding evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock had been fully converted into or exchanged for shares of Common Stock immediately prior to such issuance, and (ii) all outstanding rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock (or to acquire evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock) had been fully exercised (and had been fully converted and exchanged if, upon such exercise, evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock would be issued) immediately prior to such issuance, but not including in such calculation any additional shares of Common Stock issuable with respect to shares of Preferred Stock, other evidences of indebtedness, shares or other securities convertible into or exchangeable for Common Stock or rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock solely as a result of the adjustment of the respective Conversion Prices (or other conversion ratios or exercise prices) resulting from the issuance of Additional Shares of Common Stock causing such adjustment.

(v) For purposes of this clause (e), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows;

(I) If such consideration consists of cash and property, such consideration shall:

(A) insofar an it consists of cash, be computed at the aggregate amount of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(B) insofar as it consists of property other than cash, be computed at the fair value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(C) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (A) and (B) above, as determined in good faith by the Board of Directors.

(2) If such consideration consists of Options and Convertible Securities, the consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to subclause (e)(iii), relating to Options and Convertible Securities, shall be determined by dividing:

(A) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against dilution) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible

Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(B) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against the dilution) issuable upon the exercise of such Options or conversion or exchange of such Convertible Securities.

(f) In case:

(i) the Corporation shall declare a dividend (or any other distribution) on Common Stock payable otherwise than in cash out of its retained earnings; or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any other rights; or

(iii) of any reclassification of the Common Stock (other than a subdivision, split or combination of its outstanding shares of Common Stock), or of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation is required, or of the sale or transfer of all or substantially all of the assets of the Corporation; or

(iv) of the voluntary or involuntary dissolution, liquidation or winding up of the Corporation;

then the Corporation shall cause to be mailed to each holder of shares of Series C Preferred Stock at its address as shown on the books of the Corporation, at least 30 days (or 20 days in any case specified in clause (i) or (ii) above) prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, rights or warrants, or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined, or (y) the date on which such reclassification, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding up.

(g) For the purposes of this paragraph (4), the term “Common Stock” shall mean (i) the class of stock designated as the Common Stock of the Corporation on the date of this Certificate of Designations, and (ii) any other class of common stock, including any class resulting from successive changes or reclassifications of such Common Stock consisting solely of changes in par value or from no par value to par value or from par value to no par value.

(h) No fractional share of Common Stock, or scrip representing a fractional share, shall be issuable upon the conversion of any Series C Preferred Stock. If a certificate or certificates representing more than one share of Series C Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares of Common Stock issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares represented by certificates so surrendered. If any fractional interest in a share of Common Stock would be deliverable upon the conversion of any shares of Series C Preferred Stock, the Corporation shall pay, in lieu thereof, in cash the Conversion Price thereof as of the

business day immediately preceding the date of such conversion.

(i) Such number of shares of Common Stock as may from time to time be required for such purpose shall be reserved for issuance upon conversion of outstanding shares of Series C Preferred Stock.

(j) If the Corporation shall at any time or from time to time effect a subdivision or stock split of the outstanding Common Stock, the Conversion Price of the Series C Preferred Stock then in effect immediately before that subdivision or stock split shall be proportionately decreased. If the Corporation shall at any time or from time to time combine the outstanding shares of Common Stock, the Conversion Price of the Series C Preferred Stock then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision, stock split or combination, as the case may be, becomes effective.

(k) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price of the Series C Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of the Series C Preferred Stock then in effect by a fraction:

(1) the denominator of which shall be the sum of the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, plus the number of shares of Common Stock issuable in payment of such dividend or distribution, and

(2) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of Series C Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of Series C Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment or issuance of such dividends or distributions.

(l) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of Series C Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of such other securities of the Corporation that they would have received had their Series C Preferred Stock been converted into Common Stock on the date, or the record date, of such event and had thereafter, during the period from the date of such event to and including the Conversion Date, retained such securities receivable by them as aforesaid during such period, all subject to further adjustment as provided herein during such period.

(m) If the Common Stock issuable upon the conversion of the Series C

Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, exchange, substitution or otherwise, then and in each such event the holder of each such share of Series C Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, exchange, substitution or other change, by holders of the number of shares of Common Stock into which such shares of Series C Preferred Stock might have been converted immediately prior to such reorganization, reclassification, exchange, substitution or other change, all subject to further adjustment as provided herein.

(5) Liquidation Preference.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, the holders of shares of Series C Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its shareholders an amount in cash equal to $2.00 for each share outstanding, plus an amount in cash equal to all declared but unpaid dividends thereon to the date fixed for liquidation, dissolution or winding up before any payment shall be made or any assets distributed to the holders of any Junior Securities. If the assets of the Corporation, or the proceeds thereof, are not sufficient to pay in full the liquidation payments payable to the holders of outstanding shares of the Series C Preferred Stock and any Parity Securities, then the holders of all such shares shall share ratably in such distribution of assets, or the proceeds thereof, in accordance with the amount which would have been payable on such distribution if the amounts to which the holders of outstanding shares of Series C Preferred Stock and the holders of outstanding shares of such Parity Securities are entitled were paid in M. Except as provided in this paragraph (5)(a), holders of Series C Preferred Stock shall not be entitled to any distribution in the event of liquidation, dissolution or winding up of the affairs of the Corporation.

(b) For the purposes of this paragraph (5), neither the voluntary sale, conveyance, exchange or transfer (for cask shares of stock, securities or other consideration) of all or substantially all the property or assets of the Corporation nor the consolidation or merger of the Corporation with or into one or more other corporations shall be deemed to be a liquidation, dissolution or winding up of the Corporation, voluntary or involuntary unless such voluntary sale, conveyance, exchange or transfer, or merger or consolidation, shall be in connection with a plan of liquidation, dissolution or winding up of the Corporation.

(6) Voting. In addition to any voting rights provided by law and to any voting rights of the holders of the Series C Preferred Stock, as or as part of a separate class or series, pursuant to this Certificate or any provision of the Certificate of Incorporation of the Corporation, the holder of each outstanding share of Series C Preferred Stock shall be entitled to vote on any matter voted on by holders of Common Stock, voting together as a single class with the holders of the Common Stock, and any other shares entitled to vote in the ordinary course. With respect to any such vote, each share of Series C Preferred Stock shall entitle the holder thereof to cast one vote.

(7) Reports. So long as any of the Series C Preferred Stock is outstanding, the Corporation will furnish the holders thereof with the quarterly and annual financial reports, if any, that the Corporation is required to file with the Securities and Exchange Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934.

(8) General Provisions.

(a) The term "**person**" as used herein means any corporation, partnership, trust, organization, association, other entity or individual.

(b) The term "**outstanding**," when used with reference to shares of stock, shall mean issued shares, excluding shares held by the Corporation or any subsidiary of the Corporation.

(c) The headings of the paragraphs, subparagraphs, clauses and subclauses of this Certificate of Designations are for convenience of reference only and shall not define, limit or affect any of the provisions hereof.

IN WITNESS WHEREOF, FIBROGEN, Inc. has caused this Certificate of Designations to be signed and attested by the undersigned this 30th day of March, 1998.

FIBROGEN, INC.

By: /s/ Julian N. Stern
JULIAN N. STERN, Secretary

CERTIFICATE OF DESIGNATIONS. OF
SERIES D CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

FIBROGEN, INC., a Delaware corporation (the "**Corporation**"), pursuant to the provisions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Designations and does hereby state and certify that, pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation of the Corporation, the Board of Directors has duly adopted the following resolutions:

RESOLVED, that, pursuant to Article FOURTH of the Certificate of Incorporation, which authorizes 50,000,000 shares of preferred stock, $.01 par value ("**Preferred Stock**"), the Board of Directors hereby fixes the powers, designations, preferences and relative, participating, optional and other rights, and the qualifications, limitations and restrictions, of a series of Preferred Stock.

RESOLVED, that each share of such series of Preferred Stock shall rank equally in all respects and shall be subject to the following provisions:

(1) Number and Designation. 909,091 shares of the Preferred Stock of the Corporation shall be designated as Series D Convertible Preferred Stock ("**Series D Preferred Stock**").

(2) Rank. The Series D Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank prior to all classes of the Corporation's common stock, $.01 par value ("**Common Stock**") and the Royalty Acquisition Preferred Stock. The Series D Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank equally with the Series A Convertible Preferred Stock ("**Series A Preferred Stock**"), the Series B Convertible Preferred Stock ("**Series B Preferred Stock**") and the Series C Convertible Preferred Stock ("**Series C Preferred Stock**"), All equity securities of the Corporation to which the Series D Preferred Stock ranks prior (whether with respect to liquidation, dissolution, winding tip or otherwise), including the Common Stock, are collectively referred to herein as the "**Junior Securities**." All equity securities of the Corporation with which the Series D Preferred Stock ranks on a parity (whether with respect to liquidation, dissolution, winding up or otherwise), including Series A Preferred Stock, the Series B Convertible Preferred Stock and the Series C Preferred Stock, are collectively referred to herein as the "Parity Securities." All equity securities of the Corporation to which the Series D Preferred Stock ranks junior (whether with respect to liquidation, dissolution, winding up or

otherwise), are collectively referred to herein as the "**Senior Securities**". The respective definitions of Junior Securities, Parity Securities and Senior Securities shall also include any rights, options or warrants exercisable for any of the Junior Securities, Parity Securities and Senior Securities, as the case may be. The Series D Preferred Stock shall be subject to the creation of Junior Securities, Parity Securities and Senior Securities.

(3) Dividends. The holders of shares of Series D Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of funds legally available for the payment of dividends, to the extent as, on the same basis as, at the same rate as, and contemporaneously with, cash dividends when, as and if declared by the Board of Directors with respect to shares of any Common Stock, the Royalty Acquisition Preferred Stock, or Parity Securities. Such dividends shall be paid to the holders of record at the close of business on the record date specified by the Board of Directors of the Corporation at the time such dividend is declared, provided, however, that such record date shall not be more than 60 days or less than 10 days prior to the applicable dividend payment date.

(4) Conversion.

(a) Each share of Series D Preferred Stock shall be convertible, at the option of the holder thereof except as otherwise provided in paragraph (4) (b) below, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and non assessable shares (calculated as to each conversion to the nearest 1/100th of a share) of Common Stock as is determined by dividing $5.50 by the Conversion Price (as defined below) applicable to such share, determined as hereinafter provided, in effect on the date the certificate is surrendered for conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series D Preferred Stock (the "**Conversion Price**") shall initially be $5.50 per share of Common Stock. Such initial Conversion Price shall be adjusted as hereinafter provided.

(b) Notwithstanding anything to the contrary herein, each outstanding share of Series D Preferred stock shall automatically convert upon a public offering of Common Stock if the total aggregate proceeds to the Corporation before underwriting commissions and expenses are at least $10,000,000.

(c) Before any holder of Series D Preferred Stock shall be entitled to receive a certificate or certificates for shares of Common Stock upon conversion, such holder shall surrender the certificate or certificates for the holder's shares of Series D Preferred Stock, duly endorsed, at the office of the Corporation or of any transfer agent for such stock, and, unless such conversion is automatic pursuant to clause (h) above, shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name or names in which such

holder wishes the certificate or certificates for shares of Common Stock to be issued. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series D Preferred Stock, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made (i) in the case such conversion is automatic pursuant to clause (b) above, upon the effectiveness of the registration statement relating to such offering, and (ii) in all other cases, immediately prior to the close of business on the date of surrender of the shares of Series D Preferred Stock to be converted (in either case, the "**Conversion Date**"), and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or record holders of such shares of Common Stock on such date.

(d) All shares of Series D Preferred Stock which have been converted as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall forthwith cease and terminate, except only the right of the holders thereof, subject to the provisions of clause (c) of this paragraph (4), to receive shares of Common Stock in exchange therefor.

(e) In case:

(i) the Corporation shall declare a dividend (or any other distribution) on Common Stock payable otherwise than in cash out of its retained earnings; or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any other rights; or

(iii) of any reclassification of the Common Stock (other than a subdivision, split or combination of its outstanding shares of Common Stock), or of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation is required, or of the sale or transfer of all or substantially all of the assets of the Corporation; or

(iv) of the voluntary or involuntary dissolution, liquidation or winding up of the Corporation;

then the Corporation shall cause to be mailed to each holder of shares of Series D Preferred Stock at its address as shown on the books of the Corporation, at least 30 days (or 20 days in any case specified in clause (1) or (ii) above) prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to

be taken for the purpose of such dividend, distribution, rights or warrants, or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined, or (y) the date on which such reclassification, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding up.

(f) For the purposes of this paragraph (4), the term "Common Stock" shall mean (i) the class of stock designated as the Common Stock of the Corporation on the date of this Certificate of Designations, and (ii) any other class of common stock, including any class resulting from successive changes or reclassifications of such Common Stock consisting solely of changes in par value or from no par value to par value or from par value to no par value.

(g) No fractional share of Common Stock, or scrip representing a fractional share, shall be issuable upon the conversion of any Series D Preferred Stock. If a certificate or certificates representing more than one share of Series D Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares of Common Stock issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares represented by certificates so surrendered. If any fractional interest in a share of Common Stock would be deliverable upon the conversion of any shares of Series D Preferred Stock, the Corporation shall pay, in lieu thereof; in cash the Conversion Price thereof as of the business day immediately preceding the date of such conversion.

(h) Such number of shares of Common Stock as may from time to time be required for such purpose shall be reserved for issuance upon conversion of outstanding shares of Series D Preferred Stock.

(i) If the Corporation shall at any time or from time to time effect a subdivision or stock split of the outstanding Common Stock, the Conversion Price of the Series D Preferred Stock then in effect immediately before that subdivision or stock split shall be proportionately decreased. If the Corporation shall at any time or from time to time combine the outstanding shares of Common Stock, the Conversion Price of the Series D Preferred Stock then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision, stock split or combination, as the case may be, becomes effective.

(j) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common

Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price of the Series D Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of the Series D Preferred Stock then in effect by a fraction:

(1) the denominator of which shall be the sum of the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, plus the number of shares of Common Stock issuable in payment of such dividend or distribution, and

(2) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of Series D Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of Series D Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment or issuance of such dividends or distributions.

(k) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of Series D Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of such other securities of the Corporation that they would have received had their Series D Preferred Stock been converted into Common Stock on the date, or the record date, of such event and had thereafter, during the period from the date of such event to and including the Conversion Date, retained such securities receivable by them as aforesaid during such period, all subject to further adjustment as provided herein during such period.

(l) If the Common Stock issuable upon the conversion of the Series D Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, exchange, substitution or otherwise, then and in each such event the holder of each such share of Series D Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, exchange, substitution or other change, by holders of

the number of shares of Common Stock into which such shares of Series D Preferred Stock might have been converted immediately prior to such reorganization, reclassification, exchange, substitution or other change, all subject to further adjustment as provided herein.

(5) Liquidation Preference.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, the holders of shares of Series D Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its shareholders an amount in cash equal to $5.50 for each share outstanding, plus an amount in cash equal to all declared but unpaid dividends thereon to the date fixed for liquidation, dissolution or winding up before any payment shall be made or any assets distributed to the holders of any Junior Securities. If the assets of the Corporation, or the proceeds thereof, are not sufficient to pay in full the liquidation payments payable to the holders of outstanding shares of the Series D Preferred Stock and any Parity Securities, then the holders of all such shares shall share ratably in such distribution of assets, or the proceeds thereof, in accordance with the amount which would have been payable on such distribution if the amounts to which the holders of outstanding shares of Series D Preferred Stock and the holders of outstanding shares of such Parity Securities are entitled were paid in full. Except as provided in this paragraph (5)(a), holders of Series D Preferred Stock shall not be entitled to any distribution in the event of liquidation, dissolution or winding up of the affairs of the Corporation.

(b) For the purposes of this paragraph (5), neither the voluntary sale, conveyance, exchange or transfer (for cash, shares of stock, securities or other consideration) of all or substantially all the property or assets of the Corporation nor the consolidation or merger of the Corporation with or into one or more other corporations shall be deemed to be a liquidation, dissolution or winding up of the Corporation, voluntary or involuntary unless such voluntary sale, conveyance, exchange or transfer, or merger or consolidation, shall be in connection with a plan of liquidation, dissolution or winding up of the Corporation.

(6) Voting. In addition to any voting rights provided by law and to any voting rights of the holders of the Series D Preferred Stock, as or as part of a separate class or series, pursuant to this Certificate or any provision of the Certificate of Incorporation of the Corporation, the holder of each outstanding share of Series D Preferred Stock shall be entitled to vote on any matter voted on by holders of Common Stock, voting together as a single class with the holders of the Common Stock, and any other shares entitled to vote in the ordinary course. With respect to any such vote, each share of Series D Preferred Stock shall entitle the holder thereof to cast one vote.

(7) Reports. So long as any of the Series D Preferred Stock is outstanding, the Corporation will furnish the holders thereof with the quarterly and annual financial reports, if any, that the Corporation is required to file with the Securities and Exchange Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934.

(8) General Provisions.

(a) The term "**person**" as used herein means any corporation, partnership, trust, organization, association, other entity or individual.

(b) The term "**outstanding**," when used with reference to shares of stock, shall mean issued shares, excluding shares held by the Corporation or any subsidiary of the Corporation.

(c) The headings of the paragraphs, subparagraphs, clauses and subclauses of this Certificate of Designations are for convenience of reference only and shall not define, limit or affect any of the provisions hereof.

IN WITNESS WHEREOF, FIBROGEN, Inc. has caused this Certificate of Designations to be signed and attested by the undersigned this 30th day of March, 1999.

FIBROGEN, INC.

By: /s/ Julian N. Stern
JULIAN N. STERN, Secretary

CERTIFICATE OF DESIGNATION OF POWERS,
PREFERENCES AND RIGHTS OF THE SERIES E PREFERRED STOCK
OF
FIBROGEN, INC.

ADOPTED IN ACCORDANCE WITH THE PROVISIONS OF
SECTION 151 OF THE
DELAWARE GENERAL CORPORATION LAW

FIBROGEN, INC., a Delaware corporation (the "Corporation"), pursuant to Section 151 of the General Corporation Law of the State of Delaware, certifies that:

FIRST: The Board of Directors of the Corporation has duly adopted the resolutions attached hereto as Appendix I providing for the issuance of an additional series of its Preferred Stock to be designated "Series E Preferred Stock" and to consist of 12,917,595 shares.

SECOND: The Certificate of Designation of powers, preferences and rights of the Series A Preferred Stock was filed with the Secretary of the State of Delaware on December 14, 1993; the Certificate of Designation of powers, preferences and rights of the Series B Preferred Stock was filed with the Secretary of the State of Delaware on November 8, 1995 and amended on April 19, 1996 and October 17, 1997; the Certificate of Designation of powers, preferences and rights of the Series C Preferred Stock was filed with the Secretary of the State of Delaware on March 30, 1998; the Certificate of Designation of powers, preferences and rights of the Series D Preferred Stock was filed with the Secretary of the State of Delaware on March 31, 1999; and the Certificate of Designation of powers, preferences and rights of the Royalty Acquisition Preferred Stock was filed with the Secretary of the State of Delaware on June 9, 1997 and amended on March 30, 1998.

THIRD: The Certificate of Designation of the Series E Preferred Stock attached hereto as Appendix I has been duly adopted in accordance with the provisions of Section 151 of the General Corporation Law of the State of Delaware by the directors of the Corporation.

IN WITNESS WHEREOF, the Corporation has caused this Certificate to be signed by Thomas B. Neff, its President, and Julian Stern, its Secretary, this 12th day of May, 2000.

/s/ Thomas B. Neff
President

ATTEST:

/s/ Julian Stern
Secretary

APPENDIX I

WHEREAS, the Certificate of Incorporation, as amended (the "Restated Certificate") of this Corporation provides for a class of its authorized shares known as preferred stock, comprising 50,000,000 shares, issuable from time to time in one or more series;

WHEREAS, the Board of Directors is authorized to fix or alter the dividend rights, dividend rate, conversion rights, voting rights, rights and terms of redemption (including any sinking fund provisions), redemption price or prices and liquidation preferences of any wholly unissued series of preferred stock, and the number of shares constituting any such series and the designation thereof, or all or any of them;

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Series A Preferred Stock," consisting of 7,390,000 shares; and

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Series B Preferred Stock," consisting of 14,100,000 shares;

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Series C Preferred Stock," consisting of 5,000,000 shares;

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Series D Preferred Stock," consisting of 909,901 shares;

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Royalty Acquisition Preferred Stock," consisting of 8,000,000 shares; and

WHEREAS, it is now the desire of the Board of Directors, pursuant to its authority as aforesaid, to fix the powers, preferences and rights of a series of preferred stock designated the "Series E Preferred Stock";

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors does hereby provide for the issuance of an additional series of preferred stock of the Corporation, consisting of 12,917,595 shares designated as "Series E Preferred Stock," and does hereby fix and determine the powers, preferences and rights relating to said Series E Preferred Stock as hereinafter set forth.

The powers, preferences and rights granted to the Series E Preferred (as defined below or the holders thereof are as follows:

1. Designation. The series of Preferred Stock shall be designated the "Series E Preferred Stock" ("Series E Preferred") and shall consist of 12,917,595 shares. The "Series A Preferred Stock" ("Series A Preferred"), the "Series B Preferred Stock" ("Series B Preferred"), the Series C Preferred Stock ("Series C Preferred"), the "Series D Preferred Stock" ("Series D Preferred"), the Royalty Acquisition Preferred Stock ("Royalty Acquisition Preferred") and the Series E Preferred and any other series of Preferred Stock authorized by the Board of Directors of this Corporation are hereinafter referred to as "Preferred Stock" or "Preferred."

2. Dividend Rate and Rights.

(a) Dividends. Holders of the Series E Preferred, in preference to the holders of Common Stock or any other stock of the Corporation ("Junior Stock"), shall be entitled to receive, when and as declared by the Board of Directors, but only out of funds that are legally available therefor, noncumulative cash dividends at the rate of eight percent (8%) of the "Original Issue Price" per annum on each outstanding share of Series E Preferred (as adjusted for any stock dividends, combinations, splits, reclassifications, recapitalizations and the like with respect to such shares). The Original Issue Price of the Series E Preferred shall be Four Dollars and Forty Nine Cents ($4.49) per share (which amount shall be subject to adjustment whenever there shall occur a stock split, combination, reclassification or other similar event involving the Series E Preferred).

(b) Conversion of Dividends. In the event of the conversion of any shares of Series E Preferred pursuant to Section 5 hereof, all declared and unpaid dividends on such shares of Series E Preferred will be canceled and no dividends will be payable in respect of such shares of Series E Preferred, but instead the amount of declared but unpaid dividends on such shares of Series E Preferred will be taken into account in determining the number of shares of Common Stock into which such shares of Series E Preferred are convertible, as provided in Section 5 hereof.

(c) Dividends in Kind. In the event the Corporation shall make or issue, or shall fix a record date for the determination of holders of Junior Stock entitled to receive, a dividend or other distribution with respect to the Junior Stock payable in (i) securities other than shares of Common Stock of the Corporation or (ii) assets, then and in each such event the holders of Series E Preferred shall receive, at the same time such distribution is made with respect to Junior Stock, the number of securities or such other assets of the Corporation which they would have received had their Series E Preferred been converted into Common Stock immediately prior to the record date for determining holders of Junior Stock entitled to receive such distribution.

3. Liquidation, Dissolution or Winding Up.

(a) Treatment at Liquidation, Dissolution or Winding Up.

(1) In the event of any liquidation, dissolution, merger (where a change of control occurs), sale of all or substantially all of the assets of the Corporation, or winding up of the Corporation, whether voluntary or involuntary, (any of such events referred to herein as a "Liquidity Event") before any distribution may be made with respect to the Junior Stock, holders of each share of Series E Preferred shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock of all classes, whether such assets are capital, surplus, or capital earnings, an amount equal to the Original Issue Price (which amount shall be subject to equitable adjustment whenever there shall occur a stock dividend, combination, split, reclassification, recapitalization or other similar event involving the Series E Preferred) plus all declared and unpaid dividends thereon (collectively, the "Liquidation Amount"). If the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series E Preferred the full amount of the Liquidation Amount to which they shall be entitled, the holders of shares of Series E Preferred shall share ratably in any distribution of assets according to the amounts which would be payable with respect to the Series E Preferred held by them upon such distribution if all amounts payable on or with respect to said shares were paid in full

(2) Following any Reorganization described in Section 3(b) below, and upon completion of the distribution required by Section 3(a)(1) above, the remaining assets of the Corporation available for distribution to stockholders shall be distributed pursuant to Section 3(a)(3) below. In all other Liquidity Events, upon completion of the distribution required by Section 3(a)(1) above the remaining assets of the Corporation available for distribution to stockholders shall be distributed to the holders of the Preferred Stock (other than the Series E Preferred), in accordance with the respective Certificates of Designation of Powers, Preferences and Rights of such series of Preferred Stock, or the Certificate of Incorporation, as amended, as applicable.

(3) Upon completion of the distribution required by Section 3(a)(1) above, and Section 3(a)(2) above if applicable, the remaining assets of the Corporation available for distribution shall be distributed to the holders of Common Stock and Preferred Stock (other than the Series E Preferred) on an as converted to Common Stock basis, until each of such holders receives with respect to each Common Stock share equivalent up to, but not more than, the amount paid to with respect to each share of Series E

Preferred pursuant to Section 3(a)(1) above. If the assets of the Corporation are not adequate to pay the amounts set forth in this Section 3(a)(3), the assets shall be distributed ratably amongst the holders of capital stock entitled to such distribution, on an as-converted to common stock basis.

(4) Upon completion of the distribution required by Sections 3(a)(1), (2) and (3) above, the remaining assets of the Corporation available for distribution to stockholders shall be distributed to the holders of the Preferred Stock and the holders of the Common Stock on a pro-rata basis assuming that each share of Preferred Stock has been converted into Common Stock.

(b) Treatment of Reorganizations. Any Reorganization (as such term is defined in Section 5(f)), shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 3; provided, however, that each holder of Series E Preferred shall have the right to elect the benefits of the provisions of Section 5(f) hereof, if applicable, in lieu of receiving payment of amounts payable upon liquidation, dissolution or winding up of the Corporation pursuant to this Section 3.

(c) Distributions in Cash. The Liquidation Amount shall in all events be paid in cash; provided, however, that if the Liquidation Amount is payable in connection with a Reorganization, then each holder of the Series E Preferred may, at its election, receive payment of the Liquidation Amount in the same form of consideration as is payable with respect to the Junior Stock. Wherever a distribution provided for in this Section 3 is payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Corporation's Board of Directors.

4. Voting Power. Except as otherwise expressly provided in Section 7 hereof, or as required by law, each holder of Series E Preferred shall be entitled to vote on all matters and shall be entitled to that number of votes equal to the largest number of whole shares of Common Stock into which such holder's shares of Series E Preferred could be converted, pursuant to the provisions of Section 5 hereof, at the record date for the determination of stockholders entitled to vote on such matter or, if no such record date is established, at the date such vote is taken or any written consent of stockholder is solicited. Except as otherwise expressly provided herein or as required by law, the holders of shares of Series E Preferred and Common Stock shall vote together as a single class on all matters. Fractional votes shall not, however, be permitted and any fractional voting rights (after aggregating all shares into which shares of Series E Preferred held by each holder could be converted) shall be rounded to the nearest whole number (with one-half being rounded upward).

5. Conversion into Common Stock. The holders of the Series E Preferred shall have the following rights with respect to the conversion of the Series E Preferred into shares of Common Stock (the "Conversion Rights"):

(a) General. Subject to and in compliance with the provisions of this Section 5, any share of the Series E Preferred may, at the option of the holder, be converted at any time into fully-paid and non-assessable shares of Common Stock of the Corporation. The number of shares of Common Stock to which a holder of Series E Preferred shall be entitled upon conversion shall be the product obtained by multiplying the Applicable Conversion Rate (determined as provided in Section 5(b)) by the number of shares of Series E Preferred being converted.

(b) Applicable Conversion Rate. The conversion rate in effect at any time (the "Applicable Conversion Rate") shall be the quotient obtained by dividing the Original Issue Price by the Applicable Conversion Value, calculated as provided in Section 5(c).

(c) Applicable Conversion Value. The Applicable Conversion Value shall be the Original Issue Price, except that such amount be adjusted from time to time in accordance with Section 5(d).

(d) Adjustments to Applicable Conversion Values.

(1) Conversion Events.

(A) Upon Sale of Common Stock. If the Corporation shall, while there are any shares of Series E Preferred outstanding, issue or sell (or in accordance with Section 5(d)(1)(B) below is deemed to have issued or sold) shares of its Common Stock without consideration or at a price per share less than the Applicable Conversion Value in effect immediately prior to such issuance or sale, then in each such case such Applicable Conversion Value for the Series E Preferred, upon each such issuance or sale, except as hereinafter provided, shall be lowered so as to be equal to an amount determined by multiplying the Applicable Conversion Values by a fraction;

(i) the numerator of which shall be (a) the number of shares of Common Stock outstanding immediately prior to the issuance of such additional shares of Common Stock, plus (b) the number of shares of Common Stock which the net aggregate consideration, if any, received or to be received by the Corporation (in accordance with the Net Consideration Per Share in the case of warrants, options or any other rights with respect to convertible or exchangeable securities) for the total number of such additional shares of Common Stock so issued would purchase at the Applicable

Conversion Value in effect immediately prior to such issuance, and

(ii) the denominator of which shall be (a) the number of shares of Common Stock outstanding immediately prior to the issuance of such additional shares of Common Stock plus (b) the number of such additional shares of Common Stock so issued;

provided that for the purpose of clause (i) and (ii) of this Subsection 5(d)(1)(A), all shares of Common Stock issuable upon conversion of the outstanding shares of Preferred Stock and all shares of Common Stock issuable upon exercise of outstanding options, warrants and other convertible securities shall be deemed to be outstanding.

(B) Upon Issuance of Warranties, Options and Rights to Common Stock.

(i) For the purpose of this Section 5(d)(1), the issuance of any warrants, options, subscriptions, or purchase rights with respect to shares of Common Stock and the issuance of any securities convertible into or exchangeable for shares of Common Stock (or the issuance of any warrants, options or any rights with respect to such convertible or exchangeable securities) shall be deemed an issuance of such Common Stock at such time if the Net Consideration Per Share (as hereinafter determined) which may be received by the Corporation for such Common Stock shall be less than the Applicable Conversion Value at the time of such issuance. Any obligation, agreement, or undertaking to issue warrants, options, subscriptions, or purchase rights at any time in the future shall be deemed to be an issuance at the time such obligation, agreement or undertaking is made or arises. No adjustment of the Applicable Conversion Value shall be made under this Section 5(d)(1) upon the issuance of any shares of Common Stock which are issued pursuant to the exercise of any warrants, options, subscriptions, or purchase rights or pursuant to the exercise of any conversion or exchange rights in any convertible securities if any adjustment shall previously have been made or deemed not required hereunder, upon the issuance of any such warrants, options, or subscription or purchase rights or upon the issuance of any convertible securities (or upon the

issuance of any warrants, options or any rights therefor) as above provided.

(ii) Should the Net Consideration Per Share of any such warrants, options, subscriptions, or purchase rights or convertible securities be decreased from time to time (other than as a result of a stock split, stock dividend or other similar event), then, upon the effectiveness of each such change, the Applicable Conversion Value shall be adjusted to such Applicable Conversion Value as would have obtained (1) had the adjustments made upon the issuance of such warrants, options, rights, or convertible securities been made upon the basis of the decreased Net Consideration per share of such securities, and (2) had adjustments made to the Applicable Conversion Value since the date of issuance of such securities been made to the Applicable Conversion Value as adjusted pursuant to (1) above. Any adjustment of the Applicable Conversion Value with respect to this Section 5(d)(1)(B) which relates to warrants, options, subscriptions, purchase rights or convertible securities with respect to shares of Common Stock shall be disregarded if, as, when and to the extent such warranties, options, subscriptions, purchase rights or convertible securities expire or are cancelled without being exercised or converted, so that the Applicable Conversion Value effective immediately upon such cancellation or expiration shall be equal to the Applicable Conversion Value in effect at the time of the issuance of the expired or cancelled warrants, options, subscriptions, purchase rights, or convertible securities with such additional adjustments as would have been made to all Applicable Conversion Value had the expired or cancelled warrants, options, subscriptions, purchase rights or convertible securities not been issued.

For purposes of this paragraph, the “Net Consideration Per Share” which may be received by the Corporation shall be determined as follows:

(a) The “Net Consideration Per Share” shall mean the amount equal to the total amount of consideration, if any, received by the Corporation for the issuance of such warrants, options, subscriptions, or other purchase rights or convertible or exchangeable securities, plus the minimum amount of consideration, if any, payable to the Corporation

upon exercise or conversion thereof, divided by the aggregate number of shares of Common Stock that would be issued if all such warrants, options, subscriptions, or other purchase rights or convertible or exchangeable securities were exercised, exchanged, or converted.

(b) The "Net Consideration Per Share" which may be received by the Corporation shall be determined in each instance as of the date of issuance of warrants, options, subscriptions, or other purchase rights or convertible or exchangeable securities without giving effect to any possible future upward price adjustments or rate adjustments which may be applicable with respect to such warrants, options, subscriptions, or other purchase rights or convertible exchangeable securities.

(C) Stock Dividends. In the event the Corporation shall make or issue a dividend or other distribution payable in Common Stock or securities of the Corporation convertible into or otherwise exchangeable for the Common Stock of the Corporation, then such Common Stock or other securities issued in payment of such dividend shall be deemed to have been issued without consideration (except for dividends payable in shares of Common Stock payable pro rata to holders of Series E Preferred and to holders of any other class of stock).

(D) Consideration Other than Cash. For purposes of this Section 5(d)(1), if a part or all of the consideration received by the Corporation in connection with the issuance of shares of the Common Stock or the issuance of any of the securities described in this Section 5(d) consists of property other than cash, such consideration shall be deemed to have a fair market value as is reasonably determined in good faith by the Board of Directors of the Corporation.

(E) Exceptions. This Section 5(d)(1) shall not apply under any of the circumstances which would constitute an Extraordinary Common Stock Event (as hereinafter defined in Section 5(d)(2)). Further, the provisions of this Section 5(d) shall not apply to (i) shares issued upon conversion of Preferred Stock, (ii) Common Stock and/or bona fide options (and the shares issuable upon exercise thereof) issued to employees, directors and consultants of the Corporation pursuant to written stock option or stock purchase plans or arrangements that have been approved by the stockholders of the Corporation (within one year of the date of adoption), or (iii)

shares issued in connection with the exercise of convertible securities, warrants or options or other contractual obligations in connection with the rollup of Skin Sciences, Inc. into the Corporation, outstanding as of the date of the first sale of Series E Preferred.

(2) Upon Extraordinary Common Stock Event. Upon the happening of an Extraordinary Common Stock Event (as hereinafter defined), the Applicable Conversion Value for the Series E Preferred shall, simultaneously with the happening of such Extraordinary Common Stock Event, be adjusted by multiplying the then effective Applicable Conversion Value with respect to the Series E Preferred by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately prior to such Extraordinary Common Stock Event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such Extraordinary Common Stock Event, and the product so obtained shall thereafter be the Applicable Conversion Value. The Applicable Conversion Value for the Series E Preferred shall be readjusted in the same manner upon the happening of any successive Extraordinary Common Stock Event or Events.

"Extraordinary Common Stock Event" shall mean (i) the issue of additional shares of Common Stock as a dividend or other distribution on outstanding Common Stock or on any class or series of preferred stock, unless made pro rata to holders of Series E Preferred, (ii) a subdivision of outstanding shares of Common Stock into a greater number of shares of Common Stock, or (iii) a combination of outstanding shares of the Common Stock into a smaller number of shares of Common Stock.

(e) Capital Reorganization or Reclassification. If the Common Stock issuable upon the conversion of the Series E Preferred shall be changed into the same or different number of shares of any class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares or stock dividend or distribution provided for elsewhere in this Section 5 or by a Reorganization), then and in each such event, the holder of each share of Series E Preferred shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such capital reorganization, reclassification or other change by holders of the number of shares of Common Stock into which such shares of Series E Preferred might have been converted immediately prior to such capital reorganization, reclassification or other change.

(f) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, reclassification or exchange of shares provided for elsewhere in this Section 5) or a merger or consolidation of the Corporation with or into another corporation or other entity or person (other than the merger of a wholly or majority owned subsidiary into the Corporation), or any other corporate reorganization, in which the stockholders of the Corporation immediately prior to such consolidation, merger or reorganization, own less than fifty percent (50%) of the Corporation's voting power immediately after such consolidation, merger or reorganization, or the sale of all or substantially all of the Corporation's properties and assets to any other person, or the sale of a majority of the voting securities of the Corporation in one transaction or a series of related transactions (any of which events is herein referred to as a "Reorganization") then as a part of such Reorganization, provision shall be made so that the holders of the Series E Preferred shall thereafter be entitled to receive upon conversion of the Series E Preferred, the number of shares of stock or other securities or property of the Corporation, or of the successor corporation resulting from such Reorganization, to which such holder would have been entitled if such holder had converted its shares of Series E Preferred immediately prior to such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 5 with respect to the rights of the holders of the Series E Preferred after the Reorganization, to the end that the provisions of this Section 5 (including adjustment of the Applicable Conversion Value then in effect and the number of shares issuable upon conversion of the Series E Preferred) shall be applicable after that event in as nearly equivalent a manner as may be practicable.

Upon the occurrence of a Reorganization, under circumstances which make the preceding paragraph applicable, each holder of Series E Preferred shall have the option of electing treatment for his shares of Series E Preferred under either this Section 5(f) or Section 3 hereof, notice of which election shall be submitted in writing to the Corporation at its principal offices no later than ten (10) business days before the effective date of such event.

(g) Certificate as to Adjustments; Notice by Corporation. In each case of an adjustment or readjustment of the Applicable Conversion Rate, the Corporation at its expense will furnish each holder of Preferred Stock with a certificate, executed by the president and chief financial officer (or in the absence of a person designated as the chief financial officer, by the treasurer) showing such adjustment or readjustment, and stating in detail the facts upon which such adjustment or readjustment is based.

(h) Exercise of Conversion Privilege. To exercise its conversion privilege, a holder of Series E Preferred shall surrender the certificate or certificates representing the shares being converted to the Corporation at its principal office, and shall give written notice to the Corporation at that office that such holder elects to convert

such shares. Such notice shall also state the name or names (with address or addresses) in which the certificate or certificates for shares of Common Stock issuable upon such conversion shall be issued. The certificate or certificates for shares of Series E Preferred surrendered for conversion shall be accompanied by proper assignment thereof to the Corporation or in blank. The date when such written notice is received by the Corporation, together with the certificate or certificates representing the shares of Series E Preferred being converted, shall be the "Conversion Date." As promptly as practicable after the Conversion Date, the Corporation shall issue and shall deliver to the holder of the shares of Series E Preferred being converted, or on its written order, such certificate or certificates as it may request for the number of whole shares of Common Stock issuable upon conversion of such shares of Series E Preferred in accordance with the provisions of this Section 5, and cash, as provided in Section 5(i), in respect of any fraction of a share of Common Stock issuable upon such conversion. Such conversion shall be deemed to have been effected immediately prior to the close of business on the Conversion Date, and at such time the rights of the holder as holder of the converted shares of Series E Preferred shall cease and the person or persons in whose name or names any certificate or certificates for shares of Common Stock shall be issuable upon such conversion shall be deemed to have become the holder or holders of record of the shares of Common Stock represented thereby. The Corporation shall pay any taxes payable with respect to the issuance of Common Stock upon conversion of the Series E Preferred, other than any taxes payable with respect to income by the holders thereof.

(i) Cash in Lieu of Fractional Shares. The Corporation may, if it so elects, issue fractional shares of Common Stock or script representing fractional shares upon the conversion of shares of Series E Preferred. If the Corporation does not elect to issue fractional shares, the Corporation shall pay to the holder of the shares of Series E Preferred which were converted a cash adjustment in respect of such fractional shares in an amount equal to the same fraction of the market price per share of the Common Stock (as determined in a reasonable manner prescribed by the Board of Directors) at the close of business on the Conversion Date. The determination as to whether or not any fractional shares are issuable shall be based upon the total number of shares of Series E Preferred being converted at any one time by any holder thereof, not upon each share of Series E Preferred being converted.

(j) Partial Conversion. In the event some but not all of the shares of Series E Preferred represented by a certificate or certificates surrendered by a holder are converted, the Corporation shall execute and deliver to or on the order of the holder, at the expense of the Corporation, a new certificate representing the number of shares of Series E Preferred which were not converted.

(k) Reservation of Common Stock. The Corporation shall at all times reserve and keep available out of its authorized by unissued shares of Common Stock, solely

for the purpose of effecting the conversion of the shares of the Series E Preferred, such number of its shares of Common Stock shall from time to time be sufficient to effect the conversion of all outstanding shares of the Series E Preferred, and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series E Preferred, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purpose.

(l) Minimum Adjustment. Any provision of this Section 5 to the contrary notwithstanding, no adjustment in the Applicable Conversion Value shall be made if the amount of such adjustment would be less than 1% of the Applicable Conversion Value then in effect, but any such amount shall be carried forward and an adjustment with respect thereto shall be made at the time of and together with any subsequent adjustment which, together with all amounts so carried forward, aggregate 1% or more of the Applicable Conversion Value then in effect.

(m) Mandatory Conversion. Each share of Series E Preferred shall automatically be converted into shares of Common Stock, based on the then-effective Applicable Conversion Rate, as applicable, (A) at any time upon the affirmative election of the holders of at least fifty percent (50%) of the outstanding shares of the Series E Preferred voting as a single class, or (B) immediately upon (1) the closing of a Qualified Public Offering (as herein after defined). For purposes hereof, the term "Qualified Public Offering" shall mean an underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Act"), covering the offer and sale of the Corporation's securities in which (i) the per share price is at least one hundred twenty five percent (125%) of the Original Issue Price (as adjusted for stock splits, etc.) and (ii) the gross cash proceeds to the Corporation (before underwriting discounts, commissions and fees) are at least Forty Million Dollars ($40,000,000) and (2) listing of the shares of Common Stock of the Corporation on the New York Stock Exchange, American Stock Exchange, NASDAQ National Market or NASDAQ Small Cap Market. Holders of shares subject to conversion shall deliver to the Corporation at its principal office (or such other office or agency as the Corporation may designate by notice in writing) during its usual business hours, the certificate or certificates for shares of Series E Preferred being converted, and the Corporation shall issue and deliver to such holders certificates for the number of shares of Common Stock to which such holders are entitled. Until such time as holders of shares of Series E Preferred shall surrender those certificates therefor as provided above, such certificates shall be deemed to represent the shares of Common Stock to which the holders shall be entitled upon the surrender thereof.

6. No Reissuance of Preferred Stock. No share of Series E Preferred acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be cancelled, retired and eliminated from the shares which the Corporation shall

be authorized to issue. The Corporation may from time to time take such appropriate corporate action as may be necessary to reduce the authorized number of shares of the Series E Preferred accordingly.

7. Restrictions and Limitations. Except as expressly provided herein or as required by law, so long as any shares of Series E Preferred remain outstanding, the Corporation shall not, without the approval by vote or written consent by the holders of at least a majority of the then outstanding shares of Series E Preferred, voting as a separate class:

(a) authorize or issue, or increase or decrease the authorized number of, (other than by redemption or conversion) any shares of Common Stock or Preferred Stock or shares of any new class or series of stock or any other securities convertible into equity securities of the Corporation ranking on a parity with or senior to the Series E Preferred in rights of redemption, liquidation preference, voting or dividends or any increase in the authorized or designated number of any such new class or series; provided, that the Corporation may, without such affirmative vote of holders of the Series E Preferred, (1) at any time, authorize, issued and sell up to 4,008,909 shares of Series E Preferred to stockholders of record of the Company and its subsidiaries as of the date of the first sale of Series E Preferred and to Life Sciences venture fund of Japan and such other investors as approved by at least a majority of the then outstanding shares of Series E Preferred, and (2) at any time after the first anniversary of the date of the first sale of Series E Preferred, (i) authorize, issue and sell up to 3,000,000 shares (in addition to the shares of Series E Preferred set forth in clause (1) above) of Series E Preferred or, in the alternative, (ii) establish, issue and sell shares of capital stock of equal priority to that of the Series E Preferred with an aggregate purchase price of up to $20,000,000;

(b) redeem or repurchase any capital stock or pay dividends or other distributions with respect to capital stock of the Corporation (except for acquisitions of Common Stock by the Corporation pursuant to agreements which permit the Corporation to repurchase such shares upon termination of services to the Corporation or in exercise of the Corporation's right of first refusal upon a proposed transfer);

(c) take any action or agreement by the Corporation or its stockholders regarding a Reorganization in which the consideration paid or proposed to be paid to the Corporation or the holders of capital stock of the Corporation implies a price or value per share of the Series E Preferred less than the Liquidation Amount;

(d) take any action or knowingly fail to take any action that would result in or effectuate the liquidation, dissolution or winding up of the Corporation; or

(e) effectuate any amendment, alteration, or repeal of any provision of the Certificate of Incorporation, as amended, or the Bylaws of the Company that alters or

changes the voting powers, preferences, or other special rights or privileges, qualifications, limitations, or restrictions of the Series E Preferred.

8. No Dilution or Impairment. Without the consent of the holders of the then outstanding Series E Preferred, as required under Section 7, the Corporation shall not amend its Certificate of Incorporation or participate in any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or take any other voluntary action, for the purpose of avoiding or seeking to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, but shall at all times in good faith assist in carrying out all such action as may be reasonably necessary or appropriate in order to protect the conversion rights of the holders of the Series E Preferred against dilution or other impairment.

9. Notices of Record Date. In the event of

(a) any taking by the Corporation of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend or other distribution, or any right to subscribe for, purchase or otherwise acquire any shares of stock of any class or any other securities or property, or to receive any other right, or

(b) any capital reorganization of the Corporation, any reclassification or recapitalization of the capital stock of the Corporation, any merger of the Corporation, or any transfer of all or substantially all of the assets of the Corporation to any other corporation, or any other entity or person, or

(c) any voluntary or involuntary dissolution, liquidation or winding up of the Corporation,

then and in each such event the Corporation shall mail or cause to be mailed to each holder of Series E Preferred a notice specifying (i) the date on which any such record is to be taken for the purpose of such dividend, distribution or right and a description of such dividend, distribution, or right, (ii) the date on which any such reorganization, reclassification, recapitalization, transfer, merger, dissolution, liquidation or winding up is expected to become effective and (iii) the time, if any, that is to be fixed, as to when the holders of record of Common Stock (or other securities) shall be entitled to exchange their shares of Common Stock (or other securities) shall be entitled to exchange their shares of Common Stock (or other securities) for securities or other property deliverable upon such reorganization, reclassification, recapitalization, transfer, merger, dissolution, liquidation or winding up. Such notice shall be mailed at least ten (10) business days prior to the date specified in such notice on which such action is to be taken.

CERTIFICATE OF OWNERSHIP AND MERGER

MERGING

FIBROPHAR.MA, INC.

INTO

FIBROGEN, INC

*** * * * * * ***

FibroGen, Inc., a corporation organized and existing under the laws of Delaware,

DOES HEREBY CERTIFY:

FIRST: That this corporation was incorporated on the 29th day of September, 1993, pursuant to the General Corporation Law of the State of Delaware.

SECOND: That this corporation owns all of the outstanding shares (of each class) of the stock of FibroPharma, Inc., a corporation incorporated on the 10th day of February, 1995, pursuant to the Corporations Code of the State of California.

THIRD: That this corporation, by the following resolutions of its Board of Directors, duly adopted at a meeting held on the 16th day of August, 2001, determined to and did merge into itself said FibroPharma, Inc.:

RESOLVED, that FibroGen, Inc. merge, and it hereby does merge into itself FibroPharma, Inc. and assumes all of its obligations; and

FURTHER RESOLVED, that the merger shall be effective upon the date of filing with the Secretary of State of Delaware;

FURTHER RESOLVED, that the proper officer of this corporation be and he or she is hereby directed to make and execute a Certificate of Ownership and Merger setting forth a copy of the resolutions to merge said FibroPharma, Inc. and assume its liabilities and obligations, and the date of adoption thereof, and to cause the same to be filed with the Secretary of State and to do all acts and things whatsoever, whether within or without the State of Delaware, which may be in anywise necessary or proper to effect said merger.

IN WITNESS WHEREOF, said FibroGen, Inc. has caused this Certificate to be signed by Thomas B. Neff, its President and Chief Executive Officer, this 11th day of February, 2002.

FIBROGEN, INC.

By /s/ Thomas Neff
President and Chief Executive Officer

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATION OF POWERS, PREFERENCES AND PRIVILEGES
OF
SERIES E PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FIBROGEN, Inc.

2. The Certificate of Designation of Powers, Preferences and Privileges of Series E Preferred Stock of the Corporation filed with the Delaware Secretary of State effective May 16, 2000 is hereby amended by striking out clause (a) of Section 7 of Appendix 1 and substituting in lieu of said paragraph the following paragraph:

(a) authorize or issue, or increase or decrease the authorized number, (other than by redemption or conversion) of any shares of Common Stock or Preferred Stock or shares of any new class or series of stock or any other securities convertible into equity securities of the Corporation ranking on a parity with or senior to the Series E Preferred in rights of redemption, liquidation preference, voting or dividends or any increase in the authorized or designated number of any such new class or series; provided, that the Corporation may, without such affirmative vote of holders of the Series E Preferred, (1) at any time, authorize, issue and sell up to 4,008,909 shares of Series E Preferred to stockholders of record of the Company and its subsidiaries as of the date of the first sale of Series E Preferred and to Life Sciences venture fund of Japan and such other investors as approved by at least a majority of the then outstanding shares of Series E Preferred, and (2) at any time after the first anniversary of the date of the first sale of Series E Preferred, (i) authorize, issue and sell up to 3,000,000 shares (in addition to the shares of Series E Preferred set forth in clause (1) above) of Series E Preferred or, in the alternative, (ii) establish, issue and sell shares of capital stock of equal or lesser priority to that of the Series E Preferred with an aggregate purchase price of up to $20,000,000;

3. The Amendment of the Certificate of Designation of Powers, Preferences and Privileges of Series E Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 24th day of June, 2002.

/s/ Julian N. Stern
Julian N. Stern, Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATIONS
OF
SERIES D CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The Certificate of Designations of Series D Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State effective March 31, 1999 is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"(1) Number and Designation. 2,090,910 shares of the Preferred Stock of the Corporation shall be designated as Series D Convertible Preferred Stock ("**Series D Preferred Stock**")."

3. The Amendment of the Certificate of Designations of Series D Convertible Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 26th day of July, 2002.

/s/ Julian N. Stern
Julian N. Stern, Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATIONS
OF
SERIES D CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The Certificate of Designations of Series D Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State effective March 31, 1999 and amended on July 26, 2002 is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"(1) Number and Designation. 2,272,729 shares of the Preferred Stock of the Corporation shall be designated as Series D Convertible Preferred Stock ("**Series D Preferred Stock**")."

3. The Amendment of the Certificate of Designations of Series D Convertible Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 27th day of December, 2002.

/s/ Grace U. Shin
Grace U. Shin, Assistant Corporate Secretary, Vice President, Legal Affairs and Corporate Counsel

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF INCORPORATION
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The certificate of incorporation of the Corporation is hereby amended by striking out the first paragraph of Article Fourth and substituting in lieu of said paragraph the following new paragraph:

"FOURTH. The total number of shares of all classes of capital stock which the corporation shall have the authority to issue is Two Hundred Thirty Million (230,000,000) shares, comprised of One Hundred Fifty Million (150,000,000) shares of Common Stock with a par value of One Cent ($.01) per share (the "Common Stock") and Eighty Million (80,000,000) shares of Preferred Stock with a par value of One Cent ($.01) per share (the "Preferred Stock")."

3. The Amendment of the certificate of incorporation herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 3rd day of March, 2003.

/s/ Grace U. Shin
Grace U. Shin, Vice President, Legal Affairs and Corporate Counsel

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATION OF POWERS, PREFERENCES AND PRIVILEGES
OF
SERIES E PREFERRED STOCK
OF
FEBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FIBROGEN, Inc.

2. The Certificate of Designation of Powers, Preferences and Privileges of Series E Preferred Stock of the Corporation filed with the Delaware Secretary of State effective May 16, 2000 and amended on June 27, 2002 is hereby amended by striking out clause (a) of Section 7 of Appendix 1 and substituting in lieu of said paragraph the following paragraph:

(a) authorize or issue, or increase or decrease the authorized number of, (other than by redemption or conversion) any shares of capital stock or any other securities convertible into equity securities of the Corporation, in each case ranking (i) on a parity with or senior to the Series E Preferred in rights of liquidation preference, voting or dividends or (ii) senior to the Series E Preferred in redemption rights; provided, that the Corporation may, without such affirmative vote of holders of the Series E Preferred, (1) at any time, authorize, issued and sell up to 4,008,909 shares of Series E Preferred to stockholders of record of the Company and its subsidiaries as of the date of the first sale of Series E Preferred and to Life Sciences venture fund of Japan and (2) at any time after the first anniversary of the date of the first sale of Series E Preferred, (i) authorize, issue and sell up to 3,000,000 shares (in addition to the shares of Series E Preferred set forth in clause (1) above) of Series E Preferred or, in the alternative, (ii) establish, issue and sell shares of capital stock of equal priority to that of the Series E Preferred with an aggregate purchase price of up to $20,000,000;

3. The Amendment of the Certificate of Designation of Powers, Preferences and Privileges of Series E Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 19th day of February, 2004.

/s/ Julian N. Stern, Secretary
Julian N. Stern, Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATIONS
OF
SERIES D CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The Certificate of Designations of Series D Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State effective March 31, 1999 and amended on July 26, 2002 and December 27, 2002 is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"(1) Number and Designation. 6,818,183 shares of the Preferred Stock of the Corporation shall be designated as Series D Convertible Preferred Stock ("**Series D Preferred Stock**")."

3. The Amendment of the Certificate of Designations of Series D Convertible Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 19th day of February, 2004.

/s/ Julian N. Stern, Secretary
Julian N. Stern, Secretary

CERTIFICATE OF DESIGNATION OF POWERS,
PREFERENCES AND RIGHTS OF THE SERIES F PREFERRED STOCK
OF
FIBROGEN, INC.

ADOPTED IN ACCORDANCE WITH THE PROVISIONS OF
SECTION 151 OF THE
DELAWARE GENERAL CORPORATION LAW

FIBROGEN, INC., a Delaware corporation (the "Corporation"), pursuant to Section 151 of the General Corporation Law of the State of Delaware, certifies that:

FIRST: The Board of Directors of the Corporation has duly adopted the resolutions attached hereto as Appendix I providing for the issuance of an additional series of its Preferred Stock to be designated "Series F Preferred Stock" and to consist of 23,380,874 shares.

SECOND: The Certificate of Designation of powers, preferences and rights of the Series A Preferred Stock was filed with the Secretary of the State of Delaware on December 14, 1993; the Certificate of Designation of powers, preferences and rights of the Series B Preferred Stock was filed with the Secretary of the State of Delaware on November 8, 1995 and amended on April 19, 1996 and October 17, 1997; the Certificate of Designation of powers, preferences and rights of the Series C Preferred Stock was filed with the Secretary of the State of Delaware on March 30, 1998; the Certificate of Designation of powers, preferences and rights of the Series D Preferred Stock was filed with the Secretary of the State of Delaware on March 31, 1999 and amended on July 26, 2002, December 27, 2002, and February 19, 2004; the Certificate of Designation of powers, preferences and rights of the Series E Preferred Stock ("the Series E Certificate of Designation") was filed with the Secretary of the State of Delaware on May 12, 2000 and amended on June 27, 2002 and February 19, 2004; and the Certificate of Designation of powers, preferences and rights of the Royalty Acquisition Preferred Stock was filed with the Secretary of the State of Delaware on June 9, 1997 and amended on March 30, 1998.

THIRD: The Certificate of Designation of the Series F Preferred Stock attached hereto as Appendix I has been duly adopted in accordance with the provisions of Section 151 of the General Corporation Law of the State of Delaware by the directors of the Corporation.

IN WITNESS WHEREOF, the Corporation has caused this Certificate to be signed by Thomas B. Neff, its President, and Grace U. Shin, its Assistant Secretary, this 27th day of December 2004.

/s/ Thomas B. Neff
President

ATTEST:

/s/ Grace U. Shin
Assistant Secretary

APPENDIX I

WHEREAS, the Certificate of Incorporation, as amended (the "Restated Certificate") of this Corporation provides for a class of its authorized shares known as preferred stock, comprising 80,000,000 shares, issuable from time to time in one or more series;

WHEREAS, the Board of Directors is authorized to fix or alter the dividend rights, dividend rate, conversion rights, voting rights, rights and terms of redemption (including any sinking fund provisions), redemption price or prices and liquidation preferences of any wholly unissued series of preferred stock, and the number of shares constituting any such series and the designation thereof, or all or any of them;

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Series A Preferred Stock," consisting of 7,390,000 shares;

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Series B Preferred Stock," consisting of 14,100,000 shares;

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Series C Preferred Stock," consisting of 5,000,000 shares;

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Series D Preferred Stock," consisting of 6,818,183 shares;

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Series E Preferred Stock," consisting of 12,917,595 shares;

WHEREAS, the Board of Directors, pursuant to its authority as aforesaid, has previously fixed the powers, preferences and rights of a series of preferred stock designated the "Royalty Acquisition Preferred Stock," consisting of 8,000,000 shares; and

WHEREAS, it is now the desire of the Board of Directors, pursuant to its authority as aforesaid, to fix the powers, preferences and rights of a series of preferred stock designated the "Series F Preferred Stock";

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors does hereby provide for the issuance of an additional series of preferred stock of the Corporation, consisting of 23,380,874 shares designated as "Series F Preferred Stock," and does hereby fix and determine the powers, preferences and rights relating to said Series F Preferred Stock as hereinafter set forth.

The powers, preferences and rights granted to the Series F Preferred (as defined below) or the holders thereof are as follows:

1. Designation. The series of Preferred Stock shall be designated the "Series F Preferred Stock" ("Series F Preferred") and shall consist of 23,380,874 shares. The "Series A Preferred Stock" ("Series A Preferred"), the "Series B Preferred Stock" ("Series B Preferred"), the Series C Preferred Stock ("Series C Preferred"), the "Series D Preferred Stock" ("Series D Preferred"), the Series E Preferred Stock ("the Series E Preferred"), the Royalty Acquisition Preferred Stock ("Royalty Acquisition Preferred") and the Series F Preferred and any other series of Preferred Stock authorized by the Board of Directors of this Corporation are hereinafter referred to as "Preferred Stock" or "Preferred."

2. Dividend Rate and Rights.

(a) Dividends. Holders of the Series F Preferred, pari passu with the Series E Preferred and in preference to the holders of Series A Preferred A, Series B Preferred, Series C Preferred, Series D Preferred, Common Stock or any other stock of the Corporation ("Junior Stock"), shall be entitled to receive, when and as declared by the Board of Directors, but only out of funds that are legally available therefor, noncumulative cash dividends at the rate of eight percent (8%) of the "Original Issue Price" per annum on each outstanding share of Series F Preferred (as adjusted for any stock dividends, combinations, splits, reclassifications, recapitalizations and the like with respect to such shares). The Original Issue Price of the Series F Preferred shall be Four Dollars and Fifty-Five Cents ($4.55) per share (which amount shall be subject to adjustment whenever there shall occur a stock split, combination, reclassification or other similar event involving the Series F Preferred).

(b) Conversion of Dividends. In the event of the conversion of any shares of Series F Preferred pursuant to Section 5 hereof, all declared and unpaid dividends on such shares of Series F Preferred will be canceled and no dividends will be payable in respect of such shares of Series F Preferred, but instead the amount of declared but unpaid dividends on such shares of Series F Preferred will be taken into account in determining the number of shares of Common Stock into which such shares of Series F Preferred are convertible, as provided in Section 5 hereof.

(c) Dividends in Kind. In the event the Corporation shall make or issue, or shall fix a record date for the determination of holders of Junior Stock entitled to receive, a dividend or other distribution with respect to the Junior Stock payable in (i) securities other than shares of Common Stock of the Corporation or (ii) assets, then and in each such event the holders of Series F Preferred, pari passu with the holders of Series E Preferred, shall receive, at the same time such distribution is made with respect to Junior Stock, the number of securities or such other assets of the Corporation which they would have received had their Series F Preferred been converted into Common Stock immediately prior to the record date for determining holders of Junior Stock entitled to receive such distribution.

3. Liquidation, Dissolution or Winding Up.

(a) Treatment at Liquidation, Dissolution or Winding Up.

(1) In the event of any liquidation, dissolution, merger (where a change of control occurs), sale of all or substantially all of the assets of the Corporation, or winding up of the Corporation, whether voluntary or involuntary, (any of such events referred to herein as a "Liquidity Event") before any distribution may be made with respect to the Junior Stock, holders of each share of Series F Preferred and holders of each share of Series E Preferred shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock of all classes, whether such assets are capital, surplus, or capital earnings, an amount equal to the product of the number of shares held by such holder and the Original Issue Price of each such series (which amount shall be subject to equitable adjustment whenever there shall occur a stock dividend, combination, split, reclassification, recapitalization or other similar event involving the Series E Preferred and Series E Preferred) plus all declared and unpaid dividends thereon (collectively, the "Liquidation Amount"). If the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series F Preferred and holders of shares of Series E Preferred the full amount of the Liquidation Amount to which they shall be entitled, the holders of shares of Series F Preferred and holders of shares of Series E Preferred shall share ratably on a pro rata basis calculated upon the Original Issue Price of each such share of Series F Preferred or Series E Preferred (as defined in the "the Series E Certificate of Designation") in any distribution of assets according to the amounts which would be payable with respect to the Series F Preferred and holders of shares of Series E Preferred held by them upon such distribution if all amounts payable on or with respect to said shares were paid in full.

(2) Following any Reorganization described in Section 3(b) below, and upon completion of the distribution required by Section 3(a)(1) above, the remaining assets of the Corporation available for distribution to stockholders shall be distributed pursuant to Section 3(a)(3) below. In all other Liquidity Events, upon completion of the distribution required by Section 3(a)(1) above, the remaining assets of the Corporation available for distribution to stockholders shall be distributed to the holders of the Preferred Stock (other than the Series F Preferred and the Series E Preferred), in accordance with the respective Certificates of Designation of Powers, Preferences and Rights of such series of Preferred Stock, or the Certificate of Incorporation, as amended, as applicable.

(3) Upon completion of the distribution required by Section 3(a)(1) above, and Section 3(a)(2) above if applicable, the remaining assets of the

Corporation available for distribution shall be distributed to the holders of Common Stock and Preferred Stock (other than the Series E Preferred and the Series F Preferred) on an as converted to Common Stock basis, until each of such holders receives with respect to each Common Stock share equivalent up to, but not more than, the amount paid to with respect to each share of Series F Preferred pursuant to Section 3(a)(1) above. If the assets of the Corporation are not adequate to pay the amounts set forth in this Section 3(a)(3), the assets shall be distributed ratably amongst the holders of capital stock entitled to such distribution, on an as-converted to common stock basis.

(4) Upon completion of the distribution required by Sections 3(a)(1), (2) and (3) above, the remaining assets of the Corporation available for distribution to stockholders shall be distributed to the holders of the Preferred Stock and the holders of the Common Stock on a pro-rata basis assuming that each share of Preferred Stock has been converted into Common Stock.

(b) Treatment of Reorganizations. Any Reorganization (as such term is defined in Section 5(0), shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 3; provided, however, that each holder of Series F Preferred shall have the right to elect the benefits of the provisions of Section 5(0 hereof, if applicable, in lieu of receiving payment of amounts payable upon liquidation, dissolution or winding up of the Corporation pursuant to this Section 3.

(c) Distributions in Cash. The Liquidation Amount shall in all events be paid in cash; provided, however, that if the Liquidation Amount is payable in connection with a Reorganization, then each holder of the Series F Preferred may, at its election, receive payment of the Liquidation Amount in the same form of consideration as is payable with respect to the Junior Stock. Wherever a distribution provided for in this Section 3 is payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Corporation's Board of Directors.

4. Voting Power. Except as otherwise expressly provided in Section 7 hereof, or as required by law, each holder of Series F Preferred shall be entitled to vote on all matters and shall be entitled to that number of votes equal to the largest number of whole shares of Common Stock into which such holder's shares of Series F Preferred could be converted, pursuant to the provisions of Section 5 hereof, at the record date for the determination of stockholders entitled to vote on such matter or, if no such record date is established, at the date such vote is taken or any written consent of stockholder is solicited. Except as otherwise expressly provided herein or as required by law, the holders of shares of Series F Preferred and Common Stock shall vote together as a single class on all matters. Fractional votes shall not, however, be permitted and any fractional voting rights (after aggregating all shares into which shares of Series F Preferred held

by each holder could be converted) shall be rounded to the nearest whole number (with one-half being rounded upward).

5. Conversion into Common Stock. The holders of the Series F Preferred shall have the following rights with respect to the conversion of the Series F Preferred into shares of Common Stock (the "Conversion Rights"):

(a) General. Subject to and in compliance with the provisions of this Section 5, any share of the Series F Preferred may, at the option of the holder, be converted at any time into fully paid and non-assessable shares of Common Stock of the Corporation. The number of shares of Common Stock to which a holder of Series F Preferred shall be entitled upon conversion shall be the product obtained by multiplying the Applicable Conversion Rate (determined as provided in Section 5(b)) by the number of shares of Series F Preferred being converted.

(b) Applicable Conversion Rate. The conversion rate in effect at any time (the "Applicable Conversion Rate") shall be the quotient obtained by dividing the Original Issue Price by the Applicable Conversion Value, calculated as provided in Section 5(c).

(c) Applicable Conversion Value. The Applicable Conversion Value shall be the Original Issue Price, except that such amount shall be adjusted from time to time in accordance with Section 5(d).

(d) Adjustments to Applicable Conversion Values.

(1) Conversion Events.

(A) Upon Sale of Common Stock. If the Corporation shall, while there are any shares of Series F Preferred outstanding, issue or sell (or in accordance with Section 5(d)(1)(B) below is deemed to have issued or sold) shares of its Common Stock without consideration or at a price per share less than the Applicable Conversion Value in effect immediately prior to such issuance or sale, then in each such case such Applicable Conversion Value for the Series F Preferred, upon each such issuance or sale, except as hereinafter provided, shall be lowered so as to be equal to an amount determined by multiplying the Applicable Conversion Values by a fraction;

(i) the numerator of which shall be (a) the number of shares of Common Stock outstanding immediately prior to the issuance of such additional shares of Common Stock, plus (b) the number of shares of Common Stock which the net aggregate consideration, if any, received or to be received by the Corporation (in accordance with the Net Consideration Per Share in the case of warrants, options or

any other rights with respect to convertible or exchangeable securities) for the total number of such additional shares of Common Stock so issued would purchase at the Applicable Conversion Value in effect immediately prior to such issuance, and

(ii) the denominator of which shall be (a) the number of shares of Common Stock outstanding immediately prior to the issuance of such additional shares of Common Stock plus (b) the number of such additional shares of Common Stock so issued;

provided that for the purpose of clause (i) and (ii) of this Subsection 5(d)(1)(A), all shares of Common Stock issuable upon conversion of the outstanding shares of Preferred Stock and all shares of Common Stock issuable upon exercise of outstanding options, warrants and other convertible securities shall be deemed to be outstanding.

(B) Upon Issuance of Warrants, Options and Rights to Common Stock.

(i) For the purpose of this Section 5(d)(1), the issuance of any warrants, options, subscriptions, or purchase rights with respect to shares of Common Stock and the issuance of any securities convertible into or exchangeable for shares of Common Stock (or the issuance of any warrants, options or any rights with respect to such convertible or exchangeable securities) shall be deemed an issuance of such Common Stock at such time if the Net Consideration Per Share (as hereinafter determined) which may be received by the Corporation for such Common Stock shall be less than the Applicable Conversion Value at the time of such issuance. Any obligation, agreement, or undertaking to issue warrants, options, subscriptions, or purchase rights at any time in the future shall be deemed to be an issuance at the time such obligation, agreement or undertaking is made or arises. No adjustment of the Applicable Conversion Value shall be made under this Section 5(d)(I) upon the issuance of any shares of Common Stock which are issued pursuant to the exercise of any warrants, options, subscriptions, or purchase rights or pursuant to the exercise of any conversion or exchange rights in any convertible securities if any adjustment shall previously have been made or deemed not required hereunder, upon the issuance of any such warrants, options, or subscription or purchase rights or upon the issuance of any convertible securities (or upon the

issuance of any warrants, options or any rights therefor) as above provided.

(ii) Should the Net Consideration Per Share of any such warrants, options, subscriptions, or purchase rights or convertible securities be decreased from time to time (other than as a result of a stock split, stock dividend or other similar event), then, upon the effectiveness of each such change, the Applicable Conversion Value shall be adjusted to such Applicable Conversion Value as would have obtained (1) had the adjustments made upon the issuance of such warrants, options, rights, or convertible securities been made upon the basis of the decreased Net Consideration per share of such securities, and (2) had adjustments made to the Applicable Conversion Value since the date of issuance of such securities been made to the Applicable Conversion Value as adjusted pursuant to (1) above. Any adjustment of the Applicable Conversion Value with respect to this Section 5(d)(1)(B) which relates to warrants, options, subscriptions, purchase rights or convertible securities with respect to shares of Common Stock shall be disregarded if, as, when and to the extent such warranties, options, subscriptions, purchase rights or convertible securities expire or are cancelled without being exercised or converted, so that the Applicable Conversion Value effective immediately upon such cancellation or expiration shall be equal to the Applicable Conversion Value in effect at the time of the issuance of the expired or cancelled warrants, options, subscriptions, purchase rights, or convertible securities with such additional adjustments as would have been made to all Applicable Conversion Value had the expired or cancelled warrants, options, subscriptions, purchase rights or convertible securities not been issued.

For purposes of this paragraph, the “Net Consideration Per Share” which may be received by the Corporation shall be determined as follows:

(a) The “Net Consideration Per Share” shall mean the amount equal to the total amount of consideration, if any, received by the Corporation for the issuance of such warrants, options, subscriptions, or other purchase rights or convertible or exchangeable securities, plus the minimum amount of consideration, if any, payable to the Corporation upon exercise or conversion thereof, divided by the

aggregate number of shares of Common Stock that would be issued if all such warrants, options, subscriptions, or other purchase rights or convertible or exchangeable securities were exercised, exchanged, or converted.

(b) The "Net Consideration Per Share" which may be received by the Corporation shall be determined in each instance as of the date of issuance of warrants, options, subscriptions, or other purchase rights or convertible or exchangeable securities without giving effect to any possible future upward price adjustments or rate adjustments which may be applicable with respect to such warrants, options, subscriptions, or other purchase rights or convertible exchangeable securities.

(C) Stock Dividends. In the event the Corporation shall make or issue a dividend or other distribution payable in Common Stock or securities of the Corporation convertible into or otherwise exchangeable for the Common Stock of the Corporation, then such Common Stock or other securities issued in payment of such dividend shall be deemed to have been issued without consideration (except for dividends payable in shares of Common Stock payable pro rata to holders of Series F Preferred and to holders of any other class of stock).

(D) Consideration Other than Cash. For purposes of this Section 5(d)(1), if a part or all of the consideration received by the Corporation in connection with the issuance of shares of the Common Stock or the issuance of any of the securities described in this Section 5(d) consists of property other than cash, such consideration shall be deemed to have a fair market value as is reasonably determined in good faith by the Board of Directors of the Corporation.

(E) Exceptions. This Section 5(d)(1) shall not apply under any of the circumstances that would constitute an Extraordinary Common Stock Event (as hereinafter defined in Section 5(d)(2)). Further, the provisions of this Section 5(d) shall not apply to (i) shares issued upon conversion of Preferred Stock, (ii) Common Stock and/or bona fide options (and the shares issuable upon exercise thereof) issued to employees, directors and consultants of the Corporation pursuant to written stock option or stock purchase plans or arrangements that have been approved by the stockholders of the Corporation (within one year of the date of adoption), or (iii) shares issued in connection with the exercise of convertible securities, warrants or options or other contractual obligations in

connection with the rollup of Skin Sciences, Inc. into the Corporation, outstanding as of the date of the first sale of Series F Preferred.

(2) Upon Extraordinary Common Stock Event. Upon the happening of an Extraordinary Common Stock Event (as hereinafter defined), the Applicable Conversion Value for the Series F Preferred shall, simultaneously with the happening of such Extraordinary Common Stock Event, be adjusted by multiplying the then effective Applicable Conversion Value with respect to the Series F Preferred by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately prior to such Extraordinary Common Stock Event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such Extraordinary Common Stock Event, and the product so obtained shall thereafter be the Applicable Conversion Value. The Applicable Conversion Value for the Series F Preferred shall be readjusted in the same manner upon the happening of any successive Extraordinary Common Stock Event or Events.

"Extraordinary Common Stock Event" shall mean (i) the issue of additional shares of Common Stock as a dividend or other distribution on outstanding Common Stock or on any class or series of preferred stock, unless made pro rata to holders of Series F Preferred, (ii) a subdivision of outstanding shares of Common Stock into a greater number of shares of Common Stock, or (iii) a combination of outstanding shares of the Common Stock into a smaller number of shares of Common Stock.

(e) Capital Reorganization or Reclassification. If the Common Stock issuable upon the conversion of the Series F Preferred shall be changed into the same or different number of shares of any class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares or stock dividend or distribution provided for elsewhere in this Section 5 or by a Reorganization), then and in each such event, the holder of each share of Series F Preferred shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such capital reorganization, reclassification or other change by holders of the number of shares of Common Stock into which such shares of Series F Preferred might have been converted immediately prior to such capital reorganization, reclassification or other change.

(f) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, reclassification or exchange of shares provided for

elsewhere in this Section 5) or a merger or consolidation of the Corporation with or into another corporation or other entity or person (other than the merger of a wholly or majority owned subsidiary into the Corporation), or any other corporate reorganization, in which the stockholders of the Corporation immediately prior to such consolidation, merger or reorganization, own less than fifty percent (50%) of the Corporation's voting power immediately after such consolidation, merger or reorganization, or the sale of all or substantially all of the Corporation's properties and assets to any other person, or the sale of a majority of the voting securities of the Corporation in one transaction or a series of related transactions (any of which events is herein referred to as a "Reorganization") then as a part of such Reorganization, provision shall be made so that the holders of the Series F Preferred shall thereafter be entitled to receive upon conversion of the Series F Preferred, the number of shares of stock or other securities or property of the Corporation, or of the successor corporation resulting from such Reorganization, to which such holder would have been entitled if such holder had converted its shares of Series F Preferred immediately prior to such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 5 with respect to the rights of the holders of the Series F Preferred after the Reorganization, to the end that the provisions of this Section 5 (including adjustment of the Applicable Conversion Value then in effect and the number of shares issuable upon conversion of the Series F Preferred) shall be applicable after that event in as nearly equivalent a manner as may be practicable.

Upon the occurrence of a Reorganization, under circumstances which make the preceding paragraph applicable, each holder of Series F Preferred shall have the option of electing treatment for his shares of Series F Preferred under either this Section 5(f) or Section 3 hereof, notice of which election shall be submitted in writing to the Corporation at its principal offices no later than ten (10) business days before the effective date of such event.

(g) Certificate as to Adjustments; Notice by Corporation. In each case of an adjustment or readjustment of the Applicable Conversion Rate, the Corporation, at its expense, will furnish each holder of Preferred Stock with a certificate, executed by the president and chief financial officer (or in the absence of a person designated as the chief financial officer, by the treasurer) showing such adjustment or readjustment, and stating in detail the facts upon which such adjustment or readjustment is based.

(h) Exercise of Conversion Privilege. To exercise its conversion privilege, a holder of Series F Preferred shall surrender the certificate or certificates representing the shares being converted to the Corporation at its principal office, and shall give written notice to the Corporation at that office that such holder elects to convert such shares. Such notice shall also state the name or names (with address or addresses) in which the certificate or certificates for shares of Common Stock issuable upon such conversion shall be issued. The certificate or certificates for shares of Series F Preferred surrendered for conversion shall be accompanied by

proper assignment thereof to the Corporation or in blank. The date when such written notice is received by the Corporation, together with the certificate or certificates representing the shares of Series F Preferred being converted, shall be the "Conversion Date." As promptly as practicable after the Conversion Date, the Corporation shall issue and shall deliver to the holder of the shares of Series F Preferred being converted, or on its written order, such certificate or certificates as it may request for the number of whole shares of Common Stock issuable upon conversion of such shares of Series F Preferred in accordance with the provisions of this Section 5, and cash, as provided in Section 5(i), in respect of any fraction of a share of Common Stock issuable upon such conversion. Such conversion shall be deemed to have been effected immediately prior to the close of business on the Conversion Date, and at such time the rights of the holder as holder of the converted shares of Series F Preferred shall cease and the person or persons in whose name or names any certificate or certificates for shares of Common Stock shall be issuable upon such conversion shall be deemed to have become the holder or holders of record of the shares of Common Stock represented thereby. The Corporation shall pay any taxes payable with respect to the issuance of Common Stock upon conversion of the Series F Preferred, other than any taxes payable with respect to income by the holders thereof.

(i) Cash in Lieu of Fractional Shares. The Corporation may, if it so elects, issue fractional shares of Common Stock or script representing fractional shares upon the conversion of shares of Series F Preferred. If the Corporation does not elect to issue fractional shares, the Corporation shall pay to the holder of the shares of Series F Preferred which were converted a cash adjustment in respect of such fractional shares in an amount equal to the same fraction of the market price per share of the Common Stock (as determined in a reasonable manner prescribed by the Board of Directors) at the close of business on the Conversion Date. The determination as to whether or not any fractional shares are issuable shall be based upon the total number of shares of Series F Preferred being converted at any one time by any holder thereof, not upon each share of Series F Preferred being converted.

(j) Partial Conversion. In the event some but not all of the shares of Series F Preferred represented by a certificate or certificates surrendered by a holder are converted, the Corporation shall execute and deliver to or on the order of the holder, at the expense of the Corporation, a new certificate representing the number of shares of Series F Preferred which were not converted.

(k) Reservation of Common Stock. The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series F Preferred, such number of its shares of Common Stock as shall, from time to time, be sufficient to effect the conversion of all outstanding shares of the Series F Preferred, and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then

outstanding shares of the Series F Preferred, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purpose.

(l) Minimum Adjustment. Any provision of this Section 5 to the contrary notwithstanding, no adjustment in the Applicable Conversion Value shall be made if the amount of such adjustment would be less than 1% of the Applicable Conversion Value then in effect, but any such amount shall be carried forward and an adjustment with respect thereto shall be made at the time of and together with any subsequent adjustment which, together with all amounts so carried forward, aggregate 1% or more of the Applicable Conversion Value then in effect.

(m) Mandatory Conversion. Each share of Series F Preferred shall automatically be converted into shares of Common Stock, based on the then-effective Applicable Conversion Rate, as applicable, (A) at any time upon the affirmative election of the holders of at least fifty percent (50%) of the outstanding shares of the Series F Preferred voting as a single class, or (B) immediately upon (1) the closing of a Qualified Public Offering (as herein after defined). For purposes hereof, the term "Qualified Public Offering" shall mean an underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Act"), covering the offer and sale of the Corporation's securities in which (i) the per share price is at least one hundred twenty five percent (125%) of the Original Issue Price (as adjusted for stock splits, etc.) and (ii) the gross cash proceeds to the Corporation (before underwriting discounts, commissions and fees) are at least Fifty Million Dollars ($50,000,000) and (2) listing of the shares of Common Stock of the Corporation on the New York Stock Exchange, American Stock Exchange, NASDAQ National Market or NASDAQ Small Cap Market. Holders of shares subject to conversion shall deliver to the Corporation at its principal office (or such other office or agency as the Corporation may designate by notice in writing) during its usual business hours, the certificate or certificates for shares of Series F Preferred being converted, and the Corporation shall issue and deliver to such holders certificates for the number of shares of Common Stock to which such holders are entitled. Until such time as holders of shares of Series F Preferred shall surrender those certificates therefor as provided above, such certificates shall be deemed to represent the shares of Common Stock to which the holders shall be entitled upon the surrender thereof.

6. No Reissuance of Preferred Stock. No share of Series F Preferred acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be cancelled, retired and eliminated from the shares that the Corporation shall be authorized to issue. The Corporation may from time to time take such appropriate corporate action as may be necessary to reduce the authorized number of shares of the Series F Preferred accordingly.

7. Restrictions and Limitations. Except as expressly provided herein or as required by law, so long as any shares of Series F Preferred remain outstanding, the Corporation shall not, without the approval by vote or written consent by the holders of at least a majority of the then outstanding shares of Series F Preferred, voting as a separate class:

(a) authorize or issue, or increase or decrease the authorized number of, (other than by redemption or conversion) any shares of Common Stock or Preferred Stock or shares of any new class or series of stock or any other securities convertible into equity securities of the Corporation ranking (i) on a parity with or senior to the Series F Preferred in liquidation preference, voting or dividends or (ii) senior to the Series F Preferred in rights of redemption; provided, that, in addition to the shares of Series F Preferred currently authorized for issuance, the Corporation may, without such affirmative vote of holders of the Series F Preferred, authorize, issue and sell up to an additional 2,338,087 shares of Series F Preferred at any time;

(b) redeem or repurchase any capital stock or pay dividends or other distributions with respect to capital stock of the Corporation (except for acquisitions of Common Stock by the Corporation pursuant to agreements which permit the Corporation to repurchase such shares upon termination of services to the Corporation or in exercise of the Corporation's right of first refusal upon a proposed transfer);

(c) take any action or agreement by the Corporation or its stockholders regarding a Reorganization in which the consideration paid or proposed to be paid to the Corporation or the holders of capital stock of the Corporation implies a price or value per share of the Series F Preferred less than the Liquidation Amount;

(d) take any action or knowingly fail to take any action that would result in or effectuate the liquidation, dissolution or winding up of the Corporation; or

(e) effectuate any amendment, alteration, or repeal of any provision of the Certificate of Incorporation, as amended, or the Bylaws of the Company that alters or changes the voting powers, preferences, or other special rights or privileges, qualifications, limitations, or restrictions of the Series F Preferred.

8. No Dilution or Impairment. Without the consent of the holders of the then outstanding Series F Preferred, as required under Section 7, the Corporation shall not amend its Certificate of Incorporation or participate in any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or take any other voluntary action, for the purpose of avoiding or seeking to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, but shall at all times in good faith assist in carrying out all such action as may be reasonably necessary or appropriate in order to protect the conversion rights of the holders of the Series F Preferred against dilution or other impairment.

9. Notices of Record Date. In the event of

(a) any taking by the Corporation of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend or other distribution, or any right to subscribe for, purchase or otherwise acquire any shares of stock of any class or any other securities or property, or to receive any other right, or

(b) any capital reorganization of the Corporation, any reclassification or recapitalization of the capital stock of the Corporation, any merger of the Corporation, or any transfer of all or substantially all of the assets of the Corporation to any other corporation, or any other entity or person, or

(c) any voluntary or involuntary dissolution, liquidation or winding up of the Corporation,

then and in each such event the Corporation shall mail or cause to be mailed to each holder of Series F Preferred a notice specifying (i) the date on which any such record is to be taken for the purpose of such dividend, distribution or right and a description of such dividend, distribution, or right, (ii) the date on which any such reorganization, reclassification, recapitalization, transfer, merger, dissolution, liquidation or winding up is expected to become effective and (iii) the time, if any, that is to be fixed, as to when the holders of record of Common Stock (or other securities) shall be entitled to exchange their shares of Common Stock (or other securities) shall be entitled to exchange their shares of Common Stock (or other securities) for securities or other property deliverable upon such reorganization, reclassification, recapitalization, transfer, merger, dissolution, liquidation or winding up. Such notice shall be mailed at least ten (10) business days prior to the date specified in such notice on which such action is to be taken.

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATIONS
OF
SERIES F CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen,

2. The Certificate of Designations of Series F Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State effective December 27, 2004, is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"(1) Number and Designation. 23,723,333 shares of the Preferred Stock of the Corporation shall be designated as Series F convertible Preferred Stock ("**Series F, Preferred Stock**")."

3. The Amendment of the Certificate of Designations of Series F Convertible Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 31st day of January, 2005.

/s/ Grace U. Shin, Assistant Secretary
Grace U. Shin, Assistant Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATIONS
OF
SERIES F CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The Certificate of Designations of Series F Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State effective December 27, 2004, and amended on January 31, 2005, is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"(1) Designation. The series of Preferred Stock shall be designated the "Series F Preferred Stock" ("Series F Preferred") and shall consist of 25,718,961 shares. The "Series A Preferred Stock" ("Series A Preferred"), the "Series B Preferred Stock" ("Series B Preferred"), the Series C Preferred Stock ("Series C Preferred"), the "Series D Preferred Stock" ("Series D Preferred"), the Series E Preferred Stock ("the Series E Preferred"), the Royalty Acquisition Preferred Stock ("Royalty Acquisition Preferred") and the Series F Preferred and any other series of Preferred Stock authorized by the Board of Directors of this Corporation are hereinafter referred to as "Preferred Stock" or "Preferred."

3. The Amendment of the Certificate of Designations of Series F Convertible Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 7th day of November, 2005.

/s/ Julian Stern
Julian Stern, Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF INCORPORATION
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The certificate of incorporation of the Corporation is hereby amended by striking out the first paragraph of Article Fourth and substituting in lieu of said paragraph the following new paragraph:

"FOURTH. The total number of shares of all classes of capital stock which the corporation shall have the authority to issue is Two Hundred Thirty Six Million Six Hundred Sixty Six Thousand Six Hundred Sixty Seven (236,666,667) shares, comprised of One Hundred Fifty Million (150,000,000) shares of Common Stock with a par value of One Cent ($.01) per share (the "Common Stock") and Eighty Six Million Six Hundred Sixty Six Thousand Six Hundred Sixty Seven (86,666,667) shares of Preferred Stock with a par value of One Cent ($.01) per share (the "Preferred Stock")."

3. The Amendment of the certificate of incorporation herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 20th day of December, 2006.

/s/ Michael Lowenstein
Michael Lowenstein,
Assistant Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATIONS
OF
ROYALTY ACQUISITION PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The Certificate of Designations of Royalty Acquisition Preferred Stock of the Corporation filed with the Delaware Secretary of State (as the Series C Convertible Preferred Certificate of Designation) effective June 19, 1997, as amended on March 30, 1998, is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"(1) Number and Designation. 7,074,357 shares of the Preferred Stock of the Corporation shall be designated as Royalty Acquisition Preferred Stock ("**Royalty Acquisition Preferred Stock**")."

3. The Amendment of the Certificate of Designations of Royalty Acquisition Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 20th day of December, 2006.

/s/ Julian Stern
Julian Stern, Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATIONS
OF
SERIES A CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The Certificate of Designations of Series A Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State effective December 14, 1993 is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"(1) Number and Designation. 7,382,500 shares of the Preferred Stock of the Corporation shall be designated as Series A Convertible Preferred Stock ("**Series A Preferred Stock**")."

3. The Amendment of the Certificate of Designations of Series A Convertible Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 20th day of December, 2006.

/s/ Julian Stern
Julian Stern, Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATIONS
OF
SERIES B CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The Certificate of Designations of Series B Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State effective November 8, 1995, as amended on October 17, 1997 and April 19, 1996, is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"(1) Number and Designation. 14,036,608 shares of the Preferred Stock of the Corporation shall be designated as Series 13 Convertible Preferred Stock ("**Series B Preferred Stock**")."

3. The Amendment of the Certificate of Designations of Series B Convertible Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 20th of December, 2006.

/s/ Julian Stern
Julian Stern, Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATIONS
OF
SERIES C CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The Certificate of Designations of Series C Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State (as the Series D Convertible Preferred Certificate of Designation) effective June 19, 1997, as amended on March 30, 1998 is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"(1) Number and Designation. 3,535,077 shares of the Preferred Stock of the Corporation shall be designated as Series C Convertible Preferred Stock ("**Series C Preferred Stock**")."

3. The Amendment of the Certificate of Designations of Series C Convertible Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 20th day of December, 2006.

/s/ Julian Stern, Secretary
Julian Stern, Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATIONS
OF
SERIES D CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The Certificate of Designations of Series D Convertible Preferred Stock of the Corporation filed with the Delaware Secretary of State effective March 31, 1999 and amended on February 19, 2004, July 26, 2002 and December 27, 2002 is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"(1) Number and Designation. 7,098,128 shares of the Preferred Stock of the Corporation shall be designated as Series D Convertible Preferred Stock ("Series D Preferred Stock")."

3. The Amendment of the Certificate of Designations of Series D Convertible Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 20th day of December, 2006.

/s/ Julian Stern
Julian Stern, Secretary

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF DESIGNATION OF POWERS,
PREFERENCES AND RIGHTS OF THE SERIES E PREFERRED STOCK
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The Certificate of Designations of Series E Preferred Stock of the Corporation filed with the Delaware Secretary of State effective May 1, 2000, as amended on June 19, 2004 and June 27, 2002, is hereby amended by substituting in lieu of Section 1 the following new Section 1:

"Designation. The series of Preferred Stock shall be designated the "Series E Preferred Stock" ("Series E Preferred") and shall consist of 12,621,221 shares. The "Series A Preferred Stock" ("Series A Preferred"), the "Series B Preferred Stock" ("Series B Preferred"), the Series C Preferred Stock ("Series C Preferred"), the "Series D Preferred Stock" ("Series D Preferred"), the Royalty Acquisition Preferred Stock ("Royalty Acquisition Preferred") and the Series E Preferred and any other series of Preferred Stock authorized by the Board of Directors of this Corporation are hereinafter referred to as "Preferred Stock" or "Preferred.""

3. The Amendment of the Certificate of Designations of Royalty Acquisition Preferred Stock herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 20th day of December, 2006.

/s/ Julian Stern
Julian Stern, Secretary

CERTIFICATE OF DESIGNATIONS
OF
SERIES G-1 CONVERTIBLE PREFERRED STOCK
OF
FIBROGEN, INC.

FIBROGEN, INC., a Delaware corporation (the "**Corporation**"), pursuant to the provisions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Designations and does hereby state and certify that pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation of the Corporation, the Board of Directors has duly adopted the following resolutions:

RESOLVED, that, pursuant to Article FOURTH of the Certificate of Incorporation, which authorizes 86,666,667 shares of preferred stock, $.01 par value ("**Preferred Stock**"), the Board of Directors hereby fixes the powers, designations, preferences and relative, participating, optional and other rights, and the qualifications, limitations and restrictions, of a series of Preferred Stock.

RESOLVED, that each share of such series of Preferred Stock shall rank equally in all respects and shall be subject to the following provisions:

(1) Number and Designation. 9,199,761 shares of the Preferred Stock of the Corporation shall be designated as Series G-1 Convertible Preferred Stock ("**Series G-1 Preferred Stock**").

(2) Rank. The Series G-1 Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank prior to all classes of the Corporation's common stock, $.01 par value ("**Common Stock**") and the Royalty Acquisition Preferred Stock. The Series G-1 Preferred Stock shall, with respect to rights on liquidation, dissolution and winding up, rank equally with the Series A Convertible Preferred Stock ("**Series A Preferred Stock**"), the Series B Convertible Preferred Stock ("**Series B Preferred Stock**"), the Series C Convertible Preferred Stock ("Series C Preferred Stock") and the Series D Convertible Preferred Stock ("**Series D Preferred Stock**"). All equity securities of the Corporation to which the Series G-1 Preferred Stock ranks prior (whether with respect to liquidation, dissolution, winding up or otherwise), including the Common Stock, are collectively referred to herein as the "**Junior Securities**." All equity securities of the Corporation with which the Series G-1 Preferred Stock ranks on a parity (whether with respect to liquidation, dissolution, winding up or otherwise), including Series A Preferred Stock, the Series B Convertible Preferred Stock the Series C Preferred Stock and the Series D Preferred Stock, are collectively referred to herein as the "**Parity Securities**." All equity securities of the Corporation to which the Series G-1 Preferred Stock ranks junior (whether with respect to liquidation, dissolution, winding up or otherwise), are collectively referred to herein as the "Senior Securities". The respective definitions of Junior Securities, Parity Securities and Senior Securities shall also include any rights, options or

warrants exercisable for any of the Junior Securities, Parity Securities and Senior Securities, as the case may be. The Series G-1 Preferred Stock shall be subject to the creation of Junior Securities, Parity Securities and Senior Securities.

(3) Dividends. The holders of shares of Series G-1 Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of funds legally available for the payment of dividends, to the extent as, on the same basis as, at the same rate as, and contemporaneously with, cash dividends when, as and if declared by the Board of Directors with respect to shares of any Common Stock, the Royalty Acquisition Preferred Stock, or Parity Securities. Such dividends shall be paid to the holders of record at the close of business on the record date specified by the Board of Directors of the Corporation at the time such dividend is declared, provided, however, that such record date shall not be more than 60 days or less than 10 days prior to the applicable dividend payment date.

(4) Conversion.

(a) Each share of Series G-1 Preferred Stock shall be convertible, at the option of the holder thereof except as otherwise provided in paragraph (4)(b) below, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and non-assessable shares (calculated as to each conversion to the nearest 1/100th of a share) of Common Stock as is determined by dividing $7.50 by the Conversion Price (as defined below) applicable to such share, determined as hereinafter provided, in effect on the date the certificate is surrendered for conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series G-1 Preferred Stock (the "**Conversion Price**") shall initially be $7.50 per share of Common Stock. Such initial Conversion Price shall be adjusted as hereinafter provided.

(b) Notwithstanding anything to the contrary herein, each outstanding share of Series G-1 Preferred stock shall automatically convert upon a public offering of Common Stock if the total aggregate proceeds to the Corporation before underwriting commissions and expenses are at least $10,000,000.

(c) Before any holder of Series G-1 Preferred Stock shall be entitled to receive a certificate or certificates for shares of Common Stock upon conversion, such holder shall surrender the certificate or certificates for the holder's shares of Series G-1 Preferred Stock, duly endorsed, at the office of the Corporation or of any transfer agent for such stock, and, unless such conversion is automatic pursuant to clause (b) above, shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name or names in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series G-1 Preferred Stock, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made (i) in the case such conversion is automatic pursuant to clause (b) above, upon the effectiveness of the registration statement relating to such offering, and (ii) in all other cases, immediately prior to the close of business on the date of surrender of the shares of Series G-1 Preferred Stock to be converted (in either case, the "Conversion Date"), and the person or persons entitled to receive the shares of Common Stock

issuable upon such conversion shall be treated for all purposes as the record holder or record holders of such shares of Common Stock on such date.

(d) All shares of Series G-1 Preferred Stock which have been converted as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall forthwith cease and terminate, except only the right of the holders thereof, subject to the provisions of clause (c) of this paragraph (4), to receive shares of Common Stock in exchange therefor.

(e) In case:

(i) the Corporation shall declare a dividend (or any other distribution) on Common Stock payable otherwise than in cash out of its retained earnings; or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any other rights; or

(iii) of any reclassification of the Common Stock (other than a subdivision, split or combination of its outstanding shares of Common Stock), or of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation is required, or of the sale or transfer of all or substantially all of the assets of the Corporation; or

(iv) of the voluntary or involuntary dissolution, liquidation or winding up of the Corporation;

then the Corporation shall cause to be mailed to each holder of shares of Series G-1 Preferred Stock at its address as shown on the books of the Corporation, at least 30 days (or 20 days in any case specified in clause (i) or (ii) above) prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, rights or warrants, or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined, or (y) the date on which such reclassification, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding up.

(f) For the purposes of this paragraph (4), the term “Common Stock” shall mean (i) the class of stock designated as the Common Stock of the Corporation on the date of this Certificate of Designations, and (ii) any other class of common stock, including any class resulting from successive changes or reclassifications of such Common Stock consisting solely of changes in par value or from no par value to par value or from par value to no par value.

(g) No fractional share of Common Stock, or scrip representing a fractional share, shall be issuable upon the conversion of any Series 0-1 Preferred Stock. If a

certificate or certificates representing more than one share of Series G-1 Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares of Common Stock issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares represented by certificates so surrendered. If any fractional interest in a share of Common Stock would be deliverable upon the conversion of any shares of Series G-1 Preferred Stock, the Corporation shall pay, in lieu thereof, in cash the Conversion Price thereof as of the business day immediately preceding the date of such conversion.

(h) Such number of shares of Common Stock as may from time to time be required for such purpose shall be reserved for issuance upon conversion of outstanding shares of Series G-1 Preferred Stock.

(i) If the Corporation shall at any time or from time to time effect a subdivision or stock split of the outstanding Common Stock, the Conversion Price of the Series G-1 Preferred Stock then in effect immediately before that subdivision or stock split shall be proportionately decreased. If the Corporation shall at any time or from time to time combine the outstanding shares of Common Stock, the Conversion Price of the Series G-1 Preferred Stock then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision, stock split or combination, as the case may be, becomes effective.

(j) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price of the Series G-1 Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of the Series G-1 Preferred Stock then in effect by a fraction:

(1) the denominator of which shall be the sum of the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, plus the number of shares of Common Stock issuable in payment of such dividend or distribution, and

(2) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of Series G-1 Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of Series G-1 Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment or issuance of such dividends or distributions.

(k) In the event the Corporation at any time or from time to time shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares

of Common Stock, then and in each such event provision shall be made so that the holders of Series G-1 Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of such other securities of the Corporation that they would have received had their Series G-1 Preferred Stock been converted into Common Stock on the date, or the record date, of such event and had thereafter, during the period from the date of such event to and including the Conversion Date, retained such securities receivable by them as aforesaid during such period, all subject to further adjustment as provided herein during such period.

(l) If the Common Stock issuable upon the conversion of the Series G- 1 Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, exchange, substitution or otherwise, then and in each such event the holder of each such share of Series G-1 Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, exchange, substitution or other change, by holders of the number of shares of Common Stock into which such shares of Series G-1 Preferred Stock might have been converted immediately prior to such reorganization, reclassification, exchange, substitution or other change, all subject to further adjustment as provided herein.

(5) Liquidation Preference.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, the holders of shares of Series G-1 Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its shareholders an amount in cash equal to $7.50 for each share outstanding, plus an amount in cash equal to all declared but unpaid dividends thereon to the date fixed for liquidation, dissolution or winding up before any payment shall be made or any assets distributed to the holders of any Junior Securities. If the assets of the Corporation, or the proceeds thereof, are not sufficient to pay in full the liquidation payments payable to the holders of outstanding shares of the Series G-1 Preferred Stock and any Parity Securities, then the holders of all such shares shall share ratably in such distribution of assets, or the proceeds thereof, in accordance with the amount which would have been payable on such distribution if the amounts to which the holders of outstanding shares of Series G-1 Preferred Stock and the holders of outstanding shares of such Parity Securities are entitled were paid in full. Except as provided in this paragraph (5)(a), holders of Series G-1 Preferred Stock shall not be entitled to any distribution in the event of liquidation, dissolution or winding up of the affairs of the Corporation.

(b) For the purposes of this paragraph (5), neither the voluntary sale, conveyance, exchange or transfer (for cash, shares of stock, securities or other consideration) of all or substantially all the property or assets of the Corporation nor the consolidation or merger of the Corporation with or into one or more other corporations shall be deemed to be a liquidation, dissolution or winding up of the Corporation, voluntary or involuntary unless such voluntary sale, conveyance, exchange or transfer, or merger or consolidation, shall be in connection with a plan of liquidation, dissolution or winding up of the Corporation.

(6) Voting. In addition to any voting rights provided by law and to any voting

rights of the holders of the Series G-1 Preferred Stock, as or as part of a separate class or series, pursuant to this Certificate or any provision of the Certificate of Incorporation of the Corporation, the holder of each outstanding share of Series G-1 Preferred Stock shall be entitled to vote on any matter voted on by holders of Common Stock, voting together as a single class with the holders of the Common Stock and any other shares entitled to vote in the ordinary course and shall be entitled to that number of votes equal to the largest number of whole shares of Common Stock into which such holder's shares of Series GI Preferred Stock could be converted, pursuant to the provisions of Section 4 hereof, at the record date for the determination of stockholders entitled to vote on such matter or, if no such record date is established, at the date such vote is taken or any written consent of stockholder is solicited.

(7) Reports. So long as any of the Series G-1 Preferred Stock is outstanding, the Corporation will furnish the holders thereof with the quarterly and annual financial reports, if any, that the Corporation is required to file with the Securities and Exchange Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934.

(8) General Provisions.

(a) The term "**person**" as used herein means any corporation, partnership, trust, organization, association, other entity or individual.

(b) The term "**outstanding**," when used with reference to shares of stock, shall mean issued shares, excluding shares held by the Corporation or any subsidiary of the Corporation.

(c) The headings of the paragraphs, subparagraphs, clauses and subclauses of this Certificate of Designations are for convenience of reference only and shall not define, limit or affect any of the provisions hereof.

IN WITNESS WHEREOF, FIBROGEN, Inc. has caused this Certificate of Designations to be signed and attested by the undersigned this 21st day of December, 2006.

FIBROGEN, INC.

By: /s/ Michael Lowenstein
Michael Lowenstein, Assistant Secretary

CERTIFICATE OF OWNERSHIP

MERGING

Imigen Systems, Inc.

INTO

FibroGen, Inc.

(Subsidiary into parent pursuant to Section 253 of the General Corporation Law of Delaware)

*** * * * * * ***

FibroGen, Inc., a corporation incorporated on the 29th day of September, 1993, pursuant to the provisions of the General Corporate Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: That this corporation owns more than 90% of the capital stock of **Imigen Systems, Inc.**, a corporation incorporated on the 19th day of June, 2002 A.D., pursuant to the provisions of the General Corporate Law of the State of Delaware and that this corporation, by a resolution of its Board of Directors duly adopted at a meeting held on the 7th day of December, 2011 A.D., determined to and did merge into itself said Imigen Systems, Inc., which resolution is in the following words to wit:

WHEREAS this corporation lawfully owns 100% of the outstanding stock of Imigen Systems, Inc., a corporation organized and existing under the laws of the state of Delaware, and

WHEREAS this corporation desires to merge into itself the said Imigen Systems, Inc., and to be possessed of all the estate, property, rights, privileges and franchises of said corporation,

NOW, THEREFORE, BE IT RESOLVED, that this corporation merge into itself said Imigen Systems, Inc. and assumes all of its obligations, and

FURTHER RESOLVED, that an authorized officer of this corporation be and he or she is hereby directed to make and execute a certificate of ownership setting forth a copy of the resolution to merge said Imigen Systems, Inc. and assume its liabilities and obligations, and the date of adoption thereof, and to file

the same in the office of the Secretary of State of Delaware, and

FURTHER RESOLVED, that the officers of this corporation be and they hereby are authorized and directed to do all acts and things whatsoever, whether within or without the State of Delaware; which may be in any way necessary or proper to effect said merger.

IN WITNESS WHEREOF, said parent corporation has caused its corporate seal to be affixed and this Certificate to be signed by an authorized officer this 29th day of December, 2011.

By: /s/ Thomas B. Neff

Name: Thomas B. Neff

Title: President and CEO

CERTIFICATE OF AMENDMENT OF THE
CERTIFICATE OF INCORPORATION
OF
FIBROGEN, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is FibroGen, Inc.

2. The certificate of incorporation of the Corporation is hereby amended by striking out the first paragraph of the Fourth Article and substituting in lieu of said paragraph the following new paragraph:

"FOURTH. The total number of shares of all classes of capital stock which the corporation shall have the authority to issue is Three Hundred Fifty Million (350,000,000) shares, comprised of Two Hundred Twenty-Five Million (225,000,000) shares of Common Stock with a par value of One Cent ($.01) per share (the "Common Stock") and One Hundred Twenty-Five Million (125,000,000) shares of Preferred Stock with a par value of One Cent ($.01) per share (the "Preferred Stock")."

3. The Amendment of the certificate of incorporation herein has been duly adopted in accordance with the provisions of Section 228 and 242 of the Delaware General Corporation Law.

Executed this 22nd day of March, 2012.

/s/ Julian Stern
Julian Stern
Corporate Secretary

FIBROGEN, INC.

B Y L A W S

ARTICLE I

OFFICES

Section 1. Offices. The registered office of the Corporation shall be in the State of Delaware. The Corporation may have offices at such other places both within and without the State of Delaware as the Board of Directors may from time to time determine or as may be necessary or convenient to the business of the Corporation.

ARTICLE II

MEETINGS OF STOCKHOLDERS

Section 1. Annual Meeting. The annual meeting of the stockholders of the Corporation shall be held on such date, at such time, and at such place (if any) within or without the State of Delaware as shall be designated from time to time by the Board of Directors and stated in the notice of the meeting. In lieu of holding an annual meeting of stockholders at a designated place, the Board of Directors may, in its sole discretion, determine that any annual meeting of stockholders may be held solely by means of remote communication.

Section 2. Special Meetings. Special meetings of the stockholders of the Corporation shall be held on such date, at such time, and at such place (if any) within or without the State of Delaware as shall be designated from time to time by the Chairperson of the Board or the Board of Directors and stated in the notice of the meeting. In lieu of holding a special meeting of stockholders at a designated place, the Board of Directors may, in its sole discretion, determine that any special meeting of stockholders may be held solely by means of remote communication.

Section 3. Notice of Meetings and Record Date. (a) The Corporation shall give notice of any annual or special meeting of stockholders. Notices of meetings of the stockholders shall state the place, if any, date, and hour of the meeting, and the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting. In the case of a special meeting, the notice shall state the purpose or purposes for which the meeting is called. No business other than that specified in the notice thereof shall be transacted at any special meeting. Unless otherwise provided by applicable law or the Certificate of Incorporation, notice shall be given to each stockholder entitled to vote at such meeting not fewer than 10 days or more than 60 days before the date of the meeting.

(b) Notice to stockholders may be given by personal delivery, mail, or, with the consent of the stockholder entitled to receive notice, by facsimile or other means of electronic transmission. If mailed, such notice shall be delivered by postage prepaid envelope directed to each stockholder at such stockholder's address as it appears in the records of the Corporation and shall be deemed given when deposited in the United States mail. Notice given by electronic transmission pursuant to this subsection shall be deemed given: (1) if by facsimile telecommunication, when directed to a facsimile telecommunication number at which the stockholder has consented to receive notice; (2) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice; (3) if by posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of (A) such posting and (B) the giving of such separate notice; and (4) if by any other form of electronic transmission, when directed to the stockholder. An affidavit of the secretary or an assistant secretary or of the transfer agent or other agent of the Corporation that the notice has been given by personal delivery, by mail, or by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

(c) Notice of any meeting of stockholders need not be given to any stockholder if waived by such stockholder either in a writing signed by such stockholder or by electronic transmission, whether such waiver is given before or after such meeting is held. If such a waiver is given by electronic transmission, the electronic transmission must either set forth or be submitted with information from which it can be determined that the electronic transmission was authorized by the stockholder.

(d) In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than sixty or fewer than 10 days before the date of such meeting. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.

Section 4. Quorum and Adjournment. Except as otherwise required by law, by the Certificate of Incorporation of the Corporation, or by these Bylaws, the presence, in person or represented by proxy, of the holders of a majority of the aggregate voting power of the stock issued and outstanding, entitled to vote thereat, shall constitute a quorum for the transaction of business at all meetings of the stockholders. If such majority shall not be present or represented at any meeting of the stockholders, the stockholders present, although less than a quorum, shall have the power to adjourn the meeting to another time and place.

Section 5. Adjourned Meetings. When a meeting is adjourned to another time and place, if any, unless otherwise provided by these Bylaws, notice need not be given of the adjourned meeting if the date, time, and place, if any, thereof and the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in

person and vote at such adjourned meeting, are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the stockholders may transact any business that might have been transacted at the original meeting. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of such meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting. If an adjournment is for more than 30 days or, if after an adjournment, a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder entitled to vote at the meeting.

Section 6. Vote Required. Except as otherwise provided by law or by the Certificate of Incorporation:

(a) Directors shall be elected by a plurality in voting power of the shares present in person or represented by proxy at a meeting of the stockholders and entitled to vote in the election of directors; and

(b) Whenever any corporate action other than the election of directors is to be taken, it shall be authorized by a majority in voting power of the shares present in person or represented by proxy at a meeting of stockholders and entitled to vote on the subject matter.

Section 7. Manner of Voting; Proxies. (a) At each meeting of stockholders, each stockholder having the right to vote shall be entitled to vote in person or by proxy. Each stockholder shall be entitled to vote each share of stock having voting power and registered in such stockholder's name on the books of the Corporation on the record date fixed for determination of stockholders entitled to vote at such meeting.

(b) Each person entitled to vote at a meeting of stockholders or to express consent or dissent to corporate action in writing without a meeting may authorize another person or persons to act for such stockholder by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. A proxy shall be irrevocable if it states that it is irrevocable and if, and only so long as, it is coupled with an interest sufficient in law to support an irrevocable power. Proxies need not be filed with the Secretary of the Corporation until the meeting is called to order, but shall be filed before being voted. Without limiting the manner in which a stockholder may authorize another person or persons to act for such stockholder as proxy, the following shall constitute valid means by which a stockholder may grant such authority:

(1) A stockholder may execute a writing authorizing another person or persons to act for such stockholder as proxy. Execution may be accomplished by the stockholder or the stockholder's authorized officer, director, employee, or agent signing such writing or causing such person's signature to be affixed to such writing by any reasonable means including, but not limited to, by facsimile signature; and

(2) A stockholder may authorize another person or persons to act for such stockholder as proxy by transmitting or authorizing the

transmission of a telegram, cablegram, or other means of electronic transmission to the person or persons who will be the holder of the proxy or to an agent of the proxyholder(s) duly authorized by such proxyholder(s) to receive such transmission; provided, however, that any such telegram, cablegram, or other means of electronic transmission must either set forth or be submitted with information from which it can be determined that the telegram, cablegram, or other electronic transmission was authorized by the stockholder. If it is determined that any such telegram, cablegram, or other electronic transmission is valid, the inspectors or, if there are no inspectors, such other persons making that determination, shall specify the information upon which they relied.

Any copy, facsimile telecommunication, or other reliable reproduction of a writing or electronic transmission authorizing a person or persons to act as proxy for a stockholder may be substituted or used in lieu of the original writing or electronic transmission for any and all purposes for which the original writing or electronic transmission could be used; provided, however, that such copy, facsimile telecommunication, or other reproduction shall be a complete reproduction of the entire original writing or electronic transmission.

Section 8. Remote Communication. For the purposes of these Bylaws, if authorized by the Board of Directors in its sole discretion, and subject to such guidelines and procedures as the Board of Directors may adopt, stockholders and proxyholders may, by means of remote communication:

(A) participate in a meeting of stockholders; and

(B) be deemed present in person and vote at a meeting of stockholders whether such meeting is to be held at a designated place or solely by means of remote communication, provided that (i) the Corporation shall implement reasonable measures to verify that each person deemed present and permitted to vote at the meeting by means of remote communication is a stockholder or proxyholder, (ii) the Corporation shall implement reasonable measures to provide such stockholders and proxyholders a reasonable opportunity to participate in the meeting and to vote on matters submitted to the stockholders, including an opportunity to read or hear the proceedings of the meeting substantially concurrently with such proceedings, and (iii) if any stockholder or proxyholder votes or takes other action at the meeting by means of remote communication, a record of such vote or other action shall be maintained by the Corporation.

Section 9. Stockholder Action Without a Meeting. (a) Except as otherwise provided by law or by the Certificate of Incorporation, any action required to be taken at any meeting of stockholders of the Corporation, or any action that may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice, and without a vote, if a consent or consents in writing setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted and shall be delivered to the Corporation by delivery to

its registered office in the State of Delaware, its principal place of business, or an officer or agent of the Corporation having custody of the book or books in which meetings of stockholders are recorded; provided, however, that delivery made to the Corporation's registered office in the State of Delaware shall be by hand or by certified mail, return receipt requested. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing and who, if the action had been taken at a meeting, would have been entitled to notice of the meeting if the record date for such meeting had been the date that written consents signed by a sufficient number of the holders to take the action were delivered to the Corporation.

(b) A telegram, cablegram, or other electronic transmission consenting to an action to be taken and transmitted by a stockholder or proxyholder, or by a person or persons authorized to act for a stockholder or proxyholder, shall be deemed to be written, signed, and dated for the purposes of these Bylaws, provided that any such telegram, cablegram, or other electronic transmission sets forth or is delivered with information from which the Corporation can determine (A) that the telegram, cablegram, or other electronic transmission was transmitted by the stockholder or proxyholder or by a person or persons authorized to act for the stockholder or proxyholder and (B) the date on which such stockholder or proxyholder or authorized person or persons transmitted such telegram, cablegram, or electronic transmission. Any consent by means of telegram, cablegram, or other electronic transmission shall be deemed to have been signed on the date on which such telegram, cablegram, or electronic transmission was transmitted. No consent given by telegram, cablegram, or other electronic transmission shall be deemed to have been delivered until such consent is reproduced in paper form and until such paper form shall be delivered to the Corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the Corporation having custody of the book or books in which proceedings of meetings of stockholders are recorded. Delivery made to the Corporation's registered office shall be made by hand or by certified or registered mail, return receipt requested. Notwithstanding the foregoing limitations on delivery, consents given by telegram, cablegram, or other electronic transmission may be otherwise delivered to the principal place of business of the Corporation or to an officer or agent of the Corporation having custody of the book or books in which proceedings of meetings of stockholders are recorded if, to the extent, and in the manner provided by resolution of the Board of Directors of the Corporation.

(c) Any copy, facsimile, or other reliable reproduction of a consent in writing (or reproduction in paper form of a consent by telegram, cablegram, or electronic transmission) may be substituted or used in lieu of the original writing (or original reproduction in paper form of a consent by telegram, cablegram, or electronic transmission) for any and all purposes for which the original consent could be used, provided that such copy, facsimile, or other reproduction shall be a complete reproduction of the entire original writing (or original reproduction in paper form of a consent by telegram, cablegram, or electronic transmission).

(d) In order that the Corporation may determine the stockholders entitled to consent to corporate action in writing without a meeting, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more

that 10 days after the date upon which the resolution fixing the record date is adopted by the Board of Directors. Any stockholder of record seeking to have the stockholders authorize or take corporate action by written consent shall, by written notice to the Secretary, request the Board of Directors to fix a record date. The Board of Directors shall promptly, but in all events within 10 days after the date on which such a request is received, adopt a resolution fixing the record date. If no record date has been fixed by the Board of Directors within 10 days after the date on which such a request is received, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is required by applicable law, shall be the first date on which a signed written consent setting forth the action taken or proposed to be taken is delivered to the Corporation in the manner set forth in subsections (a) and (b) of this Section 9. If no record date has been fixed by the Board of Directors and prior action by the Board of Director is required by applicable law, the Certificate of Incorporation, or these Bylaws, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting shall be at the close of business on the date on which the Board of Directors adopts the resolution taking such prior action.

Section 10. Presiding Officer and Secretary. (a) The Chairperson of the Board shall preside at meetings of the stockholders, unless another person is designated by the Board of Directors to preside at any such meeting. In the absence of the Chairperson of the Board, the Vice Chairperson of the Board and, in his or her absence, the Chief Executive Officer shall preside at meetings of the stockholders. In the absence of each of the Chairperson of the Board, the Vice Chairperson of the Board, if any, and the Chief Executive Officer, any director or officer designated by the Board of Directors shall preside at meetings of the stockholders.

(b) The Secretary of the Corporation shall act as secretary of all meetings of the stockholders, but, in the absence of the Secretary, the Assistant Secretary designated in accordance with Section 10(b) of Article IV of these Bylaws shall act as secretary of meetings of the stockholders. In the absence of the Secretary and any designated Assistant Secretary, the presiding officer of the meeting may appoint any person to act as secretary of the meeting.

Section 11. Conduct of Meetings. At each meeting of stockholders, the presiding officer of the meeting shall fix and announce the date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at the meeting and shall determine the order of business and all other matters of procedure. The Board of Directors may adopt by resolution such rules, regulations, and procedures for the conduct of the meeting of stockholders as it shall deem appropriate. Except to the extent inconsistent with any such rules and regulations adopted by the Board of Directors, the presiding officer of the meeting shall have the right and authority to establish rules, regulations, and procedures, which need not be in writing, for the conduct of the meeting and to maintain order and safety. Without limiting the foregoing, he or she may:

(a) restrict attendance at any time to bona fide stockholders of record and their proxies and other persons in attendance at the invitation of the presiding officer or Board of Directors;

(b) place restrictions on entry to the meeting after the time fixed for the commencement thereof;

(c) restrict dissemination of solicitation materials and use of audio or visual recording devices at the meeting;

(d) adjourn the meeting to another time and place without a vote of the stockholders if a quorum is not present; and

(e) make rules governing speeches and debate, including time limits and access to microphones.

The presiding officer of the meeting shall act in his or her absolute discretion and his or her rulings shall not be subject to appeal.

Section 12. Inspectors of Election. The Corporation may, and shall if required by law, in advance of any meeting of stockholders, appoint one or more inspectors of election, who may be employees of the Corporation, to act at the meeting or any adjournment thereof and to make a written report thereof. The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. In the event that no inspector so appointed or designated is able to act at a meeting of stockholders, the person presiding at the meeting shall appoint one or more inspectors to act at the meeting. Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath to execute faithfully the duties of inspector with strict impartiality and according to the best of his or her ability. The inspector or inspectors so appointed or designated shall (i) ascertain the number of shares of capital stock of the Corporation outstanding and the voting power of each such share, (ii) determine the shares of capital stock of the Corporation represented at the meeting and the validity of proxies and ballots, (iii) count all votes and ballots, (iv) determine and retain for a reasonable period a record of the disposition of any challenges made to any determination by the inspectors, and (v) certify their determination of the number of shares of capital stock of the Corporation represented at the meeting and such inspectors' count of all votes and ballots. Such certification and report shall specify such other information as may be required by law. In determining the validity and counting of proxies and ballots cast at any meeting of stockholders of the Corporation, the inspectors may consider such information as is permitted by applicable law. No person who is a candidate for an office at an election may serve as an inspector at such election.

Section 13. Notice of Stockholder Business and Nominations.

(a) Annual Meetings of Stockholders.

(1) Nominations of persons for election to the Board of Directors of the Corporation and the proposal of business to be considered by the stockholders may be made at an annual meeting of stockholders only (a) pursuant to the Corporation's notice of meeting (or any supplement thereto), (b) by or at the direction of the Board of Directors or (c) by any stockholder of the Corporation who was a stockholder of record at the time of giving of the notice provided for in this Section 13, who is entitled to vote at the meeting, and who

complies with the notice procedures set forth in this Section 13.

(2) For nominations or other business to be properly brought before an annual meeting by a stockholder pursuant to clause (c) of paragraph (a)(1) of this Section 13, the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation, and such proposed business (other than the nomination of persons for election to the Board of Directors) must otherwise be a proper matter for stockholder action. To be timely, a stockholder's notice shall be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the 45th day and not earlier than the close of business on the 75th day prior to the first anniversary of the preceding year's annual meeting (provided, that if there was no such meeting in the preceding year, a stockholder's notice shall be delivered no later than the close of business 20 days after public announcement or mailing of notice to the stockholders of the date of the currently-called annual meeting (or if both a public announcement is made and notice is mailed, following the earlier of such dates); provided, further, that in the event that the date of the annual meeting is more than 30 days before or more than 30 days after such anniversary date, notice by the stockholder to be timely must be so delivered not earlier than the 75th day prior to such annual meeting and not later than the close of business on the later of (i) the 45th day prior to such annual meeting or (ii) the 20th day following the day on which the public announcement or mailing of notice of the date of such meeting is first made by the Corporation (or if both a public announcement is made and notice is mailed, after the earlier of such dates). In no event shall a notice or public announcement of an adjournment of an annual meeting commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above. Such stockholder's notice shall set forth (a) as to each person whom the stockholder proposes to nominate for election or reelection as a director, all information relating to such person that is or would be required to be disclosed in solicitations of proxies for election of directors in an election contest, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (the "Exchange Act") as if the Corporation was subject to the Exchange Act, irrespective of whether the Corporation is subject thereto, and such person's written consent to serve as a director if elected; (b) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Bylaws of the Corporation, the language of the proposed amendment), the reasons for conducting such business at the meeting, and any material interest in such business of such stockholder and the beneficial owner, if any, on whose behalf the proposal is made; and (c) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination or proposal is made (i) the name and address of such stockholder, as they appear on the Corporation's books, and of such beneficial owner, (ii) the class and number of shares of the Corporation which are owned beneficially and of record by such stockholder and such beneficial owner, (iii) a representation that the stockholder is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such business or nomination, and (iv) a representation whether the stockholder or the beneficial owner, if any, on whose behalf the nomination or proposal is made intends or is part of a group that intends (a) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to approve or adopt the proposal or elect the nominee(s) and/or

(b) otherwise to solicit proxies from stockholders in support of such proposal or nomination. The foregoing notice requirements shall be deemed satisfied by a stockholder if the stockholder has notified the Corporation of his or her intention to present a proposal at an annual meeting in compliance with Rule 14a-8 (or any successor thereof) promulgated under the Exchange Act and such stockholder's proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for such annual meeting. The Corporation may require any proposed nominee to furnish such other information as it may reasonably require to determine the eligibility of such proposed nominee to serve as a director of the Corporation.

(3) Notwithstanding anything in the second sentence of paragraph (A)(2) of this Section 13 to the contrary, in the event that the number of directors to be elected to the Board of Directors of the Corporation at an annual meeting is increased and there is no notice or public announcement by the Corporation naming all of the nominees for director or specifying the size of the increased Board of Directors at least 55 days prior to the first anniversary of the preceding year's annual meeting, a stockholder's notice required by this Section 13 shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation not later than the close of business on the 20th day following the day on which such notice is mailed or public announcement is first made by the Corporation; provided, that if there was no such meeting in the preceding year, a stockholder's notice shall be delivered no later than the close of business 20 days after public announcement or mailing of notice to the stockholders of the date of the currently-called annual meeting (or if both a public announcement is made and notice is mailed, after the earlier of such dates).

(b) Special Meetings of Stockholders. Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting pursuant to the Corporation's notice of meeting. Nominations of persons for election to the Board of Directors may be made at a special meeting of stockholders pursuant to the Corporation's notice of meeting, provided that the Board of Directors has determined that directors shall be elected at such special meeting, only (1) by or at the direction of the Board of Directors or (2) by any stockholder of the Corporation who (i) is a stockholder of record at the time of giving of the notice provided for in this Section 13, (ii) is entitled to vote at the meeting, and (iii) complies with the notice procedures set forth in this Section 13. In the event the Corporation calls a special meeting of stockholders for the purpose of electing one or more directors to the Board of Directors, any such stockholder may nominate a person or persons (as the case may be), for election to such position(s) as specified in the Corporation's notice of meeting, if the stockholder's notice in the same form as required by paragraph (a)(2) of this Section 13 shall be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation not earlier than the close of business on the 75th day prior to such special meeting and not later than the close of business on the later of the 45th day prior to such special meeting or the 20th day following the day on which notice or public announcement is first made of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting. In no event shall the notice or public announcement of an adjournment of a special meeting commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above.

(c) General.

(1) Only such persons who are nominated in accordance with the procedures set forth in this Section 13 shall be eligible to be elected at an annual or special meeting of stockholders of the Corporation to serve as directors and only such business shall be conducted at a meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in these Bylaws. Except as otherwise provided by law, the Certificate of Incorporation, or these Bylaws, the presiding officer of the meeting shall have the power and duty to determine whether a nomination or any business proposed to be brought before the meeting was made or proposed, as the case may be, in accordance with the procedures set forth in this Section 13 and, if any proposed nomination or business is not in compliance with this Section 13, to declare that such nomination shall be disregarded or that such proposed business shall not be transacted.

(2) For purposes of this Section 13, "public announcement" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14, or 15(d) of the Exchange Act.

(3) Notwithstanding the foregoing provisions of this Section 13, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to the matters set forth in this Section 13. Nothing in this Section 13 shall be deemed to affect any rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

ARTICLE III

DIRECTORS

Section 1. Number. The number of directors that shall constitute the whole Board of Directors shall be no fewer than five and no greater than eleven, the exact number of directors to be determined from time to time by resolution adopted by the Board of Directors.

Section 2. Powers. The Board of Directors shall exercise all of the powers of the Corporation except such as are, by applicable law, the Certificate of Incorporation, or these Bylaws, conferred upon or reserved to the stockholders of any class or classes or series thereof.

Section 3. Resignations and Removal. Each director elected shall hold office until his successor is elected and qualified. Directors need not be stockholders.

(a) Any director may resign at any time by giving notice in writing or by electronic transmission to the Board of Directors or the Secretary; provided, however, that if such notice is given by electronic transmission, such electronic transmission must either set forth or be submitted with information from which it can be determined that the electronic

transmission was authorized by the director. Such resignation shall take effect at the date of receipt of such notice or at any later time specified therein. Acceptance of such resignation shall not be necessary to make it effective.

(b) Except as otherwise may be provided in the Certificate of Incorporation, any director or the entire Board of Directors may be removed, with or without cause, by the holders of capital stock having a majority in voting power of the shares entitled to vote in the election of directors.

Section 4. Annual Meetings. The Board of Directors shall meet each year or at such place as shall be fixed by the person presiding over the meeting of the stockholders, for the consideration of such business as the Board of Directors considers relevant to the management of the Corporation. In the event that in any year directors are elected by written consent in lieu of an annual meeting of stockholders, the Board of Directors shall meet in such year as soon as practicable after receipt of such written consent by the Corporation at such time and place as shall be fixed by the Chairperson of the Board, for the purpose of election of officers and consideration of such other business as the Board of Directors considers relevant to the management of the Corporation.

Section 5. Regular Meetings. Regular meetings of the Board of Directors shall be held on such dates and at such times and places, within or without the State of Delaware, as shall from time to time be determined by the Board of Directors, such determination to constitute the only notice of such regular meetings to which any director shall be entitled. In the absence of any such determination, such meetings shall be held, upon notice to each director in accordance with Section 7 of this Article III, at such times and places, within or without the State of Delaware, as shall be designated by the Chairperson of the Board.

Section 6. Special Meetings. Special meetings of the Board of Directors shall be held at the call of the Chairperson of the Board at such times and places, within or without the State of Delaware, as he or she shall designate, upon notice to each director in accordance with Section 7 of this Article III. Special meetings shall be called by the Secretary on like notice at the written request of a majority of the directors then in office.

Section 7. Notice. Notice of any regular (if required) or special meeting of the Board of Directors may be given by personal delivery, mail, telegram, courier service (including, without limitation, Federal Express), facsimile transmission (directed to the facsimile transmission number at which the director has consented to receive notice), electronic mail (directed to the electronic mail address at which the director has consented to receive notice), or other form of electronic transmission pursuant to which the director has consented to receive notice. If notice is given by personal delivery, by facsimile transmission, by telegram, by electronic mail, or by other form of electronic transmission pursuant to which the director has consented to receive notice, then such notice shall be given on not less than twenty-four hours' notice to each director. If written notice is delivered by mail or courier service, then it shall be given on not less than 1 calendar days' notice to each director.

Section 8. Waiver of Notice. Notice of any meeting of the Board of Directors, or any committee thereof, need not be given to any member if waived by him or her in writing or by electronic transmission, whether before or after such meeting is held, or if he or she shall sign the minutes of such meeting or attend the meeting, except that if such director attends a meeting for the express purpose of objecting at the beginning of the meeting to the transaction of any business because the meeting is not lawfully called or convened, then such director shall not be deemed to have waived notice of such meeting. If waiver of notice is given by electronic transmission, such electronic transmission must either set forth or be submitted with information from which it can be determined that the electronic transmission was authorized by the director.

Section 9. Quorum and Powers of a Majority. At all meetings of the Board of Directors and of each committee thereof, a majority of the total number of directors constituting the whole board or such committee shall be necessary and sufficient to constitute a quorum for the transaction of business. The act of a majority of the members present at any meeting of the Board of Directors or a committee thereof at which a quorum is present shall be the act of the Board of Directors or such committee, unless by express provision of applicable law, the Certificate of Incorporation, or these Bylaws, a different vote is required, in which case such express provision shall govern and control. In the absence of a quorum, a majority of the members present at any meeting may, without notice other than announcement at the meeting, adjourn such meeting from time to time until a quorum is present.

Section 10. Manner of Acting.

(a) Members of the Board of Directors, or any committee thereof, may participate in any meeting of the Board of Directors or such committee by means of conference telephone or other communications equipment by means of which all persons participating therein can hear each other, and participation in a meeting by such means shall constitute presence in person at such meeting.

(b) Any action required or permitted to be taken at any meeting of the Board of Directors or any committee thereof may be taken without a meeting if all members of the Board of Directors or such committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or such committee; provided however, that such electronic transmission or transmissions must either set forth or be submitted with information from which it can be determined that the electronic transmission or transmissions were authorized by the director. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Section 11. Organization. Meetings of the Board of Directors shall be presided over by the Chairperson of the Board, if any, or in his or her absence by the Vice Chairperson of the Board, if any, or in his or her absence by a presiding person chosen at the meeting. The Secretary shall act as secretary of the meeting, but in his or her absence the presiding person at the meeting may appoint any person to act as secretary of the meeting.

Section 12. Committees. The Board of Directors may designate one or more committees, each committee to consist of one or more directors, which to the extent provided in said resolution or resolutions shall have and may exercise the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation (including the power and authority to designate other committees of the Board of Directors); provided, however, that no such committee shall have the power or authority in reference to the following matters: (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by the General Corporation Law of the State of Delaware to be submitted to stockholders for approval (other than recommending the election or removal of directors) or (ii) adopting, amending, or repealing any Bylaw of the Corporation. The Board of Directors may designate one or more directors as alternate members of any committee to replace any absent or disqualified member of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting of such committee and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in place of such absent or disqualified director.

Section 13. Committee Procedure.

(a) Except as otherwise determined by the Board of Directors or provided by these Bylaws, each committee shall adopt its own rules governing the time, place, and method of holding its meetings and the conduct of its proceedings and shall meet as provided by such rules or by resolution of the Board of Directors. Unless otherwise provided by these Bylaws or any such rules or resolutions, notice of the time and place of each meeting of a committee shall be given to each member of such committee as provided in Section 7 of this Article III with respect to notices of meetings of the Board of Directors.

(b) Each committee shall keep regular minutes of its proceedings and report the same to the Board of Directors when required.

(c) Any member of any committee may be removed from such committee either with or without cause, at any time, by the Board of Directors at any meeting thereof. Any vacancy in any committee may be filled by the Board of Directors in the manner prescribed by the Certificate of Incorporation or these Bylaws for the original appointment of the members of such committee.

Section 14. Vacancies and Newly-Created Directorships. Unless otherwise provided in the Certificate of Incorporation or in these Bylaws, vacancies and newly-created directorships resulting from any increase in the authorized number of directors may be filled by a majority of the directors then in office, although less than a quorum, or by a sole remaining director. Unless otherwise provided in the Certificate of Incorporation or these Bylaws, when one or more directors shall resign from the Board effective at a future date a majority of directors then in office, including, provided that the vote takes place prior to the effective date of any such resignation, those who have resigned, shall have the power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective.

Section 15. Compensation.

(a) The Board of Directors, by a resolution or resolutions, may fix, and from time to time change, the compensation of Directors.

(b) Each director shall be entitled to reimbursement from the Corporation for his or her reasonable expenses incurred with respect to duties as a member of the Board of Directors or any committee thereof.

(c) Nothing contained in these Bylaws shall be construed to preclude any director from serving the Corporation in any other capacity and from receiving compensation from the Corporation for service rendered to it in such other capacity.

ARTICLE IV

OFFICERS

Section 1. Number. The officers of the Corporation shall include a Chief Executive Officer, and/or President, a Secretary, a Chief Financial Officer, and a Treasurer. The Board of Directors also shall elect a Chairperson of the Board who may also be the Chief Executive Officer and may elect a Vice Chairperson of the Board. The Board of Directors also may elect one or more Vice Presidents (including one or more Executive Vice Presidents and one or more Senior Vice Presidents if deemed appropriate by the Board of Directors), one or more Assistant Secretaries, one or more Assistant Treasurers, and such other officers as the Board of Directors may from time to time deem appropriate or necessary.

Section 2. Election of Officers, Term, and Qualifications. The officers of the Corporation shall be elected from time to time by the Board of Directors and shall hold office at the pleasure of the Board of Directors. Except for the Chairperson of the Board and the Vice Chairperson of the Board, if any, none of the officers of the Corporation needs to be a director of the Corporation. Any two or more offices may be held by the same person to the extent permitted by the General Corporation Law of the State of Delaware and other applicable law.

Section 3. Divisional or Departmental Vice Presidents. The Board of Directors may delegate to the Chief Executive Officer the power to appoint one or more employees of the Corporation as divisional or departmental vice presidents and fix the duties of such appointees. However, no such divisional or departmental vice president shall be considered to be an officer of the Corporation, the officers of the Corporation being limited to those officers elected by the Board of Directors in accordance with this Article IV.

Section 4. Removal. Any officer may be removed, either with or without cause, by the Board of Directors at any meeting thereof, or to the extent delegated to the Chairperson of the Board, by the Chairperson of the Board.

Section 5. Resignations. Any officer of the Corporation may resign at any time by giving notice in writing or by electronic transmission to the Board of Directors or to the

Chairperson of the Board; provided, however, that if such notice is given by electronic transmission, such electronic transmission must either set forth or be submitted with information from which it can be determined that the electronic transmission was authorized by the officer. Such resignation shall take effect at the date of the receipt of such notice or at any later time specified therein and, unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 6. Salaries. The salaries of all officers of the Corporation shall be fixed by the Board of Directors from time to time, and no officer shall be prevented from receiving such salary by reason of the fact that he or she also is a director of the Corporation.

Section 7. The Chairperson of the Board. The Chairperson of the Board shall have the powers and duties customarily and usually associated with the office of the Chairperson of the Board. The Chairperson of the Board shall preside at meetings of the stockholders and of the Board of Directors.

Section 8. Vice Chairperson of the Board. The Vice Chairperson of the Board, if any, shall have the powers and duties customarily and usually associated with the office of the Vice Chairperson of the Board. In the case of absence or disability of the Chairperson of the Board, the Vice-Chairperson of the Board, if any, shall perform the duties and exercise the powers of the Chairperson of the Board.

Section 9. The Chief Executive Officer. The Chief Executive Officer shall be the chief executive officer of the Corporation. The Chief Executive Officer shall have, subject to the supervision, direction, and control of the Board of Directors, the general powers and duties of supervision, direction, and management of the affairs and business of the Corporation customarily and usually associated with the position of chief executive officer, including, without limitation, all powers necessary to direct and control the organizational and reporting relationships within the Corporation. If at any time the office of the Chairperson of the Board and the Vice Chairperson of the Board shall not be filled, or in the event of the temporary absence or disability of the Chairperson of the Board and the Vice Chairperson of the Board, the Chief Executive Officer shall perform the duties and exercise the powers of the Chairperson of the Board unless otherwise determined by the Board of Directors.

Section 10. The Vice Presidents. Each Vice President shall have such powers and perform such duties as may from time to time be assigned to him or her by the Board of Directors, or the Chief Executive Officer.

Section 11. The Secretary and Assistant Secretaries.

(a) The Secretary shall attend meetings of the Board of Directors and meetings of the stockholders and record all votes and minutes of all such proceedings in a book or books kept for such purpose. The Secretary shall have all such further powers and duties as are customarily and usually associated with the position of Secretary or as may from time to time be assigned to him or her by the Board of Directors, or the Chief Executive Officer.

(b) Each Assistant Secretary shall have such powers and perform such duties as may from time to time be assigned to him or her by the Board of Directors, the Chief Executive Officer, or the Secretary. In the case of absence or disability of the Secretary, the Assistant Secretary designated by the Chief Executive Officer (or, in the absence of such designation, by the Secretary) shall perform the duties and exercise the powers of the Secretary.

Section 12. The Treasurer and Assistant Treasurers.

(a) The Treasurer shall have custody of the Corporation's funds and securities, shall be responsible for maintaining the Corporation's accounting records and statements, shall keep full and accurate accounts of receipts and disbursements in books belonging to the Corporation, and shall deposit or cause to be deposited moneys or other valuable effects in the name and to the credit of the Corporation in such depositories as may be designated by the Board of Directors. The Treasurer also shall maintain adequate records of all assets, liabilities, and transactions of the Corporation and shall assure that adequate audits thereof are currently and regularly made. The Treasurer shall have all such further powers and duties as are customarily and usually associated with the position of Treasurer or as may from time to time be assigned to him or her by the Board of Directors, or the Chief Executive Officer.

(b) Each Assistant Treasurer shall have such powers and perform such duties as may from time to time be assigned to him or her by the Board of Directors, the Chief Executive Officer, or the Treasurer. In the case of absence or disability of the Treasurer, the Assistant Treasurer designated by the Chief Executive Officer (or, in the absence of such designation, by the Treasurer) shall perform the duties and exercise the powers of the Treasurer.

ARTICLE V

STOCK

Section 1. Certificates. The shares of capital stock of the Corporation shall be represented by certificates, unless the Certificate of Incorporation otherwise provides or unless the Board of Directors provides by resolution or resolutions that some or all of the shares of any class or classes, or series thereof, of the Corporation's capital stock shall be uncertificated. Every holder of capital stock of the Corporation represented by certificates shall be entitled to a certificate representing such shares. Certificates for shares of stock of the Corporation shall be issued under the seal of the Corporation, or a facsimile thereof, and shall be numbered and shall be entered in the books of the Corporation as they are issued. Each certificate shall bear a serial number, shall exhibit the holder's name and the number of shares evidenced thereby, and shall be signed by the Chairperson of the Board or a Vice Chairperson, if any, or the Chief Executive Officer or any Vice President, and by the Secretary or an Assistant Secretary or the Treasurer or an Assistant Treasurer. Any or all of the signatures on the certificate may be a facsimile. If any officer, transfer agent, or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent, or registrar before such certificate is issued, the certificate may be issued by the Corporation with the same effect as if such person or entity were such officer, transfer agent, or registrar at the date of issue.

Section 2. Transfers. Transfers of stock of the Corporation shall be made on the books of the Corporation only upon surrender to the Corporation of a certificate (if any) for the shares duly endorsed or accompanied by proper evidence of succession, assignment, or authority to transfer; provided, however, that such succession, assignment, or transfer is not prohibited by the Certificate of Incorporation, these Bylaws, applicable law, or contract. Thereupon, the Corporation shall issue a new certificate (if requested) to the person entitled thereto, cancel the old certificate (if any), and record the transaction upon its books.

Section 3. Lost, Stolen, or Destroyed Certificates. Any person claiming a certificate of stock to be lost, stolen, or destroyed shall make an affidavit or an affirmation of that fact, and shall give the Corporation, unless the Board of Directors resolves otherwise, a bond of indemnity in satisfactory form and with one or more satisfactory sureties, whereupon a new certificate (if requested) may be issued of the same tenor and for the same number of shares as the one alleged to be lost, stolen, or destroyed.

Section 4. Registered Stockholders. The names and addresses of the holders of record of the shares of each class and series of the Corporation's capital stock, together with the number of shares of each class and series held by each record holder and the date of issue of such shares, shall be entered on the books of the Corporation. The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares of capital stock of the Corporation as the person entitled to exercise the rights of a stockholder, including, without limitation, the right to vote in person or by proxy at any meeting of the stockholders of the Corporation. The Corporation shall not be bound to recognize any equitable or other claim to or interest in any such shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise expressly required by the General Corporation Law of the State of Delaware or other applicable law.

Section 5. Fractional Shares. The Corporation may, but shall not be required to, issue fractional shares of its capital stock if necessary or appropriate to effect authorized transactions. If the Corporation does not issue fractional shares, it shall (i) arrange for the disposition of fractional interests on behalf of those that otherwise would be entitled thereto, (ii) pay in cash the fair value of fractions of a share as of the time when those who otherwise would be entitled to receive such fractions are determined, or (iii) issue scrip or warrants in registered form (either represented by a certificate or uncertificated) or in bearer form (represented by a certificate), which scrip or warrants shall entitle the holder to receive a full share upon surrender of such scrip or warrants aggregating a full share. Fractional shares shall, but scrip or warrants for fractional shares shall not (unless otherwise expressly provided therein), entitle the holder to exercise voting rights, to receive dividends thereon, to participate in the distribution of any assets in the event of liquidation, and otherwise to exercise rights as a holder of capital stock of the class or series to which such fractional shares belong.

Section 6. Right of First Refusal. If any share of Common Stock is subject to a right of first refusal on behalf of the Corporation under an applicable agreement by reference to these Bylaws (any such shares, "Restricted Shares"), such Restricted Shares may only be sold, or transferred (by way of assignment, pledge, hypothecation, gift or otherwise), whether voluntarily or by operation of law, pursuant to the requirements of this Section 6. Any sale or transfer, or

purported sale or transfer of any Restricted Shares, shall be null and void unless the terms, conditions, and provisions of this Section 6 are strictly observed and followed.

(a) If a stockholder desires to sell or otherwise transfer any Restricted Shares, such stockholder must first give written notice thereof to the Corporation, including the name and address of the proposed transferee, the number of shares to be transferred and all other terms other than the price or consideration.

(b) The Corporation shall have an initial 10 days to request pricing terms of the proposed transfer and stockholder must provide such terms promptly, and in any event within 5 days of the Corporation's request.

(c) For 30 days following receipt of the original notice, the Corporation (or its assignee) shall have the option to purchase all (but not less than all) of the Restricted Shares specified in the notice at the price and upon the terms set forth in such notice; *provided, however,* that, with the consent of the stockholder, the Corporation (or its assignee) shall have the option to purchase a lesser portion of the shares specified in said notice at the price and upon the terms set forth therein. In the event of a gift, property settlement or other transfer in which the proposed transferee is proposing to pay anything other than cash for the shares, the price shall be deemed to be the fair market value of the stock at such time as determined in good faith by the Board of Directors. In the event the Corporation (or its assignee) elects to purchase such Restricted Shares, the Corporation shall so notify the stockholder within such 30 day period and provide the compensation, in cash or cancellation of indebtedness, within 60 days after receipt of the original notice.

(d) In the event the Corporation does not elect to acquire all of the Restricted Shares specified in the stockholder's notice, the stockholder may, within a 60-day period following the expiration of the Corporation's right of first refusal (pursuant to subsection (b) above), transfer the shares, which were not acquired by the Corporation (or its assignee), on the terms specified in said notice, *provided that* the transferring stockholder provides the transferee with a copy of all agreements applicable to such stock and a copy of these Bylaws. All Restricted Shares so sold by the stockholder shall continue to be subject to the provisions of this bylaw in the same manner as before said transfer.

(e) Anything to the contrary contained herein notwithstanding, the following transactions shall be exempt from the Corporation's right of first refusal hereunder: (i) a transfer of any shares by will or intestacy or otherwise to a spouse or registered domestic partner, lineal descendant, father, mother, brother, or sister; (ii) a transfer of any shares to any custodian or trustee for such stockholder's account; (iii) a transfer of any shares to the Corporation; (iv) a corporate stockholder's transfer of any or all of its shares pursuant to and in accordance with the terms of any merger, consolidation, reclassification of shares or capital reorganization of the corporate stockholder, or pursuant to a sale of all or substantially all of the stock or assets of a corporate stockholder; (v) a corporate stockholder's transfer of any or all of its shares to any or all of its stockholders; or (vi) a transfer by a stockholder which is a limited or general partnership or limited liability company to any or all of its partners or members.

(f) The foregoing right of first refusal shall terminate upon the date securities of the Corporation are first offered to the public pursuant to a registration statement filed with, and declared effective by, the United States Securities and Exchange Commission under the Securities Act of 1933, as amended.

Section 7. Right of Repurchase. Subject to the availability of a right to repurchase Common Stock under an applicable agreement by reference to these Bylaws, the Corporation shall have the right from time to time and at any time, but not the obligation, to repurchase all or any portion of the shares of Common Stock held by a stockholder, subject to any limitations set forth in a governing equity incentive plan, provided, that any such repurchase must be approved by the Board of Directors. Shares repurchased pursuant to this bylaw shall be repurchased at a purchase price equal to the fair market value of such Common Stock, as determined by the Board of Directors in good faith in connection with their approval of the repurchase. A repurchase shall be effective upon notice of the repurchase and delivery of the consideration therefor. In the event the shares are repurchased after a stockholder's interruption or termination of service to the Corporation, the Corporation shall have 180 days (or such longer period of time as is reasonably necessary for the Corporation to obtain an independent valuation of the fair market value of such shares) from the later of (i) the date of interruption or termination and (ii) the date of such stockholder's last acquisition of stock pursuant to an equity incentive plan, to exercise its right of repurchase and thereafter pay such purchase price in cash, cancellation of indebtedness or combination thereof.

Section 8. Additional Powers of the Board.

(a) In addition to, and without limiting, those powers set forth in Section 2 of Article III, the Board of Directors shall have power and authority to make all such rules and regulations as it shall deem expedient concerning the issue, transfer, and registration of certificates for shares of stock of the Corporation, including the use of uncertificated shares of stock, subject to the provisions of the General Corporation Law of the State of Delaware, other applicable law, the Certificate of Incorporation, and these Bylaws.

(b) The Board of Directors may appoint and remove transfer agents and registrars of transfers, and may require all stock certificates to bear the signature of any such transfer agent and/or any such registrar of transfers.

ARTICLE VI

INDEMNIFICATION

Section 1. Indemnification.

(a) Subject to Section 3 of this Article VI, the Corporation shall indemnify, to the full extent that it shall have power under applicable law to do so and in a manner permitted by such law, any person who is made or threatened to be made a party to or is otherwise involved (as a witness or otherwise) in any threatened, pending, or completed action, suit, or proceeding, whether civil, criminal, administrative, or investigative (hereinafter, a "Proceeding"), by reason of the fact that such person is or was a director or officer of the

Corporation, or while serving as a director or officer of the Corporation, is or was serving at the request of Corporation as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, or other enterprise, including service with respect to an employee benefit plan (collectively, "Another Enterprise"), against expenses (including reasonable attorneys' fees), judgments, fines (including ERISA excise taxes or penalties) and amounts paid in settlement actually and reasonably incurred by him or her in connection with such Proceeding if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

(b) The Corporation may indemnify, to the full extent that it shall have power under applicable law to do so and in a manner permitted by such law, any person who is made or threatened to be made a party to or is otherwise involved (as a witness or otherwise) in any threatened, pending, or completed Proceeding, by reason of the fact that such person is or was an employee or agent of the Corporation, or while not serving as a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee, or agent of Another Enterprise, against expenses (including reasonable attorneys' fees), judgments, fines (including ERISA excise taxes or penalties) and amounts paid in settlement actually and reasonably incurred by him or her in connection with such Proceeding if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

(c) To the extent that a present or former director or officer of the Corporation has been successful on the merits or otherwise in defense of any threatened, pending, or completed Proceeding referred to in Section 145(a) or (b) of the General Corporation Law of the State of Delaware, or in defense of any claim, issue, or matter therein, he or she shall be indemnified against expenses (including reasonable attorneys' fees) actually incurred by him or her in connection therewith.

(d) The termination of any Proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendre or its equivalent, shall not, of itself, create a presumption that the person seeking indemnification did not act in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

Section 2. Advancement of Expenses.

(a) Subject to Section 3 of this Article VI, with respect to any person who is made or threatened to be made a party to or is otherwise involved (as a witness or otherwise) in any threatened, pending, or completed Proceeding, by reason of the fact that such person is or was a director or officer of the Corporation or while serving as a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee, or agent of Another Enterprise, the Corporation shall pay the expenses (including reasonable attorneys' fees) incurred by such person in defending any such Proceeding in advance

of its final disposition (hereinafter an "advancement of expenses"); provided, however, that any advancement of expenses shall be made only upon receipt of an undertaking (hereinafter an "undertaking") by such person to repay all amounts advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that such person is not entitled to be indemnified for such expenses under this Article VI or otherwise.

(b) With respect to any person who is made or threatened to be made a party to or is otherwise involved (as a witness or otherwise) in any threatened, pending, or completed Proceeding, by reason of the fact that such person is or was an employee or agent of the Corporation, or while not serving as a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee, or agent of Another Enterprise, the Corporation may, in its discretion and upon such terms and conditions, if any, as the Corporation deems appropriate, pay the expenses (including reasonable attorneys' fees) incurred by such person in defending any such Proceeding in advance of its final disposition.

Section 3. Actions Initiated Against The Corporation. Anything in Section 1(a) or Section 2(a) of this Article VI to the contrary notwithstanding, except as provided in Section 5(b) of this Article VI, with respect to a Proceeding initiated against the Corporation by a person who is or was a director or officer of the Corporation (whether initiated by such person in or by reason of such capacity or in or by reason of any other capacity, including as a director, officer, employee, or agent of Another Enterprise), the Corporation shall not be required to indemnify or to advance expenses (including reasonable attorneys' fees) to such person in connection with prosecuting such Proceeding (or part thereof) or in defending any counterclaim, cross-claim, affirmative defense, or like claim of the Corporation in such Proceeding (or part thereof) unless such Proceeding was authorized by the Board of Directors of the Corporation.

Section 4. Contract Rights. The rights to indemnification and advancement of expenses conferred upon any current or former director or officer of the Corporation pursuant to this Article VI (whether by reason of the fact that such person is or was a director or officer of the Corporation, or while serving as a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee, or agent of Another Enterprise) shall be contract rights, shall vest when such person becomes a director or officer of the Corporation, and shall continue as vested contract rights even if such person ceases to be a director or officer of the Corporation. Any amendment, repeal, or modification of, or adoption of any provision inconsistent with, this Article VI (or any provision hereof) shall not adversely affect any right to indemnification or advancement of expenses granted to any person pursuant hereto with respect to any act or omission of such person occurring prior to the time of such amendment, repeal, modification, or adoption (regardless of whether the Proceeding relating to such acts or omissions, or any proceeding relating to such person's rights to indemnification or to advancement of expenses, is commenced before or after the time of such amendment, repeal, modification, or adoption), and any such amendment, repeal, modification, or adoption that would adversely affect such person's rights to indemnification or advancement of expenses hereunder shall be ineffective as to such person, except with respect to any threatened, pending, or completed Proceeding that relates to or arises from (and only to the extent such Proceeding relates to or arises from) any act or omission of such person occurring after the effective time of such amendment, repeal, modification, or adoption.

Section 5. Claims.

(a) If (X) a claim under Section 1(a) of this Article VI with respect to any right to indemnification is not paid in full by the Corporation within 60 days after a written demand has been received by the Corporation or (Y) a claim under Section 2(a) of this Article VI with respect to any right to the advancement of expenses is not paid in full by the Corporation within 20 days after a written demand has been received by the Corporation, then the person seeking to enforce a right to indemnification or to an advancement of expenses, as the case may be, may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim.

(b) If successful in whole or in part in any suit brought pursuant to Section 5(a) of this Article VI, or in a suit brought by the Corporation to recover an advancement of expenses (whether pursuant to the terms of an undertaking or otherwise), the person seeking to enforce a right to indemnification or an advancement of expenses hereunder or the person from whom the Corporation sought to recover an advancement of expenses, as the case may be, shall be entitled to be paid by the Corporation the reasonable expenses (including reasonable attorneys' fees) of prosecuting or defending such suit.

(c) In any suit brought by a person seeking to enforce a right to indemnification hereunder (but not a suit brought by a person seeking to enforce a right to an advancement of expenses hereunder), it shall be a defense that the person seeking to enforce a right to indemnification has not met any applicable standard for indemnification under applicable law. With respect to any suit brought by a person seeking to enforce a right to indemnification or right to advancement of expenses hereunder or any suit brought by the Corporation to recover an advancement of expenses (whether pursuant to the terms of an undertaking or otherwise), neither (i) the failure of the Corporation to have made a determination prior to commencement of such suit that indemnification of such person is proper in the circumstances because such person has met the applicable standards of conduct under applicable law, nor (ii) an actual determination by the Corporation that such person has not met such applicable standards of conduct, shall create a presumption that such person has not met the applicable standards of conduct or, in a case brought by such person seeking to enforce a right to indemnification, be a defense to such suit.

(d) In any suit brought by a person seeking to enforce a right to indemnification or to an advancement of expenses hereunder, or by the Corporation to recover an advancement of expenses (whether pursuant to the terms of an undertaking or otherwise), the burden shall be on the Corporation to prove that the person seeking to enforce a right to indemnification or to an advancement of expenses or the person from whom the Corporation seeks to recover an advancement of expenses is not entitled to be indemnified, or to such an advancement of expenses, under this Article VI or otherwise.

Section 6. Determination of Entitlement to Indemnification. Any indemnification required or permitted under this Article VI (unless ordered by a court) shall be made by the Corporation only as authorized in the specific case upon a determination that indemnification of

the present or former director, officer, employee or agent is proper in the circumstances because he or she has met all applicable standards of conduct set forth in this Article VI and Section 145 of the General Corporation Law of the State of Delaware. Such determination shall be made, with respect to a person who is a director or officer of the Corporation at the time of such determination, (i) by a majority vote of the directors who are not parties to such action, suit or proceeding, even though less than a quorum; (ii) by a committee of such directors designated by majority vote of such directors, even though less than a quorum; (iii) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion; or (iv) by the stockholders. Such determination shall be made, with respect to any person who is not a director or officer of the Corporation at the time of such determination, in the manner determined by the Board of Directors (including in such manner as may be set forth in any general or specific action of the Board of Directors applicable to indemnification claims by such person) or in the manner set forth in any agreement to which such person and the Corporation are parties.

Section 7. Non-Exclusive Rights. The indemnification and advancement of expenses provided in this Article VI shall not be deemed exclusive of any other rights to which any person may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors, or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding such office, and shall continue as to a person who has ceased to be such director, officer, employee, or agent and shall inure to the benefit of the heirs, executors, and administrators of such person.

Section 8. Insurance. The Corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee, or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee, or agent of Another Enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the Corporation would have the power to indemnify such person against such liability under the provisions of this Article VI or otherwise.

Section 9. Severability. If any provision or provisions of this Article VI shall be held to be invalid, illegal, or unenforceable for any reason whatsoever: (1) the validity, legality, and enforceability of the remaining provisions of this Article VI (including, without limitation, each portion of any paragraph or clause containing any such provision held to be invalid, illegal, or unenforceable, that is not itself held to be invalid, illegal, or unenforceable) shall not in any way be affected or impaired thereby; and (2) to the fullest extent possible, the provisions of this Article VI (including, without limitation, each such portion of any paragraph or clause containing any such provision held to be invalid, illegal, or unenforceable) shall be construed so as to give effect to the intent manifested by the provision held invalid, illegal, or unenforceable.

Section 10. Miscellaneous. For purposes of this Article VI: (a) references to serving at the request of the Corporation as a director or officer of Another Enterprise shall include any service as a director or officer of the Corporation that imposes duties on, or involves services by, such director or officer with respect to an employee benefit plan; (b) references to serving at the request of the Corporation as a employee or agent of Another Enterprise shall include any service as an employee or agent of the Corporation that imposes duties on, or

involves services by, such employee or agent with respect to an employee benefit plan; (c) a person who acted in good faith and in a manner such person reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner not opposed to the best interests of the Corporation; and (d) references to a director of Another Enterprise shall include, in the case of any entity that is not managed by a board of directors, such other position, such as manager or trustee or member of the governing body of such entity, that entails responsibility for the management and direction of such entity's affairs, including, without limitation, general partner of any partnership (general or limited) and manager or managing member of any limited liability company.

ARTICLE VII

MISCELLANEOUS

Section 1. Books and Records.

(a) Any books or records maintained by the Corporation in the regular course of its business, including its stock ledger, books of account, and minute books, may be kept on, or by means of, or be in the form of, any information storage device or method; provided, however, that the books and records so kept can be converted into clearly legible paper form within a reasonable time. The Corporation shall so convert any books or records so kept upon the request of any person entitled to inspect such records pursuant to the Certificate of Incorporation, these Bylaws, or the provisions of the General Corporation Law of the State of Delaware.

(b) It shall be the duty of the Secretary or other officer of the Corporation who shall have charge of the stock ledger to prepare and make, at least 10 days before every meeting of the stockholders, a complete list of the stockholders entitled to vote thereat, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the stockholder's name. Nothing contained in this subsection (b) shall require the Corporation to include electronic mail addresses or other electronic contact information on such list. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting for a period of at least 10 days prior to the meeting: (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (ii) during ordinary business hours, at the principal place of business of the Corporation. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. If the meeting is to be held at a place, then the list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible network, and the information required to access such list shall be provided with the notice of the meeting. The stock ledger shall be the only evidence of the identity of the stockholders entitled to examine such list.

(c) Except to the extent otherwise required by law, or by the Certificate of Incorporation, or by these Bylaws, the Board of Directors shall determine from time to time whether and, if allowed, when and under what conditions and regulations the stock ledger, books, records, and accounts of the Corporation, or any of them, shall be open to inspection by the stockholders and the stockholders' rights, if any, in respect thereof. Except as otherwise provided by law, the stock ledger shall be the only evidence of the identity of the stockholders entitled to examine the stock ledger, the books, records, or accounts of the Corporation.

Section 2. Voting Shares in Other Business Entities. The Chief Executive Officer or any other officer of the Corporation designated by the Board of Directors may vote any and all shares of stock or other equity interest held by the Corporation in any other corporation or other business entity, and may exercise on behalf of the Corporation any and all rights and powers incident to the ownership of such stock or other equity interest.

Section 3. Record Date for Distributions and Other Actions. In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution, or allotment of any rights, or the stockholders entitled to exercise any rights in respect of any change, conversion, or exchange of capital stock, or for the purpose of any other lawful action, except as may otherwise be provided in these Bylaws, the Board of Directors may fix a record date. Such record date shall not precede the date upon which the resolution fixing such record date is adopted, and shall not be more than 60 days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

Section 4. Fiscal Year. The fiscal year of the Corporation shall be such fiscal year as the Board of Directors from time to time by resolution shall determine.

Section 5. Gender/Number. As used in these Bylaws, the masculine, feminine, or neuter gender, and the singular and plural number, shall each include the other whenever the context so indicates.

Section 6. Section Titles. The titles of the sections and subsections have been inserted as a matter of reference only and shall not control or affect the meaning or construction of any of the terms and provisions hereof.

Section 7. Electronic Transmission. For purposes of these Bylaws, "electronic transmission" means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved, and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

Section 8. Amendment. These Bylaws may be altered, amended, or repealed at any annual or regular meeting of the Board of Directors or at any special meeting of the Board of Directors if notice of the proposed alteration, amendment, or repeal be contained in written notice of such special meeting, or at any meeting of the stockholders of the Corporation.

Section 9. Certificate of Incorporation. Notwithstanding anything to the contrary contained herein, if any provision contained in these Bylaws is inconsistent with or conflicts with a provision of the Certificate of Incorporation, such provision of these Bylaws shall be superseded by the inconsistent provision in the Certificate of Incorporation to the extent necessary to give effect to such provision in the Certificate of Incorporation.

END OF BYLAWS

Bylaws Adopted April 27, 2010

INVESTOR RIGHTS AGREEMENT

INVESTOR RIGHTS AGREEMENT (the "Agreement") made and entered into as of December , 1995, by and among FIBROGEN, INC., a Delaware corporation (the "Company"), and the parties who have executed this Agreement as Investors (the "Investors").

THE PARTIES AGREE AS FOLLOWS:

ARTICLE 1

DEFINITIONS

As used in this Agreement, the following terms shall have the following respective meanings:

1.1 "Commission" shall mean the Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.

1.2 "Holder" shall mean any holder of outstanding Registrable Securities which have not been sold to the public but only if such holder is an Investor or an assignee or transferee of registration rights permitted by Section 2.10.

1.3 "Piggy-back Registration" shall have the meaning set forth in Section 2.1.

1.4 "Registration Expenses" shall have the meaning set forth in Section 2.5.

1.5 "Registrable Securities" shall mean all Common Stock of the Company issued or issuable upon conversion of the Company's Series B Preferred Stock, including Common Stock issued pursuant to stock splits, stock dividends and similar distributions with respect to the Registrable Securities, and any

securities of the Company granted registration rights pursuant to Section 3.9 of this Agreement.

1.6 "Securities Act" shall mean the Securities Act of 1933, as amended, or any similar federal statute, and the rules and regulations of the Commissioner thereunder, all as the same shall be in effect at the time.

ARTICLE 2

REGISTRATION RIGHTS

2.1 Piggy-back Registration. If at any time the Company proposes to file a registration statement under the Securities Act with respect to an offering of its Common Stock (i) for the Company's own account (other than a registration statement on Form 5-4 or 5-8 or any substitute form that may be adopted by the Commission or a registration statement with respect to the first registered offering of the Company's Common Stock to the public) or (ii) for the account of any holders of its Common Stock, then the Company shall give written notice of such proposed filing to each Holder as soon as practicable (but in no event less than ten days before the anticipated filing date), and such notice shall offer each Holder the opportunity to register such number of shares of Registrable Securities as such Holder may request on the same terms and conditions as the Company's or such holder's registration (a "Piggy-back Registration"); provided, that the Holders shall have this right only (i) after the Company's initial public offering, and (ii) if the underwriters for the primary offering approve that secondary shares be included.

2.2 Underwriting. If the registration of which the Company gives notice is for a registered public offering involving an underwriting, the Company shall so advise the Holders as a part of the written notice given pursuant to Section 2.1. In such event, the right of any Holder to registration pursuant to this Section 2 shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company and the other holders of securities of the Company with registration rights to participate therein distributing their securities through such underwriting) enter into an underwriting agreement in customary form with the representative of the underwriter or underwriters selected by the Company.

2.3 Reduction of Offering. Notwithstanding anything contained herein, if the managing underwriter of an offering described in Section 2.2 hereof delivers a written opinion to the Company that the amount of Registrable Securities requested to be included in such offering by the Holders, the Company and any other persons exceeds the amount of such Registrable Securities which can be successfully sold in such offering, then the amount of Registrable Securities to be offered for the account of each Holder shall be reduced to the extent necessary to reduce the total amount of securities to be included in such offering to the amount recommended by such managing underwriter; provided, that the proportion by which the amount of such Registrable securities intended to be offered for the account of each participating

Holder is reduced shall not exceed the proportion by which the amount of such securities intended to be offered for the account of each other Holder or person is reduced.

2.4 Plan of Distribution. The Company may require, as a condition precedent to its registration obligations under this Article 2, that each Holder promptly furnish in writing to the Company such information regarding such Holder, the plan of distribution of the Registrable Securities and other information as the Company may from time to time reasonably request or as may be legally required in connection with such registration.

2.5 Registration Expenses. All expenses incurred by the Company in connection with the Company's performance of or compliance with this Article 2, including, without limitation: (i) all registration and filing fees (including for filings with the Commission or the National Association of Securities Dealers, Inc.), (ii) fees and expenses of compliance with securities or blue sky laws (including reasonable fees and disbursements of counsel in connection with blue sky qualifications of the Registrable Securities), (iii) printing expenses, (iv) fees and expenses incurred in connection with the listing of the Registrable Securities, and (v) fees and expenses of counsel and independent certified public accountants for the Company (all such expenses being herein called "Registration Expenses"), shall be paid by the Company except as otherwise expressly provided in this Section 2.5. Each participating Holder shall pay any underwriting fees, discounts or commissions attributable to the sale of Registrable Securities and any out-of-pocket expenses of such Holder.

2.6 Indemnification by the Company. The Company hereby agrees to indemnify, to the extent permitted by law, each Holder, its partners, officers and directors, if any, and each person, if any, who controls such Holder within the meaning of the Securities Act, against all losses, claims, damages, liabilities and expenses (under the Securities Act, applicable state securities laws, common law or otherwise) caused by any untrue statement or alleged untrue statement of a material fact contained in any registration statement or prospectus (and as amended or supplemented if the Company has furnished any amendments or supplements thereto) or any preliminary prospectus, which registration statement, prospectus or preliminary prospectus shall be prepared in connection with Piggy-back Registration, or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, except insofar as such losses, claims, damages, liabilities or expenses are caused by any untrue statement or alleged untrue statement contained in or by any omission or alleged omission from information furnished in writing to the Company by such Holder in connection with a Piggy-back Registration, provided the Company will not be liable pursuant to this Section 2.6 if such losses, claims, damages, liabilities or expenses have been caused by (a) any Holder's failure to deliver a copy of the registration statement or prospectus, or any amendments or supplements thereto, after the Company has furnished such Holder with a sufficient amount of copies of the same or (b) any untrue statement or omission based upon information furnished to the

Company by such Holder or controlling person for use in connection with the offering of securities.

2.7 Indemnification by the Holders of Registrable Securities. In connection with any registration statement in which a Holder is participating, each such Holder shall furnish to the Company in writing such information as is reasonably requested by the Company for use in any such registration statement or prospectus and shall indemnify, to the extent permitted by law, the Company, its directors and officers and each person, if any, who controls the Company within the meaning of the Securities Act, against any losses, claims, damages, liabilities and expenses resulting from any untrue statement or alleged untrue statement of a material fact or any omission or alleged omission of a material fact required to be stated in the registration statement or prospectus or any amendment thereof or supplement thereto or necessary to make the statements therein not misleading, but only to the extent such losses, claims, damages, liabilities or expenses are caused by an untrue statement or alleged untrue statement contained in or by an omission or alleged omission from information so furnished in writing by such holder in connection with the Piggy-back Registration; provided that no such Holder shall be liable under this Section 2.7 for any amounts exceeding the product of (i) the offering price per share of Registrable Securities pursuant to the registration statement in which such Holder is participating, multiplied by (ii) the number of shares of Registrable Securities being sold by such Holder pursuant to such registration statement. If the offering pursuant to any such registration is

made through underwriters, each such Holder agrees to enter into an underwriting agreement in customary form with such underwriters and to indemnify such underwriters, their officers and directors, if any, and each person who controls such underwriters within the meaning of the Securities Act to the same extent as hereinabove provided with respect to indemnification by such Holder of the Company.

2.8 Conduct of Indemnification Proceedings. Promptly after receipt by an indemnified party under Section 2.6 or Section 2.7 of notice of the commencement of any action or proceeding, such indemnified party will, if a claim in respect thereof is made against the indemnifying party under such Section, notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party will not relieve it from any liability which it may have to any indemnified party otherwise than under such Section. In case any such action or proceeding is brought against any indemnified party, and it notifies the indemnifying party of the commencement thereof, the indemnifying party will be entitled to participate therein, and, to the extent that it wishes, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party, and after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party will not be liable to such indemnified party under such Section for any legal or any other expenses subsequently incurred by such indemnified party in connection with the defense thereof (other than

reasonable costs of investigation) unless incurred at the written request of the indemnifying party. Notwithstanding the above, the indemnified party will have the right to employ counsel of its own choice in any such action or proceeding if the indemnified party has reasonably concluded that there may be defenses available to it which are different from or additional to those of the indemnifying party, or counsel to the indemnified party is of the opinion that it would not be desirable for the same counsel to represent both the indemnifying party and the indemnified party because such representation might result in a conflict of interest (in either of which cases the indemnifying party will not have the right to assume the defense of any such action or proceeding on behalf of the indemnified party or parties and such legal and other expenses will be borne by the indemnifying party). An indemnifying party will not be liable to any indemnified party for any settlement of any such action or proceeding effected without the consent of such indemnifying party.

2.9 Contribution. If the indemnification provided for in Section 2.6 or Section 2.7 is unavailable under applicable law to an indemnified party in respect of any losses, claims, damages or liabilities referred to therein, then each applicable indemnifying party, in lieu of indemnifying such indemnified party, shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities in such proportion as is appropriate to reflect the relative fault.

2.10 Transfer of Registration Rights. The registration rights of any Holder under this Article 2 may be transferred by such Holder to a transferee of its Registrable Securities who agrees in writing to be bound by the provisions of this Agreement (a) if such transferee acquires at least 20% of such Holder's Registrable Securities (or, if the transferring Holder acquired registration rights through a transfer pursuant to this Section 2.10, at least 20% of the Registrable Securities held by the original party to this Agreement), or (b) if such transferee is a partner or stockholder of such Holder, without restriction as to the minimum amount acquired.

ARTICLE 3

MISCELLANEOUS

3.1 Successors and Assigns. Subject to the exceptions specifically set forth in this Agreement, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective executors, administrators, heirs, successors and assigns of the parties.

3.2 Governing Law. Except to the extent that the Delaware General Corporation Law shall be applicable with respect to matters relating to the internal corporate affairs of the Company, this Agreement and (unless otherwise provided) all amendments, supplements, waivers and consents relating thereto or hereto shall be governed by and construed in accordance with the laws of the State of California.

3.3 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an

original, but all of which together shall constitute one and the same instrument.

3.4 Headings. The headings of the Articles and Sections of this Agreement are for convenience and shall not by themselves determine the interpretation of this Agreement.

3.5 Notices. Any notice required or permitted hereunder shall be given in writing and shall be conclusively deemed effectively given upon personal delivery, or five business days after deposit in the United States mail, by first class mail, postage prepaid, and addressed (i) if to the Company, as set forth below the Company's name on the signature page of this Agreement, and (ii) if to an Investor, at such Investor's address as set forth in the books of the Company, or at such other addresses as the Company or such Investor may designate by ten days' advance written notice to the Investor or the Company, respectively. Investors with addresses outside of the United States shall be given such notice by telecopy at such Investor's telecopy number as set forth in the books of the Company, or at such other telecopy number as the Investor may designate by ten (10) days' written notice to the Company.

3.6 Amendment of Agreement. Any provision of this Agreement may be amended only by a written instrument signed by the Company and by persons holding at least fifty-one percent of the Registrable Securities then outstanding,

3.7 Severability. If any provision of this Agreement is held to be unenforceable for any reason, it shall be adjusted rather than voided, if possible, in order to achieve the intent of the parties to the extent possible. In any event, all other

3.8 Entire Agreement; Effectiveness of Agreement; Termination of Prior Agreements. This Agreement constitutes the entire contract between the Company and the Investors relative to the subject matter hereof. This Agreement shall become effective with respect to each Investor upon the execution of this Agreement by such Investor.

3.9 Additional Parties. From and after the date of this Agreement, the Company may grant registration rights under this Agreement to any holder or prospective holder of securities of the Company. Upon execution of a signature page to this Agreement by any such additional party and by the Company, such additional party shall be considered an Investor for all purposes of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

THE COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Title: CEO
Address: 772 Lucerne Drive
Sunnyvale, California
94063
Attention: President

THE INVESTORS:

WAGNER & BROWN, LTD.
(Print name of Investor)

/s/ A.J. Brune III
(Signature)

Executive Vice President and C.F.O
(Name and title of signatory if Investor is not an individual)

3.8 Entire Agreement; Effectiveness of Agreement; Termination of Prior Agreements. This Agreement constitutes the entire contract between the Company and the Investors relative to the subject matter hereof. This Agreement shall become effective with respect to each Investor upon the execution of this Agreement by such Investor.

3.9 Additional Parties. From and after the date of this Agreement, the Company may grant registration rights under this Agreement to any holder or prospective holder of securities of the Company. Upon execution of a signature page to this Agreement by any such additional party and by the Company, such additional party shall be considered an Investor for all purposes of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

THE COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Title: CEO
Address: 772 Lucerne Drive
Sunnyvale, California
94063
Attention: President

THE INVESTORS:

WAGNER FAMILY PARTNERSHIP VI
(Print name of Investor)

/s/ Cy Wagner Jr.
(Signature)

Managing Partner
(Name and title of signatory if Investor is not an individual)

INVESTOR RIGHTS AGREEMENT

INVESTOR RIGHTS AGREEMENT (the "Agreement") made and entered into as of February 20, 1998, by and among FIBROGEN, INC., a Delaware corporation (the "Company"), and the parties who have executed this Agreement as Investors (the "Investors").

THE PARTIES AGREE AS FOLLOWS:

ARTICLE 1
DEFINITIONS

As used in this Agreement, the following terms shall have the following respective meanings:

1.1 "Commission" shall mean the Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.

1.2 "Holder" shall mean any holder of outstanding Registrable Securities which have not been sold to the public but only if such holder is an Investor or an assignee or transferee of registration rights permitted by Section 2.10.

1.3 "Piggy-back Registration" shall have the meaning set forth in Section 2.1.

1.4 "Registration Expenses" shall have the meaning set forth in Section 2.5.

1.5 "Registrable Securities" shall mean all Common Stock of the Company issued or issuable upon conversion of the Company's Series C Preferred Stock, including Common Stock issued pursuant to stock splits, stock dividends and similar distributions with respect to the Registrable Securities, and any securities of the Company granted registration rights pursuant to Section 3.9 of this Agreement.

1.6 "Securities Act" shall mean the Securities Act of 1933, as amended, or any similar federal statute, and the rules and regulations of the Commissioner thereunder, all as the same shall be in effect at the time.

ARTICLE 2
REGISTRATION RIGHTS

2.1 Piggy-back Registration. If at any time the Company proposes to file a registration statement under the Securities Act with respect to an offering of its Common Stock (i) for the Company's own account (other than a registration statement on Form S-4 or S-8 or any substitute form that may be adopted by the Commission or a registration statement with respect to the first registered offering of the Company's Common Stock to the public). or (ii) for the account of any holders of its Common Stock, then the Company shall give written notice of such proposed filing to each Holder as soon as practicable (but in no event less than ten days before the anticipated filing date), and such notice shall offer each Holder the opportunity to register such number of shares of Registrable Securities as such Holder may request on the same terms and conditions as the Company's or such holder's registration (a "Piggy-back Registration"); provided, that the Holders shall have this right only (i) after the Company's initial public offering, and (ii) if the underwriters for the primary offering approve that secondary shares be included.

2.2 Underwriting. If the registration of which the Company gives notice is for a registered public offering involving an underwriting, the Company shall so advise the Holders as a part of the written notice given pursuant to Section 2.1. In such event, the right of any Holder to registration pursuant to this Section 2 shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company and the other holders of securities of the Company with registration rights to participate therein distributing their securities through such underwriting) enter into an underwriting agreement in customary form with the representative of the underwriter or underwriters selected by the Company.

2.3 Reduction of Offering. Notwithstanding anything contained herein, if the managing underwriter of an offering described in Section 2.2 hereof delivers a written opinion to the Company that the amount of Registrable Securities requested to be included in such offering by the Holders, the Company and any other persons exceeds the amount of such Registrable Securities which can be successfully sold in such offering, then the amount of Registrable Securities to be offered for the account of each Holder shall be reduced to the extent necessary to reduce the total amount of securities to be included in such offering to the amount recommended by such managing underwriter; provided, that the proportion by which the amount of such Registrable Securities

intended to be offered for the account of each participating Holder is reduced shall not exceed the proportion by which the amount of such securities intended to be offered for the account of each other Holder or person is reduced.

2.4 Plan of Distribution. The Company may require, as a condition precedent to its registration obligations under this Article 2, that each Holder promptly furnish in writing to the Company such information regarding such Holder, the plan of distribution of the Registrable Securities and other information as the Company may from time to time reasonably request or as may be legally required in connection with such registration.

2.5 Registration Expenses. All expenses incurred by the Company in connection with the Company's performance of or compliance with this Article 2, including, without limitation: (i) all registration and filing fees (including for filings with the Commission or the National Association of Securities Dealers, Inc.), (ii) fees and expenses of compliance with securities or blue sky laws (including reasonable fees and disbursements of counsel in connection with blue sky qualifications of the Registrable Securities), (iii) printing expenses, (iv) fees and expenses incurred in connection with the listing of the Registrable Securities, and (v) fees and expenses of counsel and independent certified public accountants for the Company (all such expenses being herein called "Registration Expenses"), shall be paid by the Company except as otherwise expressly provided in this Section 2.5. Each participating Holder shall pay any underwriting fees, discounts or commissions attributable to the

sale of Registrable Securities and any out-of-pocket expenses of such Holder.

2.6 Indemnification by the Company. The Company hereby agrees to indemnify, to the extent permitted by law, each Holder, its partners, officers and directors, if any, and each person, if any, who controls such Holder within the meaning of the Securities Act, against all losses, claims, damages, liabilities and expenses (under the Securities Act, applicable state securities laws, common law or otherwise) caused by any untrue statement or alleged untrue statement of a material fact contained in any registration statement or prospectus (and as amended or supplemented if the Company has furnished any amendments or supplements thereto) or any preliminary prospectus, which registration statement, prospectus or preliminary prospectus shall be prepared in connection with Piggy-back Registration, or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, except insofar as such losses, claims, damages, liabilities or expenses are caused by any untrue statement or alleged untrue statement contained in or by any omission or alleged omission from information furnished in writing to the Company by such Holder in connection with a Piggy-back Registration, provided the Company will not be liable pursuant to this Section 2.6 if such losses, claims, damages, liabilities or expenses have been caused by (a) any Holder's failure to deliver a copy of the registration statement or prospectus, or any amendments or supplements

thereto, after the Company has furnished such Holder with a sufficient amount of copies of the same or (b) any untrue statement or omission based upon information furnished to the Company by such Holder or controlling person for use in connection with the offering of securities.

2.7 Indemnification by the Holders of Registrable Securities. In connection with any registration statement in which a Holder is participating, each such Holder shall furnish to the Company in writing such information as is reasonably requested by the Company for use in any such registration statement or prospectus and shall indemnify, to the extent permitted by law, the Company, its directors and officers and each person, if any, who controls the Company within the meaning of the Securities Act, against any losses, claims, damages, liabilities and expenses resulting from any untrue statement or alleged untrue statement of a material fact or any omission or alleged omission of a material fact required to be stated in the registration statement or prospectus or any amendment thereof or supplement thereto or necessary to make the statements therein not misleading, but only to the extent such losses, claims, damages, liabilities or expenses are caused by an untrue statement or alleged untrue statement contained in or by an omission or alleged omission from information so furnished in writing by such holder in connection with the Piggy-back Registration; provided that no such Holder shall be liable under this Section 2.7 for any amounts exceeding the product of (i) the offering price per share of Registrable Securities pursuant to

the registration statement in which such Holder is participating, multiplied by (ii) the number of shares of Registrable Securities being sold by such Holder pursuant to such registration statement. If the offering pursuant to any such registration is made through underwriters, each such Holder agrees to enter into an underwriting agreement in customary form with such underwriters and to indemnify such underwriters, their officers and directors, if any, and each person who controls such underwriters within the meaning of the Securities Act to the same extent as hereinabove provided with respect to indemnification by such Holder of the Company.

2.8 Conduct of Indemnification Proceedings. Promptly after receipt by an indemnified party under Section 2.6 or Section 2.7 of notice of the commencement of any action or proceeding, such indemnified party will, if a claim in respect thereof is made against the indemnifying party under such Section, notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party will not relieve it from any liability which it may have to any indemnified party otherwise than under such Section. In case any such action or proceeding is brought against any indemnified party, and it notifies the indemnifying party of the commencement thereof, the indemnifying party will be entitled to participate therein, and, to the extent that it wishes, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party, and after notice from the

indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying, party will not be liable to such indemnified party under such Section for any legal or any other expenses subsequently incurred by such indemnified party in connection with the defense thereof (other than reasonable costs of investigation) unless incurred at the written request of the indemnifying party. Notwithstanding the above, the indemnified party will have the right to employ counsel of its own choice in any such action or proceeding if the indemnified party has reasonably concluded that there may be defenses available to it which are different from or additional to those of the indemnifying party, or counsel to the indemnified party is of the opinion that it would not be desirable for the same counsel to represent both the indemnifying party and the indemnified party because such representation might result in a conflict of interest (in either of which cases the indemnifying party will not have the right to assume the defense of any such action or proceeding on behalf of the indemnified party or parties and such legal and other expenses will be borne by the indemnifying party). An indemnifying party will not be liable to any indemnified party for any settlement of any such action or proceeding effected without the consent of such indemnifying party.

2.9 Contribution. If the indemnification provided for in Section 2.6 or Section 2.7 is unavailable under applicable law to an indemnified party in respect of any losses, claims, damages or liabilities referred to therein, then each applicable

indemnifying party, in lieu of indemnifying such indemnified party, shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities in such proportion as is appropriate to reflect the relative fault.

2.10 Transfer of Registration Rights. The registration rights of any Holder under this Article 2 may be transferred by such Holder to a transferee of its Registrable Securities who agrees in writing to be bound by the provisions of this Agreement (a) if such transferee acquires at least 20% of such Holder's Registrable Securities (or, if the transferring Holder acquired registration rights through a transfer pursuant to this Section 2.10, at least 20% of the Registrable Securities held by the original party to this Agreement), or (b) if such transferee is a partner or stockholder of such Holder, without restriction as to the minimum amount acquired.

ARTICLE 3
MISCELLANEOUS

3.1 Successors and Assigns. Subject to the exceptions specifically set forth in this Agreement, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective executors, administrators, heirs, successors and assigns of the parties.

3.2 Governing Law. Except to the extent that the Delaware General Corporation Law shall be applicable with respect to matters relating to the internal corporate affairs of the Company, this Agreement and (unless otherwise provided) all

amendments, supplements, waivers and consents relating thereto or hereto shall be governed by and construed in accordance with the laws of the State of California.

3.3 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

3.4 Headings. The headings of the Articles and Sections of this Agreement are for convenience and shall not by themselves determine the interpretation of this Agreement.

3.5 Notices. Any notice required or permitted hereunder shall be given in writing and shall be conclusively deemed effectively given upon personal delivery, or five business days after deposit in the United States mail, by first class mail, postage prepaid, and addressed (i) if to the Company, as set forth below the Company's name on the signature page of this Agreement, and (ii) if to an Investor, at such Investor's address as set forth in the books of the Company, or at such other addresses as the Company or such Investor may designate by ten days' advance written notice to the Investor or the Company, respectively. Investors with addresses outside of the United States shall be given such notice by facsimile at such Investor's facsimile number as set forth in the books of the Company, or at such other facsimile number as the Investor may designate by ten (10) days' written notice to the Company.

3.6 Amendment of Agreement. Any provision of this Agreement may be amended only by a written instrument signed by

the Company and by persons holding at least fifty-one percent of the Registrable Securities then outstanding.

3.7 Severability. If any provision of this Agreement is held to be unenforceable for any reason, it shall be adjusted rather than voided, if possible, in order to achieve the intent of the parties to the extent possible. In any event, all other provisions of this Agreement shall be deemed valid and enforceable to the full extent possible.

3.8 Entire Agreement; Effectiveness of Agreement; Termination of Prior Agreements. This Agreement constitutes the entire contract between the Company and the Investors relative to the subject matter hereof. This Agreement shall become effective with respect to each Investor upon the execution of this Agreement by such Investor.

3.9 Additional Parties. From and after the date of this Agreement, the Company may grant registration rights under this Agreement to any holder or prospective holder of securities of the Company. Upon execution of a signature page to this Agreement by any such additional party and by the Company, such additional party shall be considered an Investor for all purposes of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

THE COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff

Title: CEO

Address: 225 Gateway Blvd.
South San Francisco , California 94080
Attention: President

THE INVESTORS:

_____
(Print name of Investor)

_____
(Signature)

_____
(Name and title of signatory if Investor is not an individual)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

THE COMPANY:

FIBROGEN, INC.

By: _____
Title: _____
Address: 225 Gateway Blvd.
South San Francisco , California 94080
Attention: President

THE INVESTORS:

Wagner & Brown, Ltd.
(Print name of Investor)

/s/ Adam C. Wagner
(Signature)

Adam c. Wagner
Vice President, Investments
(Name and title of signatory if Investor is not an individual)

INVESTORS' RIGHTS AGREEMENT

THIS INVESTORS' RIGHTS AGREEMENT (the "Agreement") is made as of the 12th day of May, 2000 by and among FibroGen, Inc., a Delaware corporation (the "Company"), and the purchasers of the Company's Series E Preferred Stock (the "Series E Preferred") listed on the signature pages hereto (the "Investors").

RECITALS

WHEREAS, the Investors are parties to the Preferred Stock Purchase Agreement of even date herewith among the Company and the Investors (the "Purchase Agreement"), which provides that as a condition to the closing of the sale of shares of the Company's Series E Preferred, this Agreement must be executed and delivered by the Investors and the Company;

WHEREAS, the Company wishes to provide a further inducement to the Investors to purchase the Series E Preferred pursuant to the Purchase Agreement; and

WHEREAS, the Company desires to grant, and the Investors desire to be granted, the rights created herein.

NOW, THEREFORE, in consideration of the mutual promises and covenants set forth herein, the parties hereto agree as follows:

1. Registration Rights. The Company covenants and agrees as follows:

1.1 Definitions. For purposes of this Section 1:

(a) The term "Act" means the Securities Act of 1933, as amended.

(b) The term "Form S-3" means such form under the Act as in effect on the date hereof or any registration form under the Act subsequently adopted by the SEC that permits inclusion or incorporation of substantial information by reference to other documents filed by the Company with the SEC.

(c) The term "Holder" means any person owning Registrable Securities or any assignee thereof in accordance with Section 1.11 hereof and the Purchase Agreement.

(d) The term "Initial Offering" means the Company's first firm commitment underwritten public offering of its Common Stock under the Act.

(e) The term "1934 Act" means the Securities Exchange Act of 1934, as amended.

(f) The term "register," "registered," and "registration" refer to a registration effected by preparing and filing a registration statement or similar document in

compliance with the Act, and the declaration or ordering of effectiveness of such registration statement or document.

(g) The term "Registrable Securities" means (1) the Common Stock issuable or issued upon conversion of the Company's Series E Preferred, (2) any securities issued pursuant to Section 2.4(b) hereof, (3) the Additional Shares issued pursuant to Section 1.12 hereof, and (4) any Common Stock of the Company issued as (or issuable upon the conversion or exercise of any warrant, right or other security that is issued as) a dividend or other distribution with respect to, or in exchange for, or in replacement of, the shares referenced in (1), (2) and (3) above, excluding in all cases, however, any Registrable Securities sold by a person (x) in a transaction in which his rights under this Section 1 are not assigned, (y) pursuant to a registration statement that has been declared effective and such Registrable Securities have been disposed of pursuant to such effective registration statement, or (z) in a transaction in which such Registrable Securities are sold pursuant to Rule 144 (or any similar provision then in force) under the Act.

(h) The number of shares of "Registrable Securities then outstanding" shall be determined by the number of shares of Common Stock outstanding that are, and the number of shares of Common Stock issuable pursuant to then exercisable or convertible securities that are, Registrable Securities.

(i) The term "SEC" shall mean the Securities and Exchange Commission.

(j) The term "Significant Holder" shall mean the Holder of (1) shares of Registrable Securities having an aggregate original purchase price of at least $1,000,000, or (2) any Common Stock of the Company issued as (or issuable upon the conversion or exercise of any warrant, right or other security that is issued as) a dividend or other distribution with respect to, or in exchange for, or in replacement of, the shares referenced in (1) above.

(k) The term "Subsequent Series E Offering" shall have the meaning set forth in the Purchase Agreement.

1.2 Request for Registration.

(a) Subject to the conditions of this Section 1.2, if the Company shall receive at any time eighteen (18) months after the date of this Agreement a written request from the Holders of fifty percent (50%) or more of the Registrable Securities then outstanding (the "Initiating Holders") that the Company file a registration statement under the Act covering the registration of Registrable Securities, then the Company shall, within twenty (20) days of the receipt thereof, give written notice of such request to all Holders, and subject to the limitations of this Section 1.2, use best efforts to effect, as soon as practicable, the registration under the Act of all Registrable Securities that the Holders request to be registered in a written request received by the Company within twenty (20) days of the mailing of the Company's notice pursuant to this Section 1.2(a).

(b) If the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to this Section 1.2 and the Company shall include such information in the written notice referred to in this Section 1.2(b). In such event the right of any Holder to include its Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting (unless otherwise mutually agreed by a majority in interest of the Initiating Holders and such Holder) to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall enter into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting by a majority in interest of the Initiating Holders (which underwriter or underwriters shall be reasonably acceptable to the Company); provided, that if the registration statement relates to the Company's Initial Offering, then underwriter or underwriters shall be selected for such underwriting by the Company (which underwriter or underwriters shall be reasonably acceptable to a majority in interest of the Initiating Holders).

(c) Notwithstanding any other provision of this Section 1.2, if the underwriter advises the Company that marketing factors require (i) a limitation of the number of securities underwritten or (ii) the exclusion of all or any portion of the Registrable Securities in the Initial Offering, then the Company shall so advise all Holders of Registrable Securities that would otherwise be underwritten pursuant hereto, and the number of shares that may be included in the underwriting, if any, shall be allocated to the Holders of such Registrable Securities on a pro rata basis based on the number of (x) Registrable Securities held by all such Holders (including the Initiating Holders) and (y) securities of the Company held by other holders that have the right as of the date hereof (or hereafter pursuant to Section 1.12 hereof) to require the Company to register securities on a registration statement filed pursuant to this Section 1.2; provided, that no Registrable Securities (or securities referred to in clause (y) above) shall be excluded unless and until all other securities of the Company, including securities issued for the account of the Company, have been excluded, and provided further that, if a Registration Statement filed pursuant to this Section 1.2 relates to the Initial Offering, then Registrable Securities may be excluded from the offering hereunder before any securities issued for the account of the Company. Any Registrable Securities excluded or withdrawn from such underwriting shall be withdrawn from the registration.

(d) The Company shall not be required to effect a registration pursuant to this Section 1.2:

(i) in any particular jurisdiction in which the Company would be required to execute a general consent to service of process in effecting such registration, unless the Company is already subject to service in such jurisdiction and except as may be required under the Act; or

(ii) after the Company has effected two (2) registrations pursuant to this Section 1.2, and such registrations have been declared or ordered effective (not including any registration in which more than 50% of the Registrable Securities that Holders

request to be registered pursuant to Section 1.2(a) are excluded from such registration pursuant to Section 1.2(c)) ; or

(iii) during the period starting with the date ninety (90) days prior to the Company's good faith estimate of the date of the filing of, and ending on a date one hundred eighty (180) days following the effective date of, a Company-initiated registration subject to Section 1.3 below, provided that the Company is actively employing in good faith all reasonable efforts to cause such registration statement to become effective; or

(iv) if the Initiating Holders propose to dispose of Registrable Securities that may be registered on Form S-3 pursuant to Section 1.4 hereof; or

(v) if the Company shall furnish to Holders requesting a registration pursuant to this Section 1.2, a certificate signed by the Company's Chief Executive Officer or Chairman of the Board stating that in the good faith judgment of the Board of Directors of the Company, it would be seriously detrimental to the Company and its stockholders for such registration to be effected at such time, in which event the Company shall have the right to defer such filing for a period of not more than ninety (90) days after receipt of the request of the Initiating Holders, provided that such right to delay a request shall be exercised by the Company not more than once in any twelve (12)-month period and provided further, that the Company shall not register any other of its shares during such ninety (90) day period; or

(vi) if the Company has already effected any registration statement for the Holders within the six (6) month period preceding the date of such request.

1.3 Company Registration.

(a) If (but without any obligation to do so) the Company proposes to register (including for this purpose a registration effected by the Company for stockholders other than the Holders) any of its capital stock under the Act in connection with the public offering of such securities (other than a registration relating solely to the sale of securities to participants in a Company stock plan, a registration relating to a corporate reorganization or other transaction under Rule 145 of the Act, a registration on any form (including Form S-4 and Form S-8) that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities, or a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered), the Company shall, at such time, promptly give each Holder written notice of such registration. Upon the written request of each Holder given within twenty (20) days after mailing of such notice by the Company, the Company shall, subject to the provisions of Section 1.3(c), use its best efforts to cause a registration statement to become effective, which includes all of the Registrable Securities that each such Holder has requested to be registered.

(b) The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 1.3 prior to the effectiveness of such registration whether or not any Holder has elected to include securities in such registration. The expenses of

such withdrawn registration shall be borne by the Company in accordance with Section 1.7 hereof.

(c) In connection with any offering involving an underwriting of shares of the Company's capital stock, the Company shall not be required under this Section 1.3 to include any of the Holders' securities in such underwriting unless they accept the terms of the underwriting as agreed upon between the Company and the underwriters selected by it (or by other persons entitled to select the underwriters) and enter into an underwriting agreement in customary form with an underwriter or underwriters selected by the Company. If (1) the total amount of securities requested by stockholders to be included in such offering exceeds the amount of securities sold other than by the Company that the underwriters determine in their sole discretion is compatible with the success of the offering or (2) solely in the case of the Initial Offering, if the underwriters determine that inclusion of the Registrable Securities will materially jeopardize the success of the Initial Offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, if any, that the underwriters determine in their sole discretion will not materially jeopardize the success of the offering. The securities included in such registration shall be apportioned pro rata among the selling Holders and other security holders that have the right as of the date hereof (or hereafter pursuant to Section 1.12 hereof) to require registration of their shares in a registration statement under this Section 1.3, according to the total amount of securities entitled to be included therein owned by each selling Holder and other holder or in such other proportions as shall mutually be agreed to by such selling Holders and other holders; provided, that no Registrable Securities (and securities of the Company held by other holders that have rights as of the date hereof or acquired hereafter pursuant to Section 1.12 hereof) shall be excluded until all Common Stock held by other stockholders, directors, officers and employees of the Company have been excluded, but in no event shall the amount of securities of the selling Holders included in the offering be reduced below twenty-five percent (25%) of the total amount of securities included in such offering, unless such offering is the Initial Offering of the Company's securities, in which case the selling Holders may be excluded if the underwriters make the determination described above and no other stockholder's securities are included. For purposes of the preceding parenthetical concerning apportionment, for any selling stockholder that is a Holder of Registrable Securities and that is a partnership or corporation, the partners, retired partners and stockholders of such Holder, or the estates and family members of any such partners and retired partners and any trusts for the benefit of any of the foregoing persons shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate amount of Registrable Securities owned by all such related entities and individuals.

1.4 Form S-3 Registration. In case the Company shall receive from the Holders of the Registrable Securities then outstanding a written request or requests that the Company effect a registration on Form S-3 and any related qualification or compliance with respect to all or a part of the Registrable Securities owned by such Holder or Holders, the Company shall:

(a) promptly give written notice of the proposed registration, and any related qualification or compliance, to all other Holders; and

(b) use best efforts to effect, as soon as practicable, such registration and all such qualifications and compliances as may be so requested and as would permit or facilitate the sale and distribution of all or such portion of such Holders' Registrable Securities as are specified in such request, together with all or such portion of the Registrable Securities of any other Holders joining in such request as are specified in a written request given within fifteen (15) days after receipt of such written notice from the Company, provided, however, that the Company shall not be obligated to effect any such registration, qualification or compliance, pursuant to this section 1.4:

(i) if Form S-3 is not available for such offering by the Holders;

(ii) if the Holders, together with the holders of any other securities of the Company entitled to inclusion in such registration, propose to sell Registrable Securities and such other securities (if any) at an aggregate price to the public (net of any underwriters' discounts or commissions) of less than $2,000,000;

(iii) if the Company shall furnish to the Holders a certificate signed by the Chief Executive Officer or Chairman of the Board of the Company stating that in the good faith judgment of the Board of Directors of the Company, it would be seriously detrimental to the Company and its stockholders for such Form S-3 registration to be effected at such time, in which event the Company shall have the right to defer the filing of the Form S-3 registration statement for a period of not more than ninety (90) days after receipt of the request of the Holder or Holders under this Section 1.4; provided, however, that the Company shall not utilize this right more than once in any twelve (12) month period; and provided further, that the Company shall not register any other of its shares during such 90 day period;

(iv) if the Company has already effected any registration statement for the Investors within the six (6) month period preceding the date of such request, or two (2) registrations on Form S-3 for the Holders pursuant to this Section 1.4; or

(v) in any particular jurisdiction in which the Company would be required to qualify to do business, where not otherwise required, or to execute a general consent to service of process in effecting such registration, qualification or compliance.

(c) Subject to the foregoing, the Company shall file a registration statement covering the Registrable Securities and other securities so requested to be registered as soon as practicable after receipt of the request or requests of the Holders. Registrations effected pursuant to this Section 1.4 shall not be counted as requests for registration effected pursuant to Sections 1.2.

1.5 Obligations of the Company.

Whenever required under this Section 1 to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

(a) prepare and file with the SEC a registration statement with respect to such Registrable Securities and use best efforts to cause such registration statement to become effective, and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the Registration Statement has been completed;

(b) prepare and file with the SEC such amendments and supplements to such registration statement and the prospectus used in connection with such registration statement as may be necessary to comply with the provisions of the Act with respect to the disposition of all securities covered by such registration statement;

(c) furnish to the Holders (i) a draft copy of the registration statement, and (ii) such numbers of copies of a prospectus, including a preliminary prospectus, in conformity with the requirements of the Act, and such other documents as they may reasonably request in order to facilitate the disposition of Registrable Securities owned by them;

(d) use best efforts to register and qualify the securities covered by such registration statement under such other securities or Blue Sky laws of such jurisdictions as shall be reasonably requested by the Holders, provided that the Company shall not be required in connection therewith or as a condition thereto to qualify to do business, where not otherwise required, or to file a general consent to service of process in any such states or jurisdictions;

(e) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the managing underwriter of such offering;

(f) notify each Holder of Registrable Securities covered by such registration statement, at any time when a prospectus relating thereto is required to be delivered under the Act, of (i) the issuance of any stop order by the SEC in respect of such registration statement, or (ii) the happening of any event as a result of which the prospectus included in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing;

(g) if the Registrable Securities are being sold through underwriters, furnish, upon the request of the Holders of a majority of the Registrable Securities requesting registration, on the date that such Registrable Securities are delivered to the underwriters for sale, (i) an opinion, dated as of such date, of the counsel representing the Company for the purposes of such registration, in form and substance as is customarily given to underwriters in an underwritten public offering and reasonably satisfactory to a majority in interest of the Holders requesting registration, addressed to the underwriters, and (ii) a “comfort” letter dated as of such date, from the independent certified public accountants of the Company, in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering and reasonably satisfactory to a majority in interest of the Holders requesting registration, addressed to the underwriters.

(h) cause all such Registrable Securities registered pursuant hereunder to be listed on each securities exchange on which similar securities issued by the Company are then listed; provided that in the case of a registration effected pursuant to Section 1.2 above, which registration constitutes the Initial Offering, the Registrable Securities shall be listed on a national securities exchange or the NASDAQ National Market System; and

(i) provide a transfer agent and registrar for all Registrable Securities registered pursuant hereunder and a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration.

1.6 Information from Holder.

It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 1 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as shall be reasonably required to effect the registration of such Holder's Registrable Securities.

1.7 Expenses of Registration.

All expenses (other than underwriting discounts and commissions incurred in connection with registrations, filings or qualifications pursuant to Sections 1.2, 1.3 and 1.4 and the fees and disbursements of counsel for the selling Holders), including (without limitation) all registration, filing and qualification fees (including Blue Sky fees), printers' and accounting fees, fees and disbursements of counsel for the Company, shall be borne by the Company. Notwithstanding the foregoing, the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 1.2 or Section 1.4 if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all participating Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be requested in the withdrawn registration), unless, in the case of a registration requested under Section 1.2, the Holders of a majority of the Registrable Securities agree to forfeit their right to one demand registration pursuant to Section 1.2, provided, however, that if at the time of such withdrawal, the Holders have learned of a material adverse change in the condition, business or prospects of the Company from that known to the Holders at the time of their request and have withdrawn the request with reasonable promptness following disclosure by the Company of such material adverse change, then the Holders shall not be required to pay any of such expenses and shall retain their rights pursuant to Section 1.2 or 1.4.

1.8 Delay of Registration.

No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any such registration as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 1.

1.9 Indemnification.

In the event any Registrable Securities are included in a registration statement under this Section 1:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, the partners or officers, directors and stockholders of each Holder, legal counsel, investment advisors and accountants for each Holder, any underwriter (as defined in the Act) for such Holder and each person, if any, who controls such Holder or underwriter, within the meaning of the Act or the 1934 Act, against any losses, claims, damages or liabilities (joint or several) to which they may become subject under the Act, the 1934 Act or any state securities laws, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any of the following statements, omissions or violations (collectively a "Violation"): (i) any untrue statement or alleged untrue statement of a material fact contained in such registration statement, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto, (ii) the omission Or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading, or (iii) any violation or alleged violation by the Company of the Act, the 1934 Act, any state securities laws or any rule or regulation promulgated under the Act, the 1934 Act or any state securities laws; and the Company will reimburse each such Holder, partner, officer, director, stockholder, counsel, accountant, underwriter or controlling person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action as such expenses are incurred; provided, however, that the indemnity agreement contained in this subsection 1.9(a) shall not apply to amounts paid in settlement of any such loss, claim, damage, liability or action if such settlement is effected without the consent of the Company (which consent shall not be unreasonably withheld), nor shall the Company be liable in any such case for any such loss, claim, damage, liability or action to the extent that it arises out of or is based upon a Violation that occurs in reliance upon and in conformity with written information furnished expressly for use in connection with such registration by any such Holder, underwriter or controlling person; provided further, however, that the foregoing indemnity agreement with respect to any preliminary prospectus shall not inure to the benefit of any Holder or underwriter, or any person controlling such Holder or underwriter, from whom the person asserting any such losses, claims, damages or liabilities purchased shares in the offering, if a copy of the prospectus (as then amended or supplemented if the Company shall have furnished any amendments or supplements thereto) was not sent or given by or on behalf of such Holder or underwriter to such person, if required by law so to have been delivered, at or prior to the written confirmation of the sale of the shares to such person, and if the prospectus (as so amended or supplemented) would have cured the defect giving rise to such loss, claim, damage or liability.

(b) To the extent permitted by law, each selling Holder, on a several and not joint basis, will indemnify and hold harmless the Company, each of its directors, each of its officers who has signed the registration statement, each person, if any, who controls the Company within the meaning of the Act, legal counsel and accountants for the Company, any underwriter, any other Holder selling securities in such registration statement and any controlling person of any such underwriter or other Holder, against any losses, claims, damages or liabilities

(joint or several) to which any of the foregoing persons may become subject, under the Act, the 1934 Act or any state securities laws, insofar as such losses, claims, damages or liabilities (or actions in respect thereto) arise out of or are based upon any Violation, in each case to the extent (and only to the extent) that such Violation occurs in reliance upon and in conformity with written information furnished by such Holder expressly for use in connection with such registration; and each such Holder will reimburse any person intended to be indemnified pursuant to this subsection 1.9(b) for any legal or other expenses reasonably incurred by such person in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the indemnity agreement contained in this subsection 1.9(b) shall not apply to amounts paid in settlement of any such loss, claim, damage, liability or action if such settlement is effected without the consent of the Holder (which consent shall not be unreasonably withheld), provided that in no event shall any indemnity under this subsection 1.9(b) exceed the net proceeds from the offering received by such Holder.

(c) Promptly after receipt by an indemnified party under this Section 1.9 of actual knowledge of the commencement of any action (including any governmental action), such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 1.9, deliver to the indemnifying party a written notice of the commencement thereof. The indemnifying party shall promptly assume the defense of the indemnified party with counsel reasonably satisfactory to the indemnified party, and the fees and expenses of such counsel shall be at the sole cost and expense of the indemnifying party. The indemnified party will cooperate with the indemnifying party in the defense of any action, proceeding, or investigation for which the indemnified party assumes the defense. Notwithstanding the foregoing, the indemnified party shall have the right to employ separate counsel in any such action, proceeding, or investigation and to participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of the indemnified party unless (i) the indemnifying party has agreed to pay such fees and expenses, (ii) the indemnifying party shall have failed promptly to assume the defense of such action, proceeding, or investigation and employ counsel reasonably satisfactory to the indemnified party, or (iii) in the reasonable judgment of the indemnified party there may be one or more defenses available to the indemnified party which are not available to the indemnifying party with respect to such action, claim, or proceeding due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such proceeding, in which case the indemnifying party shall not have the right to assume the defense of such action, proceeding, or investigation on behalf of the indemnified party. The indemnifying party shall not be liable for the settlement by the indemnified party of any action, proceeding, or investigation effected without its consent, which consent shall not be unreasonably withheld. The indemnifying party shall not enter into any settlement in any action, suit, or proceeding to which the indemnified party is a party, unless such settlement includes a general release of the indemnified party with no payment by the indemnified party of consideration. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action, if prejudicial to its ability to defend such action, shall relieve such indemnifying party of any liability to the indemnified party under this Section 1.9 to the extent of such prejudice, but the omission to so deliver written notice to the indemnifying party will not

relieve it of any liability that it may have to any indemnified party otherwise than under this Section 1.9.

(d) If the indemnification provided for in this Section 1.9 is held by a court of competent jurisdiction to be unavailable to an indemnified party with respect to any loss, liability, claim, damage or expense referred to herein, then the indemnifying party, in lieu of indemnifying such indemnified party hereunder, shall contribute to the amount paid or payable by such indemnified party as a result of such loss, liability, claim, damage or expense in such proportion as is appropriate to reflect the relative fault of and the relative benefits received by the indemnifying party on the one hand and of the indemnified party on the other in connection with the statements or omissions that resulted in such loss, liability, claim, damage or expense, as well as any other relevant equitable considerations, provided that no person guilty of fraud shall be entitled to contribution. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission to state a material fact relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission. The relative benefits received by the indemnifying party and the indemnified party shall be determined by reference to the net proceeds and underwriting discounts and commissions from the offering received by each such party. In no event shall any contribution under this subsection 1.9(d) exceed the net proceeds from the offering received by such Holder, less any amounts paid under subsection 1.9(b).

(e) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control.

(f) The obligations of the Company and Holders under this Section 1.9 shall survive the completion of any offering of Registrable Securities in a registration statement under this Section 1, and otherwise.

1.10 Reports Under Securities Exchange Act of 1934.

With a view to making available to the Holders the benefits of Rule 144 promulgated under the Act and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company agrees to:

(a) make and keep public information available, as those terms are understood and defined in SEC Rule 144, at all times after the effective date of the Initial Offering; or

(b) file with the SEC in a timely manner all reports and other documents required of the Company under the Act and the 1934 Act; and

(c) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144 (at any time after ninety (90) days after the effective date of the first registration statement filed by the Company), the Act and the 1934 Act (at any time after it has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after it so qualifies), (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company, and (iii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC that permits the selling of any such securities without registration or pursuant to such form.

1.11 Assignment of Registration Rights.

The rights to cause the Company to register Registrable Securities pursuant to this Section 1 may be assigned (but only with all related obligations) by a Holder to a transferee or assignee of such securities that (i) is a subsidiary, affiliate, parent, partner, limited partner, retired partner or stockholder of a Holder, (ii) is a Holder's immediate family member (spouse or child) or trust for the benefit of an individual Holder, or (iii) after such assignment or transfer, holds at least 250,000 shares of Registrable Securities (subject to appropriate adjustment for stock splits, stock dividends, combinations and other recapitalizations), provided: (a) the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee or assignee and the securities with respect to which such registration rights are being assigned, and provided further that the Company shall have no obligation to any transferee prior to receiving such notification of transfer; (b) such transferee or assignee agrees in writing to be bound by and subject to the terms and conditions of this Agreement, including without limitation the provisions of Section 1.13 below; and (c) such assignment shall be effective only if immediately following such transfer the further disposition of such securities by the transferee or assignee is restricted under the Act.

1.12 Limitations on Subsequent Registration Rights.

From and after the date of this Agreement, the Company shall not, without the prior written consent of the Holders of fifty percent (50%) of the then outstanding Registrable Securities, enter into any agreement with any holder or prospective holder of any securities of the Company that would allow such holder or prospective holder (a) to include such securities in any registration filed under Sections 1.2 or 1.3 hereof, unless under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will not reduce the amount of the Registrable Securities of the Holders that are included or (b) to demand registration of their securities. Notwithstanding the foregoing, the Company may grant rights to include securities in any registration filed under Sections 1.2, 1.3 and 1.4 hereof to holders of shares of capital stock of equal priority to that of the Series E Preferred with an aggregate purchase price of up to $20,000,000 (the Additional Shares"), without such affirmative vote of holders of the Series E Preferred.

1.13 "Market Stand-Off' Agreement.

Each Holder hereby agrees that it will not, without the prior written consent of the Company and the managing underwriter, during the period commencing on the date of the final prospectus relating to the Company's initial public offering and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days) (i) lend, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock (whether such shares or any such

securities are then owned by the Holder or are thereafter acquired), or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise. The foregoing provisions of this Section 1.13 shall apply only to the Initial Offering, shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, and shall only be applicable to the Holders if all officers and directors and greater than five percent (5%) stockholders of the Company enter into similar agreements. The underwriters in connection with the Company's initial public offering are intended third party beneficiaries of this Section 1.13 and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Notwithstanding the foregoing, nothing in this Section 1.13 shall prevent the undersigned from making a transfer of any Common Stock that was listed on a national stock exchange or traded on Nasdaq at the time it was acquired by the Holder or was acquired by the undersigned pursuant to Rule 144A of the Act, including any shares acquired in the Company's initial public offering.

In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to the Registrable Securities of each Holder (and the shares or securities of every other person subject to the foregoing restriction) until the end of such period.

1.14 Termination of Registration Rights.

No Holder shall be entitled to exercise any right provided for in this Section 1 after five (5) years following the consummation of the Initial Offering or, as to any Holder, such earlier time at which all Registrable Securities held by such Holder (and any affiliate of the Holder with whom such Holder must aggregate its sales under Rule 144) can be sold in any three (3)-month period in compliance with Rule 144 of the Act.

2. Covenants of the Company.

2.1 Delivery of Financial Statements.

(a) The Company shall deliver to each Significant Holder as soon as practicable after the end of each fiscal year of the Company, an income statement for such fiscal year, a balance sheet of the Company and statement of stockholder's equity as of the end of such year, and a statement of cash flows for such year, such year-end financial reports to be in reasonable detail, prepared in accordance with generally accepted accounting principles ("GAAP"), and audited and certified by independent public accountants of nationally recognized standing selected by the Company, and an unqualified (except for contingent liabilities) certified audit report from the Company's auditors.

(b) The Company shall deliver to each Significant Holder

(i) as soon as practicable after the end of each of the first three (3) quarters of each fiscal year of the Company, an unaudited income statement, statement of

cash flows for such fiscal quarter and an unaudited balance sheet as of the end of such fiscal quarter;

(ii) as soon as practicable after approval by the Board of Directors, a budget for the next fiscal year, including balance sheets, income statements and, as soon as prepared, any other budgets or revised budgets prepared by the Company and approved by the Board of Directors; and

(iii) such other information relating to the financial condition, business, prospects or corporate affairs of the Company as such Significant Holder may from time to time reasonably request.

(c) Together with the financial statements called for in Section 2.1(a) and (b), the Company shall deliver an instrument executed by the Chief Financial Officer or President of the Company certifying that such financials were prepared in accordance with GAAP consistently applied with prior practice for earlier periods (with the exception of footnotes that may be required by GAAP) and fairly present the financial condition of the Company and its results of operation for the period specified, subject to year-end audit adjustments and other reasonable qualifiers.

2.2 Inspection.

The Company shall permit each Significant Holder at such Significant Holder's expense, to visit and inspect the Company's properties, to examine its books of account and records and to discuss the Company's affairs, finances and accounts with its officers, all at such reasonable times as may be reasonably requested by the Investor; provided, however, that the Company shall not be obligated pursuant to this Section 2.2 to provide access to any information that it reasonably considers to be a trade secret or similar confidential information.

2.3 Right of First Offer.

(a) Subject to the terms and conditions specified in this Section 2.3, the Company hereby grants to each Investor a right of first offer with respect to future sales by the Company of its Shares (as hereinafter defined). For purposes of this Section 2.3, Investor includes any partners and affiliates of an Investor. An Investor shall be entitled to apportion the right of first offer hereby granted it among itself and its partners and affiliates in such proportions as it deems appropriate, so long as such apportionment does not cause the loss of the exemption under Section 4(2) of the Act or any similar exemption under applicable state securities laws in connection with such sale of shares by the Company.

(b) Each time the Company proposes to offer any shares of, or securities convertible into or exchangeable or exercisable for any shares of, any class of its capital stock (the "Shares"), the Company shall give written notice (the "Notice") to the Investors at least thirty (30) days before the closing of any such sale or transfer. The Notice shall describe in reasonable detail the proposed sale or transfer, including, without limitation (i) the number of such Shares to be offered, and (ii) the price and terms upon which it proposes to offer such

Shares, including voting powers and preferences. Each of the Investors shall have an option for a period of twenty (20) calendar days after receipt of the Notice, to purchase or obtain, at the price and on the terms specified in the Notice, up to that portion of such Shares that equals the proportion that the number of shares of Common Stock issued and held, or issuable upon conversion of the Series E Preferred then held, by such Investor bears to the total number of shares of Common Stock of the Company then outstanding (assuming full conversion and exercise of all outstanding convertible and exercisable securities). Each Investor may exercise its option by notifying the Company within twenty (20) calendar days after receipt of the Notice of the number of securities its elects to purchase. Payment for the offered Shares shall be made by check or wire transfer against delivery of the offered Shares at a place and time specified in the Notice, but in no event later than forty five (45) days after delivery of the Notice. If all Shares that Investors are entitled to obtain pursuant to this section are not elected to be obtained by the Investors, the Company may, during the one hundred twenty (120) day period following the expiration of the twenty (20) day option period provided herein, offer the remaining unsubscribed portion of such Shares to any person or persons at a price not less than, and upon terms no more favorable to the offeree than those specified in the Notice. If the Company does not enter into an agreement for the sale of the Shares within such one hundred twenty (120) day period, or if such agreement is not consummated within one hundred twenty (120) days of the execution thereof, the right provided hereunder shall be deemed to be revived and such Shares shall not be offered unless first reoffered to the Investors in accordance herewith.

(c) The right of first offer in this Section 2.3 shall not be applicable to bona fide options (and the shares issuable upon exercise thereof) issued to employees, directors and consultants of the Corporation pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Corporation, (ii) shares issued in connection with the exercise of convertible securities outstanding as of the date of the first sale of Series E Preferred, (iii) the issuance of securities in connection with a bona fide business acquisition of or by the Company, whether by merger, consolidation, sale of assets, sale or exchange of stock or otherwise, (iv) the issuance of stock, warrants or other securities or rights to persons or entities with which the Company has business relationships provided such issuances are for other than primarily equity financing purposes, provided that in cases of issuances pursuant to clauses (iii) and (iv) such issuances shall have been approved by a majority of the Board of Directors, (v) the issuance of shares of Series E Preferred Stock in the Subsequent Offering (as defined in the Purchase Agreement), or (vi) the Company's Initial Offering.

2.4 Reserved Share Pool; Additional Private Offering Purchase Option.

(a) The Company shall give written notice to each Investor as soon as practicable, but in no event later than thirty (30) days, before the filing of the Company's first registration statement with the Securities and Exchange Commission for resale of its securities. Upon a request made by Investors holding a majority of the shares of Series E Preferred Stock after the filing of the Company's first registration statement, the Company shall request that the managing underwriters of the Company's Initial Offering establish a directed share program (the "Program") in connection with the Initial Offering covering at least 10% of the shares (or such lesser percentage as may be required by the National Association of Securities Dealers (the "NASD") and applicable regulatory authorities) offered in the Initial Offering (the "Program

Shares"). The Company shall use its best efforts to cause the managing underwriters to (i) give priority to the holders of Series E Preferred Stock with respect to the Program Shares in allocating the shares available for purchase in the Program so that the percentage of the total number of shares included in the Initial Offering made available to the holders of Series E Preferred Stock in the Program equals the percentage of outstanding common shares on a fully diluted basis represented by the Series E Preferred Stock immediately prior to the closing of the Initial Offering and (ii) to implement the Program so that the holders of Series E Preferred Stock, pro rata in accordance with their relative holdings of Series E Preferred Stock, have the option, but not the obligation, to purchase all or any portion of the Program Shares made available to them in clause (i) above at the Initial Offering price.

(b) If the rights provided to the holders of Series E Preferred Stock under this section shall not be enforceable by them for any reason, then the holders of Series E Preferred Stock shall have the option, but not the obligation, to purchase, and the Company hereby agrees to sell, the number of shares of common stock that such Investors would have otherwise been able to purchase under Section 2.4(a) above in a private offering which shall close immediately prior to the consummation of the Initial Offering at the public offering price less a reasonable illiquidity discount to be determined by the parties in good faith, the percentage of which discount shall not exceed the percentage underwriters' discount for the Initial Offering. The timing and conditions of such private placement shall be as reasonably determined by the Investors holding a majority of the Series E Preferred. Stock. The Company shall take all actions and execute and file all documents and instruments reasonably necessary to effectuate the private placement referred to in this Section 2.4(b). The securities issued to the Investors in such private placement shall be deemed to be Registrable Securities, as such term is defined herein, and shall be subject to the rights and obligations provided to such securities herein.

(c) Notwithstanding anything herein to the contrary, the rights provided to the holders of Series E Preferred Stock under this Section 2.4 shall not be enforceable by them (a) to the extent they are found to be materially inconsistent with the regulations and policies of the SEC, the NASD or other regulatory authority as in effect at the time of the Initial Offering, (b) would on the basis of SEC staff comments prevent the registration statement for the Initial Offering from being declared effective, (c) to the extent the managing underwriters determine that the exercise of such rights could materially adversely effect the offering price in the Initial Offering or (d) if inclusion of such Program Shares or the consummation of such concurrent private offering could have the effect of causing the Initial Offering to fail to constitute a bona fide good faith public distribution of the Initial Offering shares.

(d) The rights of the Investors granted by the Company in this Section 2.4 have been bargained for as part of the investing practices of such Investors, and have not been sought by them or granted by the Company in contemplation of the Initial Offering to made within any determined period of time (if ever made), but as an extension of the rights of first refusal granted to the Investors pursuant to Section 2.3 above that would otherwise expire upon and not apply to the Initial Offering. Each Investor may assign its rights under this Section 2.4 to an affiliate of such Investor, a partner if such Investor is an investment fund, or to a beneficiary if such Investor is a trust.

2.5 Termination of Certain Covenants.

The covenants set forth in this Section 2 (other than those in Section 2.4 above, which apply upon an Initial Offering and shall terminate thereafter) shall terminate and be of no further force or effect following the consummation of the sale of securities pursuant to a bona fide, firmly underwritten public offering of shares of Common Stock, registered under the Act or when the Company first becomes subject to the periodic reporting requirements of Sections 12(g) or 15(d) of the 1934 Act, whichever event shall first occur.

2.6 Notice of Litigation.

So long as any Holder shall hold any shares of Series E Preferred Stock, the Company shall provide notice to the Holders promptly upon the filing of any material action, suit or proceeding.

2.7 Corporate Existence, Licenses and Permits; Maintenance of Properties.

So long as any Holder shall hold any Series E Preferred Stock, the Company will at all times use commercially reasonable efforts to do or cause to be done all things necessary to maintain, preserve and renew its existence as a corporation organized under the laws of a state of the United States of America, preserve and keep in force and effect, and cause each of its subsidiaries to apply for on a timely basis, all licenses and permits necessary and material to the conduct of the business of the Company and its consolidated subsidiaries, taken as a whole, and to maintain and keep, and cause each of its subsidiaries to maintain and keep, its and their respective material properties in good repair, working order and condition (except for normal wear and tear), and from time to time to make all needful and proper repairs, renewals and replacements, including, without limitation, all trade name and trademark registration renewals, in each case so that any business material to the Company carried on in connection therewith may be properly conducted.

2.8 No Investment Company.

The Company shall not become an “investment company” or a company “controlled” by an “investment company,” within the meaning of the Investment Company Act of 1940, as amended. In the event the Company breaches the foregoing, the Company shall forthwith notify the Investors and shall take immediate corrective action to remedy such breach.

3. Miscellaneous.

3.1 Successors and Assigns.

Except as otherwise provided herein, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties (including transferees of any shares of Registrable Securities). Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

3.2 Governing Law.

This Agreement shall be governed by and construed under the laws of the State of California as applied to agreements among California residents entered into and to be performed entirely within California.

3.3 Counterparts.

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. From and after the date of this Agreement, the Company may allow additional Investors in the Subsequent Series E Offering and investors in any other offering approved by the holders of Series E Preferred in accordance with the Certificate of Designation or allowable thereunder to become parties hereto by execution of the signature page by the Company and the new Investors.

3.4 Titles and Subtitles.

The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

3.5 Notices.

Unless otherwise provided, any notice required or permitted under this Agreement shall be given in writing and shall be deemed effectively given upon personal delivery to the party to be notified or upon delivery by confirmed facsimile transmission, nationally recognized overnight courier service, or upon deposit with the United States Post Office, by registered or certified mail, postage prepaid and addressed to the party to be notified at the address indicated for such party on the signature page hereof, or at such other address as such party may designate by ten (10) days' advance written notice to the other parties.

3.6 Expenses.

If any action at law or in equity is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees, costs and necessary disbursements in addition to any other relief to which such party may be entitled.

3.7 Entire Agreement; Amendments and Waivers.

This Agreement (including the Exhibits hereto, if any) constitutes the full and entire understanding and agreement among the parties with regard to the subjects hereof and thereof. Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and the holders of no less than a majority of the Registrable Securities then outstanding. Any amendment or waiver effected in accordance with this paragraph shall be binding upon each holder of any Registrable Securities, each future holder of all such Registrable Securities and the Company. Notwithstanding the

foregoing, any amendment of Section 1.13 shall require the consent of each Holder which is a registered investment company.

3.8 Severability.

If one or more provisions of this Agreement are held to be unenforceable under applicable law, such provision shall be excluded from this Agreement and the balance of the Agreement shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

3.9 Aggregation of Stock.

All shares of Registrable Securities held or acquired by entities advised by the same investment adviser and affiliated entities or persons shall be aggregated together for the purpose of determining the availability of any rights under this Agreement.

3.10 Amendment and Restatement.

Effective upon the Closing under the Purchase Agreement (as defined therein), the Initial Agreement shall be amended and restated in its entirety as set forth herein.

* * *

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Franklin California Growth Fund

By: /s/ David P. Goss
David P. Goss
Vice President

Address: 777 Mariners Island Blvd.
San Mateo, CA 94404

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Franklin Biotechnology Discovery Fund

By: /s/ David P. Goss
David P. Goss
Vice President

Address: 777 Mariners Island Blvd.
San Mateo, CA 94404

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: IDS Life Series Fund, Inc., – Equity Portfolio

/s/ [Illegible Signature]

Address: c/o American Express Financial Corporation
733 Marquette Avenue
Minneapolis Minnesota 55402

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: AXP Strategy Aggressive Fund

/s/ [Illegible Signature]

Address: c/o American Express Financial Corporation
733 Marquette Avenue
Minneapolis Minnesota 55402

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

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South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: AXP Strategy Aggressive Fund – Strategic Aggressive Fund

/s/ [Illegible Signature]

Address: c/o American Express Financial Corporation
733 Marquette Avenue
Minneapolis Minnesota 55402

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Marc Pentopoulos
Marc Pentopoulos
EGM Medical Technology Fund LP

Address: 1 Embarcadero Center, Suite 2410
SF CA 94111

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Marc Pentopoulos
Marc Pentopoulos
EGM Medical Technology Offshore Funds

Address: 1 Embarcadero Center, Suite 2410
SF CA 94111

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Thomas M. Vertin
Thomas M. Vertin

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
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INVESTORS:

By: /s/ T. Craig Benson
T. Craig Benson

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: Lakeside Capital Group LLC
/s/ John S. Hemmingsen
John S. Hemmingsen

Address: 912 Riverside Circle
Post Falls, ID 83854

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ John C. Dilts JQ
John C. Dilts JQ

Address: _____

[SIGNATURE PAGE TO FIRST AMENDED AND RESTATED
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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Ronald E. Clark

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Ira Hall

Ira Hall

Address: _____

_____

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By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Lee Hall

Lee Hall

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Kenneth Jay Hall
Kenneth Hall

/s/ Ellen Hall
Ellen Hall

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ James A. Silverman

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Marilyn & Richard Snyder

Marilyn & Richard Snyder

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Christine M. Cunningham
Christine M. Cunningham

Address: _____

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COMPANY:

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By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Steven J. Silverman
Steven J. Silverman

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Richard B. Silverman

Richard B. Silverman

Address: _____

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By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ James A. Silverman
James A. Silverman Risk/Reward Capital Mgt. FBO
Katherine Burdon

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Kenneth Sheiffer
Kenneth Sheiffer

Address:

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FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: The Johnson Living Trust

/s/Peter Johnson, Trustee

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Sharlett Okylle
SHARLETT OKYLE

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
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INVESTORS:

By: /s/Peter Suzman
Peter Suzman

Address:

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FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

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South San Francisco, CA 94080
650-866-7200 (phone)
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INVESTORS:

By: /s/Erin M. Doran
Erin M. Doran

Address:

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By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Antonio Marziale, Managing Director
Antonio Marziale, Managing Director

Heptagon Investments Ltd.

Address: 5, Rue Cesar Soulie
1206 Nyon (Switzerland)

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Antonio Marziale, Attorney in Fact
Antonio Marziale, Attorney in Fact

Financiera e Inversionista Xana S.A.

Address: c/o Banco di Lugano
Lugano (Switzerland)

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Scott T. Jagodzinksi
Scott T. Jagodzinski

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Damian Topousis

Damian Topousis

Address: _____

_____

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By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Henry A. Cousineau III
Henry A. Cousineau III

Address: _____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Paul D. Norell
Paul D. Norell

Address: _____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Jeanne Capria

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Peter Lecy
Peter Lecy

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: Financiera e Inversionista Xana S.A.
By: Antonio Marziale, Attorney in Fact

/s/ Antonio Marziale, Attorney in Fact
c/o Banco di Lugano Piazzetta San Carlo
Address: 6900 Lugano, Switzerland
Attn: Mr. Roberto Pini

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Bio Fund Ventures II Ky

By: /s/ Kalevi Kurkijarvi
Kalevi Kurkijarvi, Chairman & CEO

(Bio Fund Management Oy as General Partner)

Address: Mikonkatu 4
00100 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Thomproperties Oy

By: /s/ Juha Jounki
Juha Jounki, Partner

Address: Italahoen Kotu 15-17
00210 Helsinki, Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Dreadnought Finance 04

By: /s/ Juha Jounki
Juha Jounki

Address: Italahoenkatu 15-17
00210 Helsinki, Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Ulf Rosenlof
Ulf Rosenlof

Concordia Investor IKb

Address: c/o Concordia Capital Ab
Eteläesplanadi 22A
Fin – 00130 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Ulf Rosenlof
Ulf Rosenlof

Concordia Investor II Kb

Address: c/o Concordia Capital Ab
Eteläesplanadi 22A
Fin – 00130 Helsinki
Finland

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FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Aki Prihti
Aki Prihti

Concordia Capital Ab on behalf of Mehimas Oy

Address: Eteläesplanadi 22A
Fin – 00130 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Aki Prihti
Aki Prihti

Concordia Capital Ab on behalf of Servisen Holding AB

Address: Eteläesplanadi 22A
Fin- 00130 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Aki Prihti
Aki Prihti

Concordia Capital Ab on behalf of Eriksson Capital Ab

Address: Eteläesplanadi 22A
Fin – 00130 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Aki Prihti
Aki Prihti

Concordia Capital Ab on behalf of Aktiebolaget Svenpab

Address: Eteläesplanadi 22A
Fin – 00130 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Aki Prihti
Aki Prihti

Concordia Capital Ab on behalf of Piccolomini Oy

Address: Eteläesplanadi 22A
Fin – 00130 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Aki Prihti
Aki Prihti

Concordia Capital Ab on behalf of OyLipmed Ab

Address: Eteläesplanadi 22A
Fin – 00130 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Aki Prihti
Aki Prihti

Concordia Capital Ab on behalf of Oy Vivipharma Ab

Address: Eteläesplanadi 22A
Fin – 00130 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Aki Prihti
Aki Prihti

Concordia Capital Ab on behalf of Ndlovu Ab

Address: Eteläesplanadi 22A
Fin – 00130 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Aki Prihti
Aki Prihti

Concordia Capital Ab

Address: Eteläesplanadi 22A
Fin – 00130 Helsinki
Finland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Clifford J. Steer

Clifford J. Steer

Address: _____

_____

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INVESTORS' RIGHTS AGREEMENT]

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Randolph C. Steer

Randolph C. Steer

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/David W. Wynne
David W. Wynne

Address:

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COMPANY:

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By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Michael S. Tankel
Michael S. Tankel

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Susan Kingsolving
Susan Kingsolving

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/C. Knox Massey, Jr.

C. Knox Massey, Jr.

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Wirt L. Davis II
Wirt Davis II

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/E. Carwile LeRoy
E. Carwil LeRoy

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Robert J. Finegan

Robert J. Finegan

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: LSMFJ Partners
/s/Mike Salivas - Partner

Address: 5970 Berkshire Lane, Suite 1300
Dallas TX 75225

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Diana H. Adams

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Joseph Rile

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Robert E. Howard IV Ttee
Howard Children's 1998 Trust

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Dan G. Howard Ttee
Howard Family Trust

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Frederick C. Goggans Family Partnership

By: /s/ Frederick C. Goggans
Frederick C. Goggans

Address: _____

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Barbara B. Kaiser

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ A.J. Brune, III
A.J. Brune, III

Chief Financial Officer and
Executive Vice President

Address: 300 N. Marienfeld, Suite 1100
Midland, Texas 79701

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Cyril Wagner, Jr.
Cyril Wagner, Jr.
Managing Partner
Wagner Family Partnership VI

Address: 300 N. Marienfeld, Suite 1100 Midland, Texas 79701

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Alex Gross
Alex Gross

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

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South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Gerardo LeGorreta
Gerardo LeGorreta

Address:

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

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South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/John J. Mark

Address:

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COMPANY:

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Thomas B. Neff, President and Chief Executive Officer

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South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Carols Vizcaino

Address: Tiro al Pichon 269
Louvas de Bezares
Mexico DF 11901
Mexico

* *

Francisco Martinelli Bermudez Secretary & Director
Metro Gobal SA

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

CBG COMPAGNIE BANCAIRE GENEVE

By: /s/ P.A. Pesenti Th. Mory
Ass. Vice President Ass. Vice President

Address: Avenue de Rumine 20
CH-1005 Lausanne
Switzerland

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Mr. Jorge CASO BERCHT

Address:

/s/ Diego Vignuda
Diego Vignuda

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Thomas F. Kearns Jr.
Thomas F. Kearns Jr.

Address: _____

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Thomas B. Neff, President and Chief Executive Officer

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650-866-7202 (fax)

INVESTORS:

By: /s/ Frank Deford

Address:

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COMPANY:

FIBROGEN, INC.

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Thomas B. Neff, President and Chief Executive Officer

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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

CITY NATIONAL BANK TTEE
F.B.O. PM&S / STEER

By: /s/ John F.F. Billings
John F.F. Billings
Trust Officer

Address: 225 Broadway St. #500
S.D. CA 92101

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INVESTORS:

CITY NATIONAL BANK TTEE F.B.O. PM&S / STEER

By: /s/John F.F. Billings
John F.F. Billings
Trust Officer

Address: 225 Broadway St. #500
S.D. CA 92101

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Thomas B. Neff, President and Chief Executive Officer

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650-866-7202 (fax)

INVESTORS:

By: /s/F.S. Reding
F.S Reding

Address:

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Thomas B. Neff, President and Chief Executive Officer

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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Mitsuru Hamaishi
Mitsuru Hamaishi
President

Address: 6-3, Kanda Kajiojo 3-Ohome
Ohiyoda-Ku, Tokyo 101 Japan
Phone 03(3252)4591

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Isao Nishimura
ISAO NISHIMURA, President
Asahi Life Capital No.3 Investment
Enterprice Partnership

Address: 7-3, Nishi-Shinjuku 1-Chome
Shinjuku-ku, Tokyo 163-8611 JAPAN

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COMPANY:

FIBROGEN, INC.

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Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Masahiro Taguchi
MASAHIRO TAGUCHI, President

Sankyo Sekiyu Limited

Address: U.T. Building 8 Fr. 1-5-13
Hirakawa-cho, Chiyoda-ku
Tokyo, Japan 102-0093

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COMPANY:

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By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Kogin Investment (3iBJ) No. 2 Fund

By: /s/Hajime Yosano
Hajime Yosano, President

IBJ Investment, ltd., Managing Kumiai-in

Address: 12-2 Gobancho, Chiyoda,-ku,
Tokyo, Japan

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COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Orix Fund No. 4

By: /s/Tsutomu Matsuzaki
Tsutomu Matsuzaki, President, ORIX Capital Corporation
(Orix Fund No. 4)

Address: TOC Osaki Bldg., 8F, 1-6-1
Osaki, Shinagawa-ku, Tokyo 141-0032

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Life Science Venture Fund

By: /s/Tadashi Matsumoto
TADASHI MATSUMOTO, President & CEO

ReqMed Company, Ltd.

Address: 1-18-12 Mohino 2H
Machida-City, Tokyo 194-0022

[SIGNATURE PAGE TO FIRST AMENDED AND RESTATED
INVESTORS' RIGHTS AGREEMENT]

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/S.C Hong
President S.C. Hong

Chiatung Venture Capital Corporation

Address: 10F., 261, Sung-Chiang Rd., Taipei Taiwan.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Howard V. O'Connell
Howard V. O'Connell

Address: _____

_____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/Lin, Yseng-Cheng
Lin, Yseng-Cheng

Chung Shan venture capital corporation

Address: 25F-2 NO.31 Hai-Pien
Road Kaohsiung, Taiwan, R.O.C.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/S.C. Hong
President S.C. Hong

Huitung Investment (BVI) Limited

Address: 10F., 261, Sung-Chiang Rd., Taipei Taiwan.

FIBROGEN, INC.

CONSENT AND WAIVER OF RIGHTS UNDER
SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, In connection with the Series F Preferred Stock Financing of Fibrogen, Inc. (the "Company"), the Company wishes to issue shares of Series F Preferred Stock of the Company and to grant registration rights to the purchasers of the Company's Series F Preferred Stock (the "Series F Preferred") by entering into the Series F Investor Rights Agreement to be dated as of the date of the first closing of the Series F Preferred Stock Financing, a copy of which is attached hereto as Exhibit A, and to amend the Investors' Rights Agreement dated May 12, 2000 between the Company and the Series E Preferred stockholders (the "Investors' Rights Agreement") to place the holders of Series E Preferred on par with holders of Series F Preferred with respect to registration rights;

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock the Company holds a right of first offer with respect to future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement;

WHEREAS, Pursuant to Section 3.7 of the Investors' Rights Agreement, the Investors' Rights Agreement may be amended, and the right of first offer thereunder may be waived, by holders of a no less than a majority of the Registrable Securities outstanding;

WHEREAS, Under Section 1.12 of the Investors' Rights Agreement, the consent of holders of fifty percent (50%) of the Registrable Securities is required to grant rights to demand registration rights or rights to include securities in registrations in any registration filed under Section 1.2 or 1.3 of the Investors' Rights Agreement.

NOW, THEREFORE, the undersigned Holder agrees as follows:

1. Waiver. Holder hereby waives its rights pursuant to Section 2.3 of the Investors Rights Agreement with regard to the issuance of up to 25,718,961 shares of Series F Preferred.

2. Consent and Amendment. Holder hereby consents to the grant of registration rights to purchasers of Series F Preferred Stock of the Company under the Series F Investors' Rights Agreement, including the inclusion of the Series E Preferred Stock in the definition of Registrable Securities under the Series F Investors' Rights Agreement, and to the amendment of the Investors Rights Agreement to conform to the registration rights set forth in the Series F Investors Rights Agreement, including the inclusion of the Series F Preferred Stock in the definition of Registrable Securities.

3. Definitions. All terms not defined in this Consent and Waiver have the same meaning as set forth in the Investors' Rights Agreement.

[THE REMAINDER OF THIS PAGE LEFT BLANK INTENTIONALLY]

[THE REMAINDER OF THIS PAGE LEFT BLANK INTENTIONALLY]

HOLDER:

VCFA HOLDINGS HI, LLC
By: Venture Capital Fund America III, Inc., its managing member

By: /s/ Brett D. Byers

Brett D. Byers
Name

Managing Director
Title

Dated: December 21, 2004

HOLDER:

VCFA HOLDINGS III, LLC
By: Venture Capital Fund of America III, Inc.

By: /s/ Brett D. Byers

Brett D. Byers
Name

Managing Director
Title

Dated: December 14, 2004

[SIGNATURE PAGE TO CONSENT AND WAIVER OF RIGHTS UNDER
SERIES E INVESTORS' RIGHTS AGREEMENT]

FIBROGEN, INC.

CONSENT AND WAIVER OF RIGHTS UNDER
SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, In connection with the Series F Preferred Stock Financing of Fibrogen, Inc. (the "Company"), the Company wishes to issue shares of Series F Preferred Stock of the Company and to grant registration rights to the purchasers of the Company's Series F Preferred Stock (the "Series F Preferred") by entering into the Series F Investor Rights Agreement to be dated as of the date of the first closing of the Series F Preferred Stock Financing, a copy of which is attached hereto as Exhibit A, and to amend the Investors' Rights Agreement dated May 12, 2000 between the Company and the Series E Preferred stockholders (the "Investors' Rights Agreement") to place the holders of Series E Preferred on par with holders of Series F Preferred with respect to registration rights;

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock the Company holds a right of first offer with respect to future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement;

WHEREAS, Pursuant to Section 3.7 of the Investors' Rights Agreement, the Investors' Rights Agreement may be amended, and the right of first offer thereunder may be waived, by holders of a no less than a majority of the Registrable Securities outstanding;

WHEREAS, Under Section 1.12 of the Investors' Rights Agreement, the consent of holders of fifty percent (50%) of the Registrable Securities is required to grant rights to demand registration rights or rights to include securities in registrations in any registration filed under Section 1.2 or 1.3 of the Investors' Rights Agreement.

NOW, THEREFORE, the undersigned Holder agrees as follows:

1. Waiver. Holder hereby waives its rights pursuant to Section 2.3 of the Investors Rights Agreement with regard to the issuance of up to 25,718,961 shares of Series F Preferred.

2. Consent and Amendment. Holder hereby consents to the grant of registration rights to purchasers of Series F Preferred Stock of the Company under the Series F Investors' Rights Agreement, including the inclusion of the Series E Preferred Stock in the definition of Registrable Securities under the Series F Investors' Rights Agreement, and to the amendment of the Investors Rights Agreement to conform to the registration rights set forth in the Series F Investors Rights Agreement, including the inclusion of the Series F Preferred Stock in the definition of Registrable Securities.

3. Definitions. All terms not defined in this Consent and Waiver have the same meaning as set forth in the Investors' Rights Agreement.

[THE REMAINDER OF THIS PAGE LEFT BLANK INTENTIONALLY]

IN WITNESS WHEREOF, the undersigned stockholders of Fibrogen, Inc. have executed this Written Consent in counterparts as of the date first set forth above and direct that this Written Consent be filed with the minutes of the proceedings of the stockholders of the Company.

VCFA HOLDINGS III, LLC
By: Venture Capital Fund of America III, Inc., its managing member

By: /s/ Brett D. Byers
Name: Brett D. Byers
Title: Managing Director

List of Exhibits:

Exhibit A—Series F Certificate of Designation

[SIGNATURE PAGE TO WRITTEN CONSENT OF SERIES E STOCKHOLDERS OF FIBROGEN, INC.]

FIBROGEN, INC.

CONSENT AND WAIVER OF RIGHTS UNDER
SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, In connection with the Series F Preferred Stock Financing of Fibrogen, Inc. (the "Company"), the Company wishes to issue shares of Series F Preferred Stock of the Company and to grant registration rights to the purchasers of the Company's Series F Preferred Stock (the "Series F Preferred") by entering into the Series F Investor Rights Agreement to be dated as of the date of the first closing of the Series F Preferred Stock Financing, a copy of which is attached hereto as Exhibit A, and to amend the Investors' Rights Agreement dated May 12, 2000 between the Company and the Series E Preferred stockholders (the "Investors' Rights Agreement") to place the holders of Series E Preferred on par with holders of Series F Preferred with respect to registration rights;

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock the Company holds a right of first offer with respect to future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement;

WHEREAS, Pursuant to Section 3.7 of the Investors' Rights Agreement, the Investors' Rights Agreement may be amended, and the right of first offer thereunder may be waived, by holders of a no less than a majority of the Registrable Securities outstanding;

WHEREAS, Under Section 1.12 of the Investors' Rights Agreement, the consent of holders of fifty percent (50%) of the Registrable Securities is required to grant rights to demand registration rights or rights to include securities in registrations in any registration filed under Section 1.2 or 1.3 of the Investors' Rights Agreement.

NOW, THEREFORE, the undersigned Holder agrees as follows:

1. Waiver. Holder hereby waives its rights pursuant to Section 2.3 of the Investors Rights Agreement with regard to the issuance of up to 25,718,961 shares of Series F Preferred.

2. Consent and Amendment. Holder hereby consents to the grant of registration rights to purchasers of Series F Preferred Stock of the Company under the Series F Investors' Rights Agreement, including the inclusion of the Series E Preferred Stock in the definition of Registrable Securities under the Series F Investors' Rights Agreement, and to the amendment of the Investors Rights Agreement to conform to the registration rights set forth in the Series F Investors Rights Agreement, including the inclusion of the Series F Preferred Stock in the definition of Registrable Securities.

3. Definitions. All terms not defined in this Consent and Waiver have the same meaning as set forth in the Investors' Rights Agreement.

[THE REMAINDER OF THIS PAGE LEFT BLANK INTENTIONALLY]

HOLDER:

FRANKLIN BIOTECHNOLOGY DISCOVERY FUND

By: Evan McCulloch

Evan McCulloch
Name

Vice President
Title

Dated: December , 2004

HOLDER:

FRANKLIN FLEX CAP GROWTH FUND

By: Evan McCulloch

Evan McCulloch
Name

Vice President
Title

Dated: December 23, 2004

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: 5th, Sept, 2005

HOLDER:

Number of Series E Shares Held: 17400 Shares

Name: Oy Lipmed Ab (As it appears on Stock Certificate)

By: /s/ Styrbjorn Sumelius

Mr. Styrbjorn Sumelius
Name

Man. Dir.
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: Aug 23, 2005

HOLDER:

Number of Series E Shares Held: 5600

Name: Risk/Reward Capital FBO Katherine Burdon (As it appears on Stock Certificate)

By: /s/ [Illegible Signature]

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: 31 August, 2005

HOLDER:

Number of Series E Shares Held: 5600

Name: Johnson Living Trust—U/T/A 24 February 1999 (As it appears on Stock Certificate)

By: /s/ Peter Johnson

Peter Johnson
Name

Trustee
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: 9/1, 2005

HOLDER:

Number of Series E Shares Held: 5,567

Name: Joanne Capria (As it appears on Stock Certificate)

By: /s/ Joanne Capria

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: September, 1, 2005

HOLDER:

Number of Series E Shares Held: class e - 42'710 -

Name: (As it appears on Stock Certificate)

By: /s/ T. Mory /s/ L. Roten

T. Mory L. Roten
Name

Vice Pres Ass. Vice Pres.
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 24, 2005

HOLDER:

Number of Series E Shares Held: 111,360

Name: Ronald E & Sandra L. Clark, JT. (As it appears on Stock Certificate)

By: /s/ Ronald E. Clark

/s/ Sandra L. Clark

Ronald E. Clark

Sandra L. Clark

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: 29 August, 2005

HOLDER:

Number of Series E Shares Held: 4,223

Name: Gerardo Legorreta (As it appears on Stock Certificate)

By: /s/ Gerardo Legorreta

Gerardo Legorreta
Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: 23 August, 2005

HOLDER:

Number of Series E Shares Held: 5220

Name: Concordia Capital Ab (As it appears on Stock Certificate)

By: /s/ [Illegible Signature]

[Illegible Name]
Name

President
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: 23 August, 2005

HOLDER:

Number of Series E Shares Held: 26100

Name: Concordia Finance Oy (As it appears on Stock Certificate)

By: /s/ [Illegible Signature]

[Illegible Name]
Name

President
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: 9/26, 2005

HOLDER:

Number of Series E Shares Held: 33,407

Name: Henry A. Cousineau III (As it appears on Stock Certificate)

By: /s/ Henry A. Cousineau III

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 26, 2005

HOLDER:

Number of Series E Shares Held: 3,793

Name: Wirt Davis II (As it appears on Stock Certificate)

By: /s/ Wirt Davis II

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: September 5, 2005

HOLDER:

Number of Series E Shares Held: 55,679

Name: Asahi Life Capital No. 3 Investment Enterprise Partnership (As it appears on Stock Certificate)

By: /s/ Sadao Suzuki

Sadao Suzuki
Name

President, Asahi Life Capital its Executive Partner
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: August 22, 2005

HOLDER:

Number of Series E Shares Held: 111,360

Name: Dreadnought Finance Oy (As it appears on Stock Certificate)

By: /s/ Juna Jouhki

Juna Jouhki
Name

Chairman of the Board
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: 9/6, 2005

HOLDER:

Number of Series E Shares Held: 20817

Name: Robert J. Finegan (As it appears on Stock Certificate)

By: /s/ Robert J. Finegan

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

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Dated: Aug 22, 2005

HOLDER:

Number of Series E Shares Held: All

Name: Lakeside Capital Group (As it appears on Stock Certificate)

By: /s/ John J. Hemmingson

John Hemmingson
Name

Managing Partner
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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Dated: Sept. 4, 2005

HOLDER:

Number of Series E Shares Held: 10,430

Name: /s/ Mark Gold /s/ Janice Gold (As it appears on Stock Certificate)

By: Mark & Janice Gold

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: 8/20, 2005

HOLDER:

Number of Series E Shares Held: 948

Name: Alex Gross (As it appears on Stock Certificate)

By: /s/ Alex Gross

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

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Dated: , 2005

HOLDER:

Number of Series E Shares Held:_____

Name: (As it appears on Stock Certificate)

By: /s/ Kenneth Jay Hall /s/ Ellen Hall

Kenneth Jay Hall Ellen Hall
Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: September 21, 2005

HOLDER:

Number of Series E Shares Held: 2,227,171 Series E

Name: Hare & Co. FBO Franklin California Growth Fund #180 (As it appears on Stock Certificate)

By: /s/ David P. Goss

David P. Goss
Name

Vice President & Assist. Secretary-Franklin Flex-Cap Growth Fund (formerly Franklin California Growth Fund)
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: 9-19, 2005

HOLDER:

Number of Series E Shares Held: 8,533

Name: Howard Childrens Trust (As it appears on Stock Certificate)

By: /s/ Robert E. Howard

Robert E. Howard
Name

TTEE
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: 9-19, 2005

HOLDER:

Number of Series E Shares Held: 8,534

Name: Howard Family Trust (As it appears on Stock Certificate)

By: Dana K. Howard

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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Dated: 9/1, 2005

HOLDER:

Number of Series E Shares Held: 44,543

Name: Scott T. Jagudzinski (As it appears on Stock Certificate)

By: /s/ Scott T. Jagudzinski

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

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Dated: , 2005

HOLDER:

Number of Series E Shares Held: _____

Name: T. Craig Benson (As it appears on Stock Certificate)

By: /s/ T. Craig Benson

_____
Name

_____
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: 7th September, 2005

HOLDER:

Number of Series E Shares Held: 844721

Name: Bio Fund Ventures II L.P. (As it appears on Stock Certificate)

By: /s/ **Kalevi Kurkijärvi**

Kalevi Kurkijärvi
Name

General Partner
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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Dated: Sept 14, 2005

HOLDER:

Number of Series E Shares Held: 6,352 pref E

Name: Susan Kingsolver (As it appears on Stock Certificate)

By: /s/ Susan Kingsolver

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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Dated: August 25, 2005

HOLDER:

Number of Series E Shares Held: 2111

Name: Barbara Kaiser (As it appears on Stock Certificate)

By: _____

_____
Name

_____
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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Dated: , 2005

HOLDER:

Number of Series E Shares Held: _____

Name: VCFA Holdings III, LLC (As it appears on Stock Certificate)

By: /s/ Brett D. Byers

Brett D. Byers
Name

Managing Director of the Managing Member of Holder
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

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Dated: 8/25, 2005

HOLDER:

Number of Series E Shares Held: _____

Name: Thomas Vertin (As it appears on Stock Certificate)

By: /s/ Thomas Vertin

Thomas Vertin
Name

_____
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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Dated: 9/7, 2005

HOLDER:

Number of Series E Shares Held: 17400

Name: Ndlova Ab (As it appears on Stock Certificate)

By: /s/ Folke Husell

Folke Husell
Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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Dated: August 23, 2005

HOLDER:

Number of Series E Shares Held: 5,600

Name: Sharlett O'Kyle (As it appears on Stock Certificate)

By: /s/ Sharlett O'Kyle

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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Dated: August 24, 2005

HOLDER:

Number of Series E Shares Held: 9,733

Name: Washington Research Foundation (As it appears on Stock Certificate)

By: /s/ Beth G. Etscheid

Beth G. Etscheid
Name

Director of Licensing
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

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Dated: Aug 23, 2005

HOLDER:

Number of Series E Shares Held: 21,117

Name: Joseph P Riccardo (As it appears on Stock Certificate)

By: /s/ Joseph P Riccardo

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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Dated: 08/28/, 2005

HOLDER:

Number of Series E Shares Held: 23,705

Name: Clifford J. Steer (As it appears on Stock Certificate)

By: /s/ Clifford J. Steer

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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Dated: 8-22, 2005

HOLDER:

Number of Series E Shares Held: 10,004

Name: Michal Salinaro (As it appears on Stock Certificate)

By: /s/ Michal Salinaro

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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Dated: 8/27, 2005

HOLDER:

Number of Series E Shares Held: 5600

Name: Kenneth Sheiffe (As it appears on Stock Certificate)

By: /s/ Kenneth Sheiffe

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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Dated: 08/24, 2005

HOLDER:

Number of Series E Shares Held: 47,410

Name: Randolph Steer (As it appears on Stock Certificate)

By: /s/ Randolph Steer

Randolph Steer
Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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Dated: Aug 22, 2005

HOLDER:

Number of Series E Shares Held: 20,000

Name: James Silverman (As it appears on Stock Certificate)

By: /s/ James Silverman

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

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NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: Aug 26, 2005

HOLDER:

Number of Series E Shares Held: 16,500

Name: Richard B Silverman (As it appears on Stock Certificate)

By: /s/ Richard B Silverman

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: Aug 26, 2005

HOLDER:

Number of Series E Shares Held: 5,600

Name: Steven J Silverman (As it appears on Stock Certificate)

By: /s/ Steven J Silverman

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 25, 2005

HOLDER:

Number of Series E Shares Held:_____

Name: C. Knox Massey, Jr. (As it appears on Stock Certificate)

By: /s/ C. Knox Massey, Jr.

_____
Name

_____
Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 22nd, 2005

HOLDER:

Number of Series E Shares Held: 1000

Name: Christopher McCampbell (As it appears on Stock Certificate)

By: /s/ Christopher McCampbell

Name

Title

CONSENT TO AMENDMENT
OF SERIES E INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series E Preferred Stock of Fibrogen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated May 12, 2000 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 22, 2005

HOLDER:

Number of Series E Shares Held: 222.720

Name: Thominvest Oy (As it appears on Stock Certificate)

By: /s/ Juha Jounki

Juha Jounki
Name

President
Title

FIBROGEN, INC.

INVESTORS' RIGHTS AGREEMENT

December 22, 2004

INVESTORS' RIGHTS AGREEMENT

THIS INVESTORS' RIGHTS AGREEMENT (the "Agreement") is made as of the 22nd day of December, 2004 by and among FibroGen, Inc., a Delaware corporation (the "Company"), and the purchasers of the Company's Series F Preferred Stock (the "Series F Preferred") listed on the signature pages hereto (the "Investors").

RECITALS

WHEREAS, the Investors are parties to the Preferred Stock Purchase Agreement of even date herewith among the Company and the Investors (the "Purchase Agreement"), which provides that as a condition to the closing of the sale of shares of the Company's Series F Preferred, this Agreement must be executed and delivered by the Investors and the Company. Capitalized terms used, but not defined herein, shall have the meanings given to them in the Purchase Agreement;

WHEREAS, the Company wishes to provide a further inducement to the Investors to purchase the Series F Preferred pursuant to the Purchase Agreement; and

WHEREAS, the Company desires to grant, and the Investors desire to be granted, the rights created herein.

NOW, THEREFORE, in consideration of the mutual promises and covenants set forth herein, the parties hereto agree as follows:

1. Registration Rights. The Company covenants and agrees as follows:

1.1 Definitions. For purposes of this Section 1:

(a) The term "Act" means the Securities Act of 1933, as amended.

(b) The term "Form S-3" means such form under the Act as in effect on the date hereof or any registration form under the Act subsequently adopted by the SEC that permits inclusion or incorporation of substantial information by reference to other documents filed by the Company with the SEC.

(c) The term "Holder" means any Person owning Registrable Securities or any assignee thereof in accordance with Section 1.11 hereof and the Purchase Agreement.

(d) The term "Initial Offering" means the Company's first firm commitment public offering of its Common Stock under the Securities Act.

(e) The term “1934 Act” means the Securities Exchange Act of 1934, as amended.

(f) The term “register,” “registered,” and “registration” refer to a registration effected by preparing and filing a Registration Statement or similar document in compliance with the Act, and the declaration or ordering of effectiveness of such Registration Statement or document.

(g) The term “Registrable Securities” means (1) any Common Stock issuable or issued upon conversion of the Company’s Series F Preferred, (2) any Common Stock issuable or issued upon conversion of the Company’s Series E Preferred, any securities issued pursuant to Section 2.4(b) hereof or pursuant to Section 2.4(b) of the Series E IRA, (3) any Series F Preferred Shares issued in a Subsequent Series F Offering (4) additional shares issued pursuant to Section 1.12 hereof, and (5) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right or other security that is issued as) a dividend or other distribution with respect to, or in exchange for, or in replacement of, the shares referenced in (1), (2) and (3) above, excluding in all cases, however, any Registrable Securities sold by a Person (x) in a transaction in which his rights under this Section 1 are not assigned, (y) pursuant to a Registration Statement that has been declared effective and such Registrable Securities have been disposed of pursuant to such effective Registration Statement, or (z) in a transaction in which such Registrable Securities are sold pursuant to Rule 144 (or any similar provision then in force) under the Act.

(h) The number of shares of “Registrable Securities then outstanding” shall be determined by the number of shares of Common Stock outstanding that are, and the number of shares of Common Stock issuable pursuant to then exercisable or convertible securities that are, Registrable Securities.

(i) The term “Registration Statement” means any Registration Statement of the Company which covers any Registrable Securities and all amendments and supplements to any such Registration Statement, including post-effective amendments, in each case including the prospectus contained therein, all exhibits thereto and all material incorporated by reference (or deemed to be incorporated by reference) therein.

(j) The term “SEC” shall mean the Securities and Exchange Commission.

(k) The term “Series E Preferred” shall mean the Company’s Series E Preferred Stock.

(l) The term “Series E IRA” shall mean the FibroGen, Inc. Investors’ Rights Agreement, dated as of May 12, 2004, by and between the Company and the purchasers of the Company’s Series E Preferred.

(m) The term “Significant Holder” shall mean the Holder of (1) shares of Registrable Securities having an aggregate original purchase price of at least $5,000,000, or (2) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant,

right or other security that is issued as) a dividend or other distribution with respect to, or in exchange for, or in replacement of, the shares referenced in (1) above.

1.2 Request for Registration.

(a) Subject to the conditions of this Section 1.2, if the Company shall receive at any time after (i) eighteen (18) months after the date of this Agreement and (ii) in the event the closing of the Initial Offering occurs within six (6) months of the Closing immediately upon the Closing of such Initial Offering, a written request from the Holders of fifty percent (50%) or more of the Registrable Securities then outstanding (the "Initiating Holders") that the Company file a Registration Statement under the Act covering the registration of Registrable Securities, then the Company shall, within twenty (20) days of the receipt thereof, give written notice of such request to all Holders, and subject to the limitations of this Section 1.2, use best efforts to effect, as soon as practicable, the registration under the Act of all Registrable Securities that the Holders request to be registered in a written request received by the Company within twenty (20) days of the mailing of the Company's notice pursuant to this Section 1.2(a). Notwithstanding the foregoing, the Company shall use best efforts to effect a Registration Statement requested pursuant to (ii) above, such Registration Statement to be effective immediately prior to the expiration of the market standoff applicable to the Initiating Holders. The registration rights granted pursuant to the provisions of this Section 1.2 shall be in addition to the registration rights granted pursuant to the other provisions of Section 1 hereof.

(b) If the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to this Section 1.2 and the Company shall include such information in the written notice referred to in this Section 1.2(b). In such event the right of any Holder to include its Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting (unless otherwise mutually agreed by a majority in interest of the Initiating Holders and such Holder) to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall enter into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting by a majority in interest of the Initiating Holders (which underwriter or underwriters shall be reasonably acceptable to the Company); provided, that if the Registration Statement relates to the Initial Offering, then underwriter or underwriters shall be selected for such underwriting by the Company (which underwriter or underwriters shall be reasonably acceptable to a majority in interest of the Initiating Holders).

(c) Notwithstanding any other provision of this Section 1.2, (i) if the underwriter advises the Company in writing (with a copy to each Holder requesting registration) on or before the date five (5) days prior to the date then scheduled for such offering that, in its opinion, the amount of Registrable Securities requested to be included in such registration exceeds the number which can be sold in such offering within a price range acceptable to the Initiating Holders (such writing to state the basis of such opinion and the approximate number of Registrable Securities which may be included in such offering) or (ii) if the underwriter advises the Company that marketing factors require (a) a limitation of the number of securities

underwritten or (b) the exclusion of all or any portion of the Registrable Securities in the Initial Offering, then the Company shall so advise all Holders of Registrable Securities that would otherwise be underwritten pursuant hereto, and the number of shares that may be included in the underwriting, if any, shall be allocated to the Holders of such Registrable Securities on a pro rata basis based on the number of (x) Registrable Securities held by all such Holders (including the Initiating Holders) and (y) securities of the Company held by other holders that have the right as of the date hereof (or hereafter pursuant to Section 1.12 hereof) to require the Company to register securities on a Registration Statement filed pursuant to this Section 1.2; provided that no Registrable Securities (or securities referred to in clause (y) above) shall be excluded unless and until all other securities of the Company, including securities issued for the account of the Company, have been excluded, and provided further that, if a Registration Statement filed pursuant to this Section 1.2 relates to the Initial Offering, then Registrable Securities may be excluded from the offering hereunder before any securities issued for the account of the Company. Any Registrable Securities excluded or withdrawn from such underwriting shall be withdrawn from the registration.

(d) A Registration Statement shall not be deemed to have become effective (and the related registration will not be deemed to have been effected) (i) unless it has been declared effective by the SEC and remains effective in compliance with the provisions of the Act for the time required under Section 1.5(a) hereof, (ii) if the offering of any Registrable Securities pursuant to such Registration Statement is interfered with by any stop order, injunction or other order or requirement of the SEC or any other governmental agency or court, or (iii) if, in the case of an underwritten offering, the conditions to closing specified in an underwriting agreement to which the Company is a party are not satisfied other than by the sole reason of any breach or failure by the Holders of Registrable Securities and the underwriters do not waive such unsatisfied condition.

(e) The Company shall not be required to effect a registration pursuant to this Section 1.2:

(i) in any particular jurisdiction in which the Company would be required to execute a general consent to service of process in effecting such registration, unless the Company is already subject to service in such jurisdiction and except as may be required under the Act; or

(ii) after the Company has effected two (2) registrations pursuant to this Section 1.2, and such registrations have been declared or ordered effective (not including any registration in which more than 50% of the Registrable Securities that Holders request to be registered pursuant to Section 1.2(a) are excluded from such registration pursuant to Section 1.2(c)); or

(iii) during the period starting with the date ninety (90) days prior to the Company's good faith estimate of the date of the filing of, and ending on a date one hundred eighty (180) days following the effective date of, a Company-initiated registration subject to Section 1.3 below, provided that the Company is actively employing in good faith all reasonable efforts to cause such Registration Statement to become effective; or

(iv) if the Initiating Holders propose to dispose of Registrable Securities that may be registered on Form S-3 pursuant to Section 1.4 hereof; or

(v) if the Company shall furnish to Holders requesting a registration pursuant to this Section 1.2, a certificate signed by the Company's Chief Executive Officer or Chairman of the Board stating that in the good faith judgment of the Board of Directors of the Company, it would be seriously detrimental to the Company and its stockholders for such registration to be effected at such time, in which event the Company shall have the right to defer such filing for a period of not more than ninety (90) days after receipt of the request of the Initiating Holders, provided that such right to delay a request shall be exercised by the Company not more than once in any twelve (12) month period; provided further, that the Company shall not register any other of its shares during such ninety (90) day period; provided further that the Company shall promptly notify the Holders in writing (a "Blackout Notice") of any decision to postpone a registration and shall include a general statement of the reason for such postponement, an approximation of the anticipated delay and an undertaking by the Company promptly to notify the Holders as soon as a registration may be effected; provided further that each Holder shall treat all notices received from the Company pursuant to this Section 1.2(h)(v) in the strictest confidence and shall not use or disseminate such information; provided further that if the Company shall postpone the filing of a Registration Statement, the Holders shall have the right to withdraw the request for registration by giving written notice to the Company within 30 days after receipt of the Blackout Notice and the Company shall pay all registration expenses in connection therewith; or

(vi) if the Company has already effected any Registration Statement for the Holders within the six (6) month period preceding the date of such request.

1.3 Company Registration.

(a) If (but without any obligation to do so) the Company proposes to register (including for this purpose a registration effected by the Company for stockholders other than the Holders) any of its capital stock under the Act and whether or not for sale of its own account (other than a registration relating solely to the sale of securities to participants in a Company stock plan, a registration relating to a corporate reorganization or other transaction under Rule 145 of the Act, a registration on any form (including Form 8-4 and Form S-8) that does not include substantially the same information as would be required to be included in a Registration Statement covering the sale of the Registrable Securities, or a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered), the Company shall, at such time, promptly give each Holder written notice of such registration (including the anticipated range of the proposed offering price, the class and number of securities proposed to be registered and the distribution arrangements) and of such Holders' right to participate in such registration under this Section 1.3 as hereinafter provided. Upon the written request of each Holder given twenty (20) days after mailing of such notice by the Company, the Company shall, subject to the provisions of Section 1.3(c), use its best efforts to cause a Registration Statement to become effective, which includes all of the Registrable Securities that each such Holder has requested to be registered. The Holders requesting inclusion in such registration may, at any time up to

twenty (20) days prior to the effective date of the Registration Statement (and for any reason), revoke such request by delivering written notice to the Company revoking such requested inclusion.

(b) The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 1.3 prior to the effectiveness of such registration whether or not any Holder has elected to include securities in such registration. The expenses of such withdrawn registration shall be borne by the Company in accordance with Section 1.7 hereof.

(c) In connection with any offering involving an underwriting of shares of the Company's capital stock, the Company shall not be required under this Section 1.3 to include any of the Holders' securities in such underwriting unless they accept the terms of the underwriting as agreed upon between the Company and the underwriters selected by it (or by other Persons entitled to select the underwriters) and enter into an underwriting agreement in customary form with an underwriter or underwriters selected by the Company. If (1) the total amount of securities requested by stockholders to be included in such offering exceeds the amount of securities sold other than by the Company that the underwriters determine in their sole discretion is compatible with the success of the offering or (2) solely in the case of the Initial Offering, if the underwriters determine that inclusion of the Registrable Securities will materially jeopardize the success of the Initial Offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, if any, that the underwriters determine in their sole discretion will not materially jeopardize the success of the offering. The securities included in such registration shall be apportioned pro rata among the selling Holders and other security holders that have the right as of the date hereof (or hereafter pursuant to Section 1.12 hereof) to require registration of their shares in a Registration Statement under this Section 1.3, according to the total amount of securities entitled to be included therein owned by each selling Holder and other holder or in such other proportions as shall mutually be agreed to by such selling Holders and other holders; provided that no Registrable Securities (and securities of the Company held by other holders that have rights as of the date hereof or acquired hereafter pursuant to Section 1.12 hereof) shall be excluded until all Common Stock held by stockholders, directors, officers and employees of the Company have been excluded, but in no event shall the amount of securities of the selling Holders included in the offering be reduced below twenty-five percent (25%) of the total amount of securities included in such offering, unless such offering is the Initial Offering of the Company's securities, in which case the selling Holders may be excluded if the underwriters make the determination described above and no other stockholder's securities are included. For purposes of the preceding parenthetical concerning apportionment, for any selling stockholder that is a Holder of Registrable Securities and that is a partnership or corporation, the partners, retired partners and stockholders of such Holder, or the estates and family members of any such partners and retired partners and any trusts for the benefit of any of the foregoing Persons shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate amount of Registrable Securities owned by all such related entities and individuals.

1.4 Form S-3 Registration. In case the Company shall receive from the Holders of the Registrable Securities then outstanding a written request or requests that the

Company effect a registration on Form S-3 and any related qualification or compliance with respect to all or a part of the Registrable Securities owned by such Holder or Holders, the Company shall:

(a) promptly give written notice of the proposed registration, and any related qualification or compliance, to all other Holders; and

(b) use best efforts to effect, as soon as practicable, such registration and all such qualifications and compliances as may be so requested and as would permit or facilitate the sale and distribution of all or such portion of such Holders' Registrable Securities as are specified in such request, together with all or such portion of the Registrable Securities of any other Holders joining in such request as are specified in a written request given within fifteen (15) days after receipt of such written notice from the Company, provided, however, that the Company shall not be obligated to effect any such registration, qualification or compliance, pursuant to this section 1.4:

(i) if Form S-3 is not available for such offering by the Holders;

(ii) if the Holders, together with the holders of any other securities of the Company entitled to inclusion in such registration, propose to sell Registrable Securities and such other securities (if any) at an aggregate price to the public (net of any underwriters' discounts or commissions) of less than $2,000,000;

(iii) if the Company shall furnish to the Holders a certificate signed by the Chief Executive Officer or Chairman of the Board of the Company stating that in the good faith judgment of the Board of Directors of the Company, it would be seriously detrimental to the Company and its stockholders for such Form S-3 registration to be effected at such time, in which event the Company shall have the right to defer the filing of the Form S-3 Registration Statement for a period of not more than ninety (90) days after receipt of the request of the Holder or Holders under this Section 1.4; provided, however, that the Company shall not utilize this right more than once in any twelve (12) month period; and provided further, that the Company shall not register any other of its shares during such 90 day period;

(iv) if the Company has already effected any Registration Statement for the Investors within the six (6) month period preceding the date of such request, or two (2) registrations on Form S-3 for the Holders pursuant to this Section 1.4; or

(v) in any particular jurisdiction in which the Company would be required to qualify to do business, where not otherwise required, or to execute a general consent to service of process in effecting such registration, qualification or compliance.

(c) Subject to the foregoing, the Company shall file a Registration Statement covering the Registrable Securities and other securities so requested to be registered as soon as practicable after receipt of the request or requests of the Holders. Registrations effected pursuant to this Section 1.4 shall not be counted as requests for registration effected pursuant to Sections 1.2.

1.5 Obligations of the Company.

Whenever required under this Section 1 to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

(a) prepare and file with the SEC a Registration Statement with respect to such Registrable Securities and use best efforts to cause such Registration Statement to become effective, and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such Registration Statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the Registration Statement has been completed, provided, however, that before filing a Registration Statement, or comparable statements under securities or Blue Sky laws, the Company shall, to the extent it is filing such Registration Statement pursuant to a request in accordance with Section 1.2(a), (i) provide Holders' counsel and accountants with an adequate and appropriate opportunity to participate review and comment in the preparation of such Registration Statement and each prospectus included therein to be filed with the SEC and (ii) not file any such Registration Statement or Prospectus with the SEC to which the majority in interest of the Initiating Holders shall have reasonably and in good faith objected, on the grounds that such filing does not comply in all material respects with the requirements of the Act or of the rules or regulations thereunder, and such Initiating Holders have provided an opinion of counsel so opining.

(b) prepare and file with the SEC such amendments and supplements to such Registration Statement and the prospectus used in connection with such Registration Statement as may be necessary to comply with the provisions of the Act with respect to the disposition of all securities covered by such Registration Statement;

(c) furnish, without charge, to each selling Holder and each underwriter, if applicable, (i) a draft copy of the Registration Statement, and (ii) such numbers of copies of a prospectus, including a preliminary prospectus, in conformity with the requirements of the Act, and such other documents as they may reasonably request in order to facilitate the disposition of Registrable Securities owned by them;

(d) use its best efforts to register and qualify in a timely manner as required the securities covered by such Registration Statement under such other securities or Blue Sky laws of such jurisdictions as shall be reasonably requested by the Holders or underwriter, and do any and all other acts and things which may be necessary or advisable to enable any such selling Holder to consummate the disposition in such jurisdictions of the Registrable Securities owned by such selling Holder, provided that the Company shall not be required in connection therewith or as a condition thereto to qualify to do business, where not otherwise required, or to file a general consent to service of process in any such states or jurisdictions;

(e) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the managing underwriter of such offering;

(f) notify each Holder of Registrable Securities covered by such Registration Statement and Holders' counsel: (i) when the Registration Statement, has been filed and when the same has become effective, (ii) of any request by the SEC or any state securities or Blue Sky authority for amendments or supplements to the Registration Statement or the prospectus related thereto or for additional information, (iii) of the issuance by the SEC of any stop order suspending the effectiveness of the Registration Statement or the initiation or threat of any proceedings for that purpose, (iv) of the receipt by the Company of any notification with respect to the suspension of the qualification of any Registrable Securities for sale under the securities or Blue Sky laws of any jurisdiction or the initiation of any proceeding for such purpose, (vv) of the existence of any fact or the happening of any event of which the Company becomes aware which results in (A) the Registration Statement containing an untrue statement of a material fact or omitting to state a material fact required to be stated therein or necessary to make any statements therein, in light of the circumstances in which they were made, not misleading or (B) the prospectus included in such Registration Statement containing an untrue statement of a material fact or omitting to state a material fact required to be stated therein or necessary to make any statements therein, in the light of the circumstances under which they were made, not misleading; and, if the notification relates to an event described in any of the clauses (ii) through (v) of this Section 1.5(f), the Company shall promptly prepare a supplement or post-effective amendment to such Registration Statement or related prospectus or any document incorporated therein by reference or file any other required document so that (1) such Registration Statement shall not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading, and (2) as thereafter delivered to the purchasers of the Registrable Securities being sold thereunder, such prospectus shall not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading (and shall furnish to each such Holder and each underwriter, if any, a reasonable number of copies of such prospectus so supplemented or amended); and if the notification relates to an event described in clause (iii) of this Section 1.5(f), the Company shall take all reasonable action required to prevent the entry of such stop order or to remove it if entered;

(g) make available for inspection, by any selling Holder of Registrable Securities, and Holders' counsel, subject to such persons' agreement to comply with all applicable securities laws and execution of a confidentiality agreement reasonably satisfactory to the Company, all financial and other records, pertinent corporate documents and properties of the Company and any subsidiaries thereof as may be in existence at such time (collectively, the "Records") as shall be necessary, in the reasonable opinion of such Holders' and Holders' counsel, to enable them to exercise their due diligence responsibility and to conduct a reasonable investigation within the meaning of the Act, and cause the Company's and any subsidiaries' officers, directors and employees, and the independent public accountants of the Company, to supply all information reasonably requested in connection with such Registration Statement; provided, however, that such inspection shall be limited to a reasonable period of time within which to review such material and information.

(h) if the Registrable Securities are being sold through underwriters, furnish, upon the request of the Holders of a majority of the Registrable Securities requesting registration, on the date that such Registrable Securities are delivered to the underwriters for sale, (i) an opinion, dated as of such date, of the counsel representing the Company for the purposes of such registration, in form and substance as is customarily given to underwriters in an underwritten public offering and reasonably satisfactory to a majority in interest of the Holders requesting registration, addressed to the underwriters, and (ii) a "comfort" letter dated as of such date, from the independent certified public accountants of the Company, in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering and reasonably satisfactory to a majority in interest of the Holders requesting registration, addressed to the underwriters;

(i) cause all such Registrable Securities registered pursuant hereunder to be listed on each securities exchange on which similar securities issued by the Company are then listed; provided that in the case of a registration effected pursuant to Section 1.2 above, which registration constitutes the Initial Offering, the Registrable Securities shall be listed on a national securities exchange or the NASDAQ National Market System;

(j) provide a transfer agent and registrar for all Registrable Securities registered pursuant hereunder and a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(k) use reasonable efforts to obtain all other approvals, consents, exemptions or authorizations from such governmental agencies or authorities as may be necessary to enable the selling Holders of such Registrable Securities to consummate the disposition of such Registrable Securities;

(l) keep each selling Holder of Registrable Securities advised in writing as to the initiation and progress of any registration under Section 1 hereunder;

(m) use reasonable efforts to cooperate with each selling Holder of Registrable Securities participating in the disposition of such Registrable Securities in connection with any filings required to be made with the NASD and make reasonably available its employees and personnel and otherwise provide reasonable assistance to the underwriters (taking into account the needs of the Company's businesses and the requirements of the marketing process) in the marketing of Registrable Securities in any underwritten offering;

(n) upon request, furnish to each Holder participating in the offering, without charge, at least one copy of the Registration Statement and any post-effective amendments thereto, including financial statements and schedules, all documents incorporated therein by reference and all exhibits (including those deemed to be incorporated by reference); and

(o) use reasonable efforts to take all other reasonable steps necessary to expedite or facilitate the registration and disposition of the Registrable Securities contemplated hereby.

1.6 Information from Holder.

It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 1 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as shall be reasonably required to effect the registration of such Holder's Registrable Securities.

1.7 Expenses of Registration.

All expenses (other than underwriting discounts and commissions incurred in connection with registrations, filings or qualifications pursuant to Sections 1.2, 1.3 and 1.4 and the fees and disbursements of counsel for the selling Holders), including (without limitation) all registration, filing and qualification fees (including Blue Sky fees), printers' and accounting fees, fees and disbursements of counsel for the Company, shall be borne by the Company. Notwithstanding the foregoing, the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 1.2 or Section 1.4 if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all participating Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be requested in the withdrawn registration), unless, in the case of a registration requested under Section 1.2, the Holders of a majority of the Registrable Securities agree to forfeit their right to one demand registration pursuant to Section 1.2, provided, however, that (i) if at the time of such withdrawal, the Holders have learned of a material adverse change in the condition, business or prospects of the Company from that known to the Holders at the time of their request and have withdrawn the request with reasonable promptness following disclosure by the Company of such material adverse change or (ii) the withdrawal was requested because the underwriter advises that the amount of Registrable Securities to be sold in an offering be reduced pursuant to Section 1.2(c) by more than 50%, then the Holders shall not be required to pay any of such expenses and shall retain their rights pursuant to Section 1.2 or 1.4.

1.8 Delay of Registration.

No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any such registration as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 1.

1.9 Indemnification,

In the event any Registrable Securities are included in a Registration Statement under this Section 1:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, the partners or officers, directors and stockholders of each Holder, legal counsel, investment advisors and accountants for each Holder, any underwriter (as defined in the Act) for such Holder and each Person, if any, who controls such Holder or underwriter, within the meaning of the Act or the 1934 Act, against any losses, claims, damages

or liabilities (joint or several) to which they may become subject under the Act, the 1934 Act or any state securities laws, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any of the following statements, omissions or violations (collectively a "Violation"): (i) any untrue statement or alleged untrue statement of a material fact contained in such Registration Statement, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto, (ii) the omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading, or (iii) any violation or alleged violation by the Company of the Act, the 1934 Act, any state securities laws or any rule or regulation promulgated under the Act, the 1934 Act or any state securities laws; and the Company will reimburse each such Holder, partner, officer, director, stockholder, counsel, accountant, underwriter or controlling Person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action as such expenses are incurred; provided, however, that the indemnity agreement contained in this subsection 1.9(a) shall not apply to amounts paid in settlement of any such loss, claim, damage, liability or action if such settlement is effected without the consent of the Company (which consent shall not be unreasonably withheld, delayed or conditioned), nor shall the Company be liable in any such case for any such loss, claim, damage, liability or action to the extent that it arises out of or is based upon a Violation that occurs in reliance upon and in conformity with written information furnished expressly for use in connection with such registration by any such Holder, underwriter or controlling Person; provided further, however, that the foregoing indemnity agreement with respect to any preliminary prospectus shall not inure to the benefit of any Holder or underwriter, or any Person controlling such Holder or underwriter, from whom the Person asserting any such losses, claims, damages or liabilities purchased shares in the offering, if a copy of the prospectus (as then amended or supplemented if the Company shall have furnished any amendments or supplements thereto) was not sent or given by or on behalf of such Holder or underwriter to such Person, if required by law so to have been delivered, at or prior to the written confirmation of the sale of the shares to such Person, and if the prospectus (as so amended or supplemented) would have cured the defect giving rise to such loss, claim, damage or liability.

(b) To the extent permitted by law, each selling Holder, on a several and not joint basis, will indemnify and hold harmless the Company, each of its directors, each of its officers who has signed the Registration Statement, each Person, if any, who controls the Company within the meaning of the Act, legal counsel and accountants for the Company, any underwriter, any other Holder selling securities in such Registration Statement and any controlling Person of any such underwriter or other Holder, against any losses, claims, damages or liabilities (joint or several) to which any of the foregoing Persons may become subject, under the Act, the 1934 Act or any state securities laws, insofar as such losses, claims, damages or liabilities (or actions in respect thereto) arise out of or are based upon any Violation, in each case to the extent (and only to the extent) that such Violation occurs in reliance upon and in conformity with written information furnished by such Holder expressly for use in connection with such registration; and each such Holder will reimburse any Person intended to be indemnified pursuant to this subsection 1.9(b) for any legal or other expenses reasonably incurred by such Person in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the indemnity agreement contained in this

subsection 1.9(b) shall not apply to amounts paid in settlement of any such loss, claim, damage, liability or action if such settlement is effected without the consent of the Holder (which consent shall not be unreasonably withheld), provided that in no event shall any indemnity under this subsection 1.9(b) exceed the net proceeds from the offering received by such Holder.

(c) Promptly after receipt by an indemnified party under this Section 1.9 of actual knowledge of the commencement of any action (including any governmental action), such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 1.9, deliver to the indemnifying party a written notice of the commencement thereof. The indemnifying party shall promptly assume the defense of the indemnified party with counsel reasonably satisfactory to the indemnified party, and the fees and expenses of such counsel shall be at the sole cost and expense of the indemnifying party. The indemnified party will cooperate with the indemnifying party in the defense of any action, proceeding, or investigation for which the indemnified party assumes the defense. Notwithstanding the foregoing, the indemnified party shall have the right to employ separate counsel in any such action, proceeding, or investigation and to participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of the indemnified party unless (i) the indemnifying party has agreed to pay such fees and expenses, (ii) the indemnifying party shall have failed promptly to assume the defense of such action, proceeding, or investigation and employ counsel reasonably satisfactory to the indemnified party, or (iii) in the reasonable judgment of the indemnified party there may be one or more defenses available to the indemnified party which are not available to the indemnifying party with respect to such action, claim, or proceeding due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such proceeding, in which case the indemnifying party shall not have the right to assume the defense of such action, proceeding, or investigation on behalf of the indemnified party. The indemnifying party shall not be liable for the settlement by the indemnified party of any action, proceeding, or investigation effected without its consent, which consent shall not be unreasonably withheld. The indemnifying party shall not enter into any settlement in any action, suit, or proceeding to which the indemnified party is a party, unless such settlement includes a general release of the indemnified party with no payment by the indemnified party of consideration. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action, if prejudicial to its ability to defend such action, shall relieve such indemnifying party of any liability to the indemnified party under this Section 1.9 to the extent of such prejudice, but the omission to so deliver written notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 1.9.

(d) If the indemnification provided for in this Section 1.9 is held by a court of competent jurisdiction to be unavailable to an indemnified party with respect to any loss, liability, claim, damage or expense referred to herein, then the indemnifying party, in lieu of indemnifying such indemnified party hereunder, shall contribute to the amount paid or payable by such indemnified party as a result of such loss, liability, claim, damage or expense in such proportion as is appropriate to reflect the relative fault of and the relative benefits received by the indemnifying party on the one hand and of the indemnified party on the other in connection with the statements or omissions that resulted in such loss, liability, claim, damage or expense,

as well as any other relevant equitable considerations, provided that no Person guilty of fraud shall be entitled to contribution. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission to state a material fact relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission. The relative benefits received by the indemnifying party and the indemnified party shall be determined by reference to the net proceeds and underwriting discounts and commissions from the offering received by each such party. In no event shall any contribution under this subsection 1.9(d) exceed the net proceeds from the offering received by such Holder, less any amounts paid under subsection 1.9(b).

(e) The indemnification and contribution required by this Section 1.9 shall be made by periodic payments of the amount thereof during the course of any investigation or defense, as and when bills are received or any expense, loss, damage or liability is incurred.

(f) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control.

(g) The obligations of the Company and Holders under this Section 1.9 shall survive the completion of any offering of Registrable Securities in a Registration Statement under this Section 1, and otherwise.

1.10 Reports Under Securities Exchange Act of 1934.

With a view to making available to the Holders the benefits of Rule 144 promulgated under the Act and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company agrees to:

(a) make and keep public information available, as those terms are understood and defined in SEC Rule 144, at all times after the effective date of the Initial Offering; or

(b) file with the SEC in a timely manner all reports and other documents required of the Company under the Act and the 1934 Act; and

(c) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144 (at any time after ninety (90) days after the effective date of the first Registration Statement filed by the Company), the Act and the 1934 Act (at any time after it has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after it so qualifies), (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company, and (iii) such other information as may be

reasonably requested in availing any Holder of any rule or regulation of the SEC that permits the selling of any such securities without registration or pursuant to such form.

1.11 Assignment of Registration Rights.

The rights to cause the Company to register Registrable Securities pursuant to this Section 1 may be assigned (but only with all related obligations) by a Holder to a transferee or assignee of such securities that (i) is a subsidiary, affiliate, parent, partner, limited partner, retired partner or stockholder of a Holder, (ii) is a Holder's immediate family member (spouse or child) or trust for the benefit of an individual Holder, or (iii) after such assignment or transfer, holds at least 250,000 shares of Registrable Securities (subject to appropriate adjustment for stock splits, stock dividends, combinations and other recapitalizations), provided: (a) the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee or assignee and the securities with respect to which such registration rights are being assigned, and provided further that the Company shall have no obligation to any transferee prior to receiving such notification of transfer; (b) such transferee or assignee agrees in writing to be bound by and subject to the terms and conditions of this Agreement, including without limitation the provisions of Section 1.13 below; and (c) such assignment shall be effective only if immediately following such transfer the further disposition of such securities by the transferee or assignee is restricted under the Act.

1.12 Limitations on Subsequent Registration Rights.

From and after the date of this Agreement, the Company shall not, without the prior written consent of the Holders of fifty percent (50%) of the then outstanding Registrable Securities, enter into any agreement with any holder or prospective holder of any securities of the Company that would allow such holder or prospective holder (a) to include such securities in any registration filed under Sections 1.2 or 1.3 hereof, unless under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will not reduce the amount of the Registrable Securities of the Holders that are included or (b) to demand registration of their securities. Notwithstanding the foregoing, the Company may grant rights to include securities in any registration filed under Sections 1.2, 1.3 and 1.4 hereof to holders of Series F Preferred issued in a Subsequent Series F Offering.

1.13 "Market Stand-Off" Agreement.

Each Holder hereby agrees that it will not, without the prior written consent of the Company and the managing underwriter, during the period commencing on the date of the final prospectus relating to the Initial Offering and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days) (i) lend, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock (whether such shares or any such securities are then owned by the Holder or are thereafter acquired), or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of

ownership of the Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise. The foregoing provisions of this Section 1.13 shall apply only to the Initial Offering, shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, and shall only be applicable to the Holders if all officers and directors of the Company and greater than five percent (5%) stockholders of the Company enter into similar agreements.

In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to the Registrable Securities of each Holder (and the shares or securities of every other Person subject to the foregoing restriction) until the end of such period.

The underwriters in connection with the Initial Offering are intended third party beneficiaries of this Section 1.13 and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Notwithstanding the foregoing, nothing in this Section 1.13 shall prevent the Holders from making a transfer of any Common Stock that was listed on a national stock exchange or traded on Nasdaq at the time it was acquired by the Holder or was acquired by the undersigned pursuant to Rule 144A of the Act, including any shares acquired in the Company's initial public offering.

1.14 Termination of Registration Rights.

No Holder shall be entitled to exercise any right provided for in this Section 1 after five (5) years following the consummation of the Initial Offering or, as to any Holder, such earlier time at which all Registrable Securities held by such Holder (and any affiliate of the Holder with whom such Holder must aggregate its sales under Rule 144) can be sold in compliance with Rule 144 of the Act.

2. Covenants of the Company.

2.1 Delivery of Financial Statements.

(a) The Company shall deliver to each Significant Holder as soon as practicable after the end of each fiscal year of the Company, an income statement for such fiscal year, a balance sheet of the Company and statement of stockholder's equity as of the end of such year, and a statement of cash flows for such year, such year-end financial reports to be in reasonable detail, prepared in accordance with generally accepted accounting principles ("GAAP"), and audited and certified by independent public accountants of nationally recognized standing selected by the Company, and an unqualified (except for contingent liabilities) certified audit report from the Company's auditors.

(b) The Company shall deliver to each Significant Holder

(i) as soon as practicable after the end of each of the first three (3) quarters of each fiscal year of the Company, an unaudited income statement, statement of cash flows for such fiscal quarter and an unaudited balance sheet as of the end of such fiscal quarter;

(ii) as soon as practicable after approval by the Board of Directors, a budget for the next fiscal year, including balance sheets, income statements and, as soon as prepared, any other budgets or revised budgets prepared by the Company and approved by the Board of Directors; and

(iii) such other information relating to the financial condition, business, prospects or corporate affairs of the Company as such Significant Holder may from time to time reasonably request.

(c) Together with the financial statements called for in Section 2.1(a) and (b), the Company shall deliver an instrument executed by the Chief Financial Officer or President of the Company certifying that such financials were prepared in accordance with GAAP consistently applied with prior practice for earlier periods (with the exception of footnotes that may be required by GAAP) and fairly present the financial condition of the Company and its results of operation for the period specified, subject to year-end audit adjustments and other reasonable qualifiers.

2.2 Inspection.

The Company shall permit each Significant Holder at such Significant Holder's expense, to visit and inspect the Company's properties, to examine its books of account and records and to discuss the Company's affairs, finances and accounts with its officers, all at such reasonable times as may be reasonably requested by the Investor; provided, however, that the Company shall not be obligated pursuant to this Section 2.2 to provide access to any information that it reasonably considers to be a trade secret or similar confidential information.

2.3 Right of First Offer.

(a) Subject to the terms and conditions specified in this Section 2.3, the Company hereby grants to each Investor a right of first offer with respect to future sales by the Company of its Shares (as hereinafter defined). For purposes of this Section 2.3, Investor includes any partners and affiliates of an Investor, An Investor shall be entitled to apportion the right of first offer hereby granted it among itself and its partners and affiliates in such proportions as it deems appropriate, so long as such apportionment does not cause the loss of the exemption under Section 4(2) of the Act or any similar exemption under applicable state securities laws in connection with such sale of shares by the Company.

(b) Each time the Company proposes to offer any shares of, or securities convertible into or exchangeable or exercisable for any shares of, any class of its capital stock (the "Shares"), the Company shall give written notice (the "Notice") to the Investors at least thirty (30) days before the closing of any such sale or transfer. The Notice shall describe in reasonable detail the proposed sale or transfer, including, without limitation (i) the number of such Shares to be offered, and (ii) the price and terms upon which it proposes to offer such Shares, including voting powers and preferences. Each of the Investors shall have an option for a period of twenty (20) calendar days after receipt of the Notice, to purchase or obtain, at the price and on the terms specified in the Notice, up to that portion of such Shares that equals the proportion that the number of shares of Common Stock issued and held, or issuable

upon conversion of the Series F Preferred then held, by such Investor bears to the total number of shares of Common Stock of the Company then outstanding (assuming full conversion and exercise of all outstanding convertible and exercisable securities). Each Investor may exercise its option by notifying the Company within twenty (20) calendar days after receipt of the Notice of the number of securities its elects to purchase. Payment for the offered Shares shall be made by check or wire transfer against delivery of the offered Shares at a place and time specified in the Notice, but in no event later than forty five (45) days after delivery of the Notice. If all Shares that Investors are entitled to obtain pursuant to this section are not elected to be obtained by the Investors, the Company may, during the one hundred twenty (120) day period following the expiration of the twenty (20) day option period provided herein, offer the remaining unsubscribed portion of such Shares to any Person or Persons at a price not less than, and upon terms no more favorable to the offeree than those specified in the Notice. If the Company does not enter into an agreement for the sale of the Shares within such one hundred twenty (120) day period, or if such agreement is not consummated within one hundred twenty (120) days of the execution thereof, the right provided hereunder shall be deemed to be revived and such Shares shall not be offered unless first reoffered to the Investors in accordance herewith.

(c) The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options (and the shares issuable upon exercise thereof) issued to employees, directors and consultants of the Corporation pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Corporation, (ii) shares issued in connection with the exercise of convertible securities outstanding as of the date of the first sale of Series F Preferred, (iii) the issuance of securities in connection with a bona fide business acquisition of or by the Company, whether by merger, consolidation, sale of assets, sale or exchange of stock or otherwise, (iv) the issuance of stock, warrants or other securities or rights to Persons or entities with which the Company has business relationships provided such issuances are for other than primarily equity financing purposes, provided that in cases of issuances pursuant to clauses (iii) and (iv) such issuances shall have been approved by a majority of the Board of Directors, (v) the issuance of shares of Series F Preferred in a Subsequent Series F Offering, or (vi) the Initial Offering.

2.4 Reserved Share Pool; Additional Private Offering Purchase Option.

(a) The Company shall give written notice to each Investor as soon as practicable, but in no event later than thirty (30) days, before the filing of the Company's first Registration Statement with the SEC for resale of its securities. Upon a request made by Investors holding a majority of the shares of Series F Preferred and Series E Preferred after the filing of the Company's first Registration Statement, the Company shall request that the managing underwriters of the Initial Offering establish a directed share program (the "Program") in connection with the Initial Offering covering at least 10% of the shares (or such lesser percentage as may be required by the National Association of Securities Dealers (the "NASD") and applicable regulatory authorities) offered in the Initial Offering (the "Program Shares"). The Company shall use its best efforts to cause the managing underwriters to (i) give priority to the holders of Series F Preferred and Series E Preferred with respect to the Program Shares in allocating the shares available for purchase in the Program so that the percentage of the total number of shares included in the Initial Offering made available to the holders of Series F

Preferred and Series E Preferred in the Program equals the percentage of outstanding Common Stock on a fully diluted basis represented by the Series F Preferred and Series E Preferred immediately prior to the closing of the Initial Offering and (ii) to implement the Program so that the holders of Series F Preferred and Series E Preferred, pro rata in accordance with their relative holdings of Series F Preferred and Series E Preferred, have the option, but not the obligation, to purchase all or any portion of the Program Shares made available to them in clause (i) above at the Initial Offering price.

(b) If the rights provided to the holders of Series F Preferred and Series E Preferred under this section shall not be enforceable by them for any reason, then the holders of Series F Preferred and Series E Preferred shall have the option, but not the obligation, to purchase, and the Company hereby agrees to sell, the number of shares of Common Stock that such Investors would have otherwise been able to purchase under Section 2.4(a) above in a private offering which shall close immediately prior to the consummation of the Initial Offering at the public offering price less a reasonable illiquidity discount to be determined by the parties in good faith, the percentage of which discount shall not exceed the percentage underwriters' discount for the Initial Offering. The timing and conditions of such private placement shall be as reasonably determined by the Investors holding a majority of the Series F Preferred and Series E Preferred. The Company shall take all actions and execute and file all documents and instruments reasonably necessary to effectuate the private placement referred to in this Section 2.4(b). The securities issued to the Investors in such private placement shall be deemed to be Registrable Securities, as such term is defined herein, and shall be subject to the rights and obligations provided to such securities herein.

(c) Notwithstanding anything herein to the contrary, the rights provided to the holders of Series F Preferred and Series E Preferred under this Section 2.4 shall not be enforceable by them (a) to the extent they are found to be materially inconsistent with the regulations and policies of the SEC, the NASD or other regulatory authority as in effect at the time of the Initial Offering, (b) would on the basis of SEC staff comments prevent the Registration Statement for the Initial Offering from being declared effective, (c) to the extent the managing underwriters determine that the exercise of such rights could materially adversely effect the offering price in the Initial Offering or (d) if inclusion of such Program Shares or the consummation of such concurrent private offering could have the effect of causing the Initial Offering to fail to constitute a bona fide good faith public distribution of the Initial Offering shares.

(d) The rights of the Investors granted by the Company in this Section 2.4 have been bargained for as part of the investing practices of such Investors, and have not been sought by them or granted by the Company in contemplation of the Initial Offering to made within any determined period of time (if ever made), but as an extension of the rights of first refusal granted to the Investors pursuant to Section 2.3 above that would otherwise expire upon and not apply to the Initial Offering. Each Investor may assign its rights under this Section 2.4 to an affiliate of such Investor, a partner if such Investor is an investment fund, or to a beneficiary if such Investor is a trust.

2.5 Termination of Certain Covenants.

The covenants set forth in this Section 2 (other than those in Section 2.4 above, which apply upon an Initial Offering and shall terminate thereafter) shall terminate and be of no further force or effect following the consummation of the sale of securities pursuant to a bona fide, firmly underwritten public offering of shares of Common Stock, registered under the Act or when the Company first becomes subject to the periodic reporting requirements of Sections 12(g) or 15(d) of the 1934 Act, whichever event shall first occur.

2.6 Notice of Litigation.

So long as any Holder shall hold any shares of Series F Preferred, the Company shall provide notice to the Holders promptly upon the filing of any material action, suit or proceeding.

2.7 Corporate Existence, Licenses and Permits; Maintenance of Properties.

So long as any Holder shall hold any Series F Preferred, the Company will at all times use commercially reasonable efforts to do or cause to be done all things necessary to maintain, preserve and renew its existence as a corporation organized under the laws of a state of the United States of America, preserve and keep in force and effect, and cause each of its subsidiaries to apply for on a timely basis, all licenses and permits necessary and material to the conduct of the business of the Company and its consolidated subsidiaries, taken as a whole, and to maintain and keep, and cause each of its subsidiaries to maintain and keep, its and their respective material properties in good repair, working order and condition (except for normal wear and tear), and from time to time to make all needful and proper repairs, renewals and replacements, including, without limitation, all trade name and trademark registration renewals, in each case so that any business material to the Company carried on in connection therewith may be properly conducted.

2.8 No Investment Company.

The Company shall not become an “investment company” or a company “controlled” by an “investment company,” within the meaning of the Investment Company Act of 1940, as amended. In the event the Company breaches the foregoing, the Company shall forthwith notify the Investors and shall take immediate corrective action to remedy such breach.

3. Miscellaneous.

3.1 Successors and Assigns.

Except as otherwise provided herein, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties (including transferees of any shares of Registrable Securities). Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

3.2 Governing Law.

This Agreement shall be governed by and construed under the laws of the State of California as applied to agreements among California residents entered into and to be performed entirely within California.

3.3 Counterparts.

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. From and after the date of this Agreement, the Company may allow additional Investors in the Subsequent Series F Offering and investors in any other offering approved by the holders of Series F Preferred in accordance with the Certificate of Designation or allowable thereunder to become parties hereto by execution of the signature page by the Company and the new Investors.

3.4 Titles and Subtitles.

The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

3.5 Notices.

Unless otherwise provided, any notice required or permitted under this Agreement shall be given in writing and shall be deemed effectively given upon personal delivery to the party to be notified or upon delivery by confirmed facsimile transmission, nationally recognized overnight courier service, or upon deposit with the United States Post Office, by registered Or certified mail, postage prepaid and addressed to the party to be notified at the address indicated for such party on the signature page hereof, or at such other address as such party may designate by ten (10) days' advance written notice to the other parties.

3.6 Expenses.

If any action at law or in equity is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees, costs and necessary disbursements in addition to any other relief to which such party may be entitled.

3.7 Entire Agreement Amendments and Waivers.

This Agreement (including the Exhibits hereto, if any) constitutes the full and entire understanding and agreement among the parties with regard to the subjects hereof and thereof. Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and the holders of no less than a majority of the Registrable Securities then outstanding. Any amendment or waiver effected in accordance with this paragraph shall be binding upon each holder of any Registrable Securities, each future holder of all such Registrable Securities and the Company. Notwithstanding the

foregoing, any amendment of Section 1.13 shall require the consent of each Holder that is a registered investment company.

3.8 Severability.

If one or more provisions of this Agreement are held to be unenforceable under applicable law, such provision shall be excluded from this Agreement and the balance of the Agreement shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

3.9 Aggregation of Stock.

All shares of Registrable Securities held or acquired by entities advised by the same investment adviser and affiliated entities or Persons shall be aggregated together for the purpose of determining the availability of any rights under this Agreement.

3.10 Amendment and Restatement.

Effective upon the Closing under the Purchase Agreement (as defined therein), the Initial Agreement shall be amended and restated in its entirety as set forth herein.

3.11 No Adequate Remedy at Law.

In the event of a breach by the Company of its obligations under this Agreement, each Holder, in addition to being entitled to pursue all rights granted by law, including recovery of damages, will be entitled to seek specific performance of its rights under this Agreement.

3.12 No Inconsistent Agreement.

(a) Except for the registration rights contained in the agreements set forth on Schedule 3.12 hereto, the Company has not previously entered into any agreement with respect to its capital stock granting any registration rights to any Person.

(b) The Company will not on or after the date of this Agreement enter into any agreement with respect to its securities, (i) which grants registration rights to anyone on a preferred or pari passu position to the Holders or (ii) which is inconsistent with the rights granted to the Holders of Registrable Securities in this Agreement or otherwise conflicts with the provisions hereof, except as provided for or allowed under this Agreement.

* * *

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: _____

_____

_____

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Daniel J. Lehan III

Daniel J. Lehan III, COO

Address: Adage Capital Management LP
200 Clarendon St. 52nd Flr.
Boston, MA 02116

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Sigma Capital Associates, LLC
By: Sigma Capital Management, LLC

By: /s/ Peter A. Nussbaum
Peter A. Nussbaum, Authorized Signatory

*Business Address: P.O. Box 58, Victoria House
The Valley, Anguilla

* All correspondence should be sent to:

Sigma Capital Associates, LLC
c/o S.A.C. Capital Advisors, LLC
72 Cummings Point Road
Stamford, CT 06902
Attention: General Counsel
Fax: (203) 890-2393

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Matt McPherron

Matt McPherron
BROOKSIDE CAPITAL PARTNERS FUND, L.P.

Address: 111 Huntington Avenue
Boston MA 02199

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

OZ MASTER FUND, LTD.
By: OZ MANAGEMENT, L.L.C. its Investment Manager

By: /s/ Joel Frank

Joel Frank
Chief Financial Officer

Address: c/o: OZ Management, L.L.C.
9 West 57 Street
39th floor
New York, NY 10019

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Duquesne Fund, LP

By: /s/ Kenan Turnacioglu

Kenan Turnacioglu
Managing Director – Duquesne Capital Mgt., LLC.

Address: 2579 Washington Rd. Ste. 322
Pittsburgh, PA 15241

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Duquesne Fund, LP

By: /s/ Kenan Turnacioglu

Kenan Turnacioglu
Managing Director – Duquesne Capital Mgt., LLC.

Address: 2579 Washington Rd. Ste. 322
Pittsburgh, PA 15241

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Corriente Biotechnology Partners, L.P.

By: Corriente Biotechnology Capital Management, L.P.
its general partner

By: Corriente Advisors, LLC
its general partner

By: /s/ Mark L. Hart III

Mark L. Hart III

Address: 100 Crescent Ct., Ste. 800
Dallas, TX 75201

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Janus Investment Fund on behalf of its Series Janus Global Life Sciences Fund

By: /s/ Heidi J. Walter

Heidi J. Walter
Vice President

Address: 151 Detroit Street
Denver, CO 80206

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Janus Aspen Series on behalf of its
Series Janus Aspen Global Life Sciences Portfolio

By: /s/ Heidi J. Walter

Heidi J. Walter
Vice President

Address: 151 Detroit Street
Denver, CO 80206

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

T. Rowe Price Health Sciences Co., Inc.

By: /s/ Kris H. Jenner

Kris H. Jenner
President
T. Rowe Price Associates, Inc.

Address: 100 E. Pratt Street
Baltimore, MD 21202

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

DFL Investing, Inc.

By: /s/ Schuyler B. Marshall

Schuyler B. Marshall

Address: 100 Crescent Court, Suite 1700
Dallas, Texas 75201

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

WAGNER & BROWN, LTD.

By: /s/ A.J. Brune, III

A.J. Brune, III
Executive Vice President

Address: 300 N. Marienfeld, Suite 1100
Midland, Texas 79701

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

WAGNER FAMILY PARTNERSHIP VI

By: /s/ A.J. Brune III

/s/ Gary D. Douglas

A.J. Brune III and Gary D. Douglas
as agents for Cyril Wagner, Jr.,
Managing General Partner

Address: 300 N. Marienfeld, Suite 1100
Midland, Texas 79701

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ John L. Lewis, IV
John L. Lewis, IV

Address: _____
_____

[SIGNATURE PAGE TO
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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Marc L. Abramowitz

Marc L. Abramowitz, Managing Member
KT4 Partners, LLC

Address: 2300 N. St. NW
Washington, DC 20037

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Van L. Weatherspoon

Van L. Weatherspoon
General Partner
The Weatherspoon Family Ltd. Partnership

Address: 135 Perrin Place, Suite 200
Charlotte, NC 28207

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Ronald E. Clark

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Thomas F. Kearns
Thomas F. Kearns, Jr.

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Allan P. Rothstein
Allan P. Rothstein

Address: _____
_____

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FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Norman Rothstein
Norman Rothstein

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Elizabeth B. Dater
Elizabeth B. Dater

Address: _____

_____

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By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

JKG INVESTMENT COMPANY, L.P.

By: /s/ John K. Garvey

John K. Garvey, Trustee of John K. Garvey Revocable Trust, Partnership Manager

Address: 300 W. Douglas, Suite 1050
Wichita, KS 67202-2911

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ John J. Mack
John J. Mack

Address: _____

_____

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By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
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650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

STANCO ETABLISSEMENT

By: /s/ N. Peter Ruys /s/ Rolf Ehlers

N. Peter Ruys Rolf Ehlers
c/o Société International de Finance

Address: Löwenstrasse 19
8001 Zurich, Switzerland

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Norman Schleifer

Norman Schleifer, CFO of:
Merlin BioMed, L.P.

Address: _____

_____

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FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Norman Schleifer

Norman Schleifer, CFO of:
Merlin BioMed II, L.P.

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Brady T. Lipp

Brady T. Lipp FBO
Akros Capital Fund, LP

Address: 230 Park Avenue, 7th FL
New York, NY 10169

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Dan Settle, Jr.
Dan Settle, Jr.

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Elkhorn Partners L.P.

By: /s/ Alan S. Parson

Alan S. Parson
General Partner, Elkhorn Partners

Address: PO Box [illegible]
Elkhorn NE 68022-0818

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Raj Maheshwari
Raj Maheshwari

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ [Illegible Signature]

CALM VENTURE PARTNERS, LIMITED PARTNERSHIP

Address: PMB# 5073
2711 Centerville Road, Suite 120
Wilmington DE 19808-1642

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ John J. Hemmingson

John J. Hemmingson
Lakeside Capital Group LLC

Address: 912 S. Riverside Harbor Drive
Post Falls Idaho 83854

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Paul J. Rizzo

Paul J. Rizzo

Address: _____

_____

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FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Stanford C. Finney, Jr.

Stanford C. Finney, Jr.

Address: c/o Spyglass Trading LP
8201 Preston Rd. Suite 440
Dallas, Texas 75225

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ John A. Sullivan
John A. Sullivan

Address: _____

_____

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By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Gus Van Sant, Jr., Trustee

Gus Van Sant, Jr. Trust

Address: _____

_____

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By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Charles G. Davis
Charles G. Davis 1990 Trust

Address: _____
_____

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By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Fortress Venture Capital II, L.P.
By: Rosewood Management Corporation, General Partner

By: /s/ John M. Dziminski
John M. Dziminski, President

Address: 100 Crescent Court, Suite 1700
Dallas, Texas 75201

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Henry A. Coustneau III
Henry A. Coustneau III

Address: _____
_____

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By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ C. Knox Massey, Jr.

C. Knox Massey, Jr.

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Fred Schernecker

Fred Schernecker
for Caroline Kearns Schernecker

Address: _____

_____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Donald Zale

New Course Partners, Ltd.
Donald Zale, General Partner

Address: 3102 Maple Ave., Suite 100
Dallas, TX 75201

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Robert C. Eubanks Jr.

Robert C. Eubanks Jr.

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Scott T. Jagodzinski
Scott T. Jagodzinski

Address: _____
_____

[SIGNATURE PAGE TO
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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Elizabeth W. Kearns
Elizabeth W. Kearns

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Christy K. Mack
Christy K. Mack

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Frank Deford
Frank Deford

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Jeffrey D. Estes
Jeffrey D. Estes

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Patricia M. McConnell

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Robert W. Ford
Robert W. Ford

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Carolyn M. Bechtel
Carolyn M. Bechtel

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Antonio M. Perla /s/ Cristina de Perla

Antonio M. Perla Cristina de Perla

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Diana Ronan Quasha

Diana Ronan Quasha

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

FINANCIERA E INVERSIONISTA XANA SA

By: /s/ Antonio Marziale

Antonio Marziale

Address: c/o BANCO DI LUGANO
Attn: Mr. Roberto Pini
Piazzetta San Carlo
6900 Lugano (Switzerland)

with copy to:
Antonio Marziale
1300 Post Oak Blvd #820
Houston, TX 77056
(713) 627-8008 ph.
(713) 627-8118 fax

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Schuyler B. Marshall
Schuyler B. Marshall

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ [Illegible Signature]

Vice President
Stifel Nicolaus & Co. Inc.

Address: Attn Cheri Bass
501 N. Broadway
St. Louis MO 63102

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Jack Druga /s/ Eileen Druga

Jack Druga and Eileen Druga JTWROS

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Paul D. Norell
Paul D. Norell

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Paul Wright IV
Paul Wright IV

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Paul Wright III /s/ Mary M. Miller

Paul Wright III
and Mary M. Miller

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Julian N. Stern
Julian N. Stern

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Laurie Sands Harrison
Laurie Sands Harrison

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Lyda Hunt-Caroline Trust – David Keith Sands

By: /s/ Don W. Crisp, Trustee
Don W. Crisp, Trustee

By: /s/ Schuyler B. Marshall, Trustee
Schuyler B. Marshall, Trustee

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ [Illegible Signature]

Sutton International

Address: 1933 / 260 Davis St.
San Leandro CA 94577

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Michael S. Toonkel
Michael S. Toonkel

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ [Illegible Signature]

Vice President
Stifel Nicolaus & Co Inc.

Address: Attn Cheri Bass
501 N. Broadway
St. Louis MO 63102

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Ken Mindell

Ken D. Mindell

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Peter Wen
Peter Wen

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Dan Brecher

Daniel Brecher Retirement Profit Sharing Plan
Oppenheimer & Co. Custodian for Benefit of Dan Brecher, IRA

Address: 30 Lincoln Plaza #9H
New York, N.Y. 10023

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ [Illegible Signature]

Vice President
StiFel Nicolaus & Co Inc

Address: Attn Cheri Bass
501 N. Broadway
St. Louis MO 63102

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Luke J. Haran, Jr.
Luke J. Haran, Jr.

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ David J. Sharma
David Sharma

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ William & Andrea Kirsh
William & Andrea Kirsh

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Herman E. Lang Jr.
Herman E. Lang Jr.

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Gil Perry
Gil Perry

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Rory Riggs
Rory Riggs

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Richard Snyder Marilyn Snyder

Richard Snyder & Marilyn Snyder

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Richard Suzman
Richard Suzman

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Peter M. Kramer
Peter M. Kramer

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Daniel Brecher
1. Daniel Brecher Retirement Profit Sharing Plan
2. Oppenheimer & Co. Custodian for Benefit of Dan Brecher IRA

Address: 30 Lincoln Plaza #9H
NY NY 10023

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Toichi Takenaka
Toichi Takenaka
President and Chief Executive Officer

Address: 3-11, Nihonbashi-Honcho 2-chome
Chuo-ku, Tokyo 103-8411, Japan

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ [Illegible Signature]

Address: 125 Broad Street
New York NY 1004

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Bio Fund Venture II Follow-On L.P.
Bio Fund Management as G.P.

By: /s/ Kalevi Kurkijarvi
Kalevi Kurkijarvi, Chairman & CEO

Address: Mikonkates 4 3rd Floor
Fi 00100 Helsinki, Finland

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Michihiro Matsuda

Michihiro Matsuda
President, SMBC Capital Co., Ltd. General Partner of SMBC Capital No. 6 Venture Capital Investment Limited Partnership

Address: Otemachi Tatemono Nihonbashi Building,
2-7-9, Nihonbashi, Chuo-ku, Tokyo 103-0027 JAPAN

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Keiko Nakamura
Keiko Nakamura

Address: 7-8-8-301, Hiroo,
Shibuya-ku, Tokyo, Japan
150-0012

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Bio Fund Venture I Follow-On L.P.
Bio Fund Management Ltd as G.P

By: /s/ Kalevi Kurkijarvi
Kalevi Kurkijarvi, Chairman & CEO

Address: Mikonkates 4 3rd Floor
00100 Helsinki, Finland

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Sheng Lee

Sheng-Wan Lee, President
PacLink Bio Venture Capital Investment Corp.

Address: 147, 2. Tun Hwa S. Rd.,
Sec. 2, Taipei, Taiwan, R.O.C.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Takehito Jimbo

Takehito Jimbo, CEO
ITX International Equity Corp.

Address: 700 E. El Camino Real Suite 200
Mountain View, CA 94040

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

BBT Fund, L.P.

By: BBT Genpark, L.P., General Partner

By: BBT-FW, Inc., General Partner

By: /s/ William O. Reimann
William O. Reimann, Vice President

Address: Brad Donley
c/o BBT Genpar, L.P.
201 Main St. Suite 3200
Forth Worth, Texas 76102

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Mizuho Capital Co., Ltd.

By: /s/ Osamu Kita

Osamu Kita
President

Address: 4-3, Nihombashi-kabutocho,
Chuo-ku, Tokyo 103-0026, Japan

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Masahiro Taguchi
Masahiro Taguchi
Sankhyo Sekiyu Limited

Address: U.T. Building SF, 1-5-13
Hirakawa-cho, chiyoda-ku
Tokyo, Japan 102-0093

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Thominvest Oy

By: /s/ [Illegible Signature]

Address: Halandentatu l5-17
Fin-00210 Helsinki, Finland

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Concentrated Alpha Partners, L.P.

By: CAP Genpar, L.P. General Partner

By: CAP-FW, Inc., General Partner

By: /s/ William Reimann
William O. Reimann, Vice President

Address: Brad Donley
c/o CAP Genpar, L.P.
201 Main St. Suite 3200
Fort Worth, Texas 76102

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

Dreadnought Finance Oy

By: /s/ Juha Jouhki
Juha Jouhki

Address: Hälandentatu 15-17
FIN-00210 Helsinki, Finland

[SIGNATURE PAGE TO
INVESTORS' RIGHTS AGREEMENT]

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Jay Levine
Jay Levine
Jay & Tammy Levine JTADS

Address: _____
_____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ M. Katherine Ford
M. Katherine Ford

Address: _____
_____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Barbara G. Lawton, TTEE
Barbara G. Lawton, TTEE

Address: _____
_____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Steven Rothstein
Steven Rothstein

Address: _____

_____

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IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ [Illegible Signature]

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Alan M. Sebulsky
Alan M. Sebulsky

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

KT4 Partners, LLC

By: /s/ Marc L. Abramowitz
Marc L. Abramowitz, Managing Member

Address: c/o Barbara Ryan
2300 N. St. NW
Washington, DC 20037

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Diana R. Solomon
Diana R. Solomon

Address: _____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ James A. Silverman
James A. Silverman

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Murray A. Rothstein

Address: _____

_____

This is an IRA account purchase. Please register the asset in IRA name as listed.

Murray A. Rothstein IRA
Charles Schwab & Co., Inc. Custodian

Murray A. Rothstein IRA
Charles Schwab & Co., Inc. Custodian
211 Main Street
San Francisco, CA 94105
Attn: Alternative Investment Services
TIN 94-1737782

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Mayukh V. Sukhatme
Mayukh V. Sukhatme

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Douglas M. Cameron
Douglas M. Cameron

Address: _____
_____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

RIDASOL FINANCE INC.

By: /s/ Peter Krummenacher
Peter Krummenacher, President

Address: P.O. Box 345
CH-4010 Basel/Switzerland

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

SHEW, L.P.

By: /s/ Steven J. Eller G.P.
Steven J. Eller G.P.

Address: c/o Buchbinder Tunick & Co. LLP
One Penn Plaza – STE 5335
New York, NY 10119

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Richard B. Silverman

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ [Illegible Signature]
FBO Katherine Durdun

Address: _____
_____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Sharlett R. Okyle
Sharlett R. Okyle

Address: _____
_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Elisa Silverman

/s/ Steven Silverman

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Richard A. Passov

Address: _____

_____

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IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ Mary Jane Suzman

Address: _____

_____

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COMPANY:

FIBROGEN, INC.

By: _____
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

By: /s/ William B. Campbell

/s/ Peggy Campbell

Address: _____

_____

[SIGNATURE PAGE TO
INVESTORS' RIGHTS AGREEMENT]

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

MAVERICK FUND II, LTD.

By: Maverick Capital, Ltd.,
its investment advisor

By: /s/ Michelle Perrin
Michelle Perrin
Managing Director

Address: _____

_____

[SIGNATURE PAGE TO
INVESTORS' RIGHTS AGREEMENT]

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

MAVERICK FUND II, LTD.

By: Maverick Capital, Ltd.,
its investment advisor

By: /s/ Michelle Perrin
Michelle Perrin
Managing Director

Address: 300 Crescent Court, 17th Floor
Dallas, Texas 75201

[SIGNATURE PAGE TO
INVESTORS' RIGHTS AGREEMENT]

MAVERICK FUND, L.D.C.

By: Maverick Capital, Ltd.,
its investment advisor

By: /s/ Michelle Perrin
Michelle Perrin
Managing Director

Address: 300 Crescent Court, 17th Floor
Dallas, Texas 75201

MAVERICK FUND USA, LTD.

By: Maverick Capital, Ltd.,
its investment advisor

By: /s/ Michelle Perrin
Michelle Perrin
Managing Director

Address: 300 Crescent Court, 17th Floor
Dallas, Texas 75201

[SIGNATURE PAGE TO
INVESTORS' RIGHTS AGREEMENT]

Pursuant to Section 3.3 of the Investors' Rights Agreement dated as of December 22, 2004 between FibroGen, Inc., a Delaware corporation (the "Company"), and the purchasers of the Company's Series F Preferred Stock listed on the signature pages thereto (the "Agreement"), which permits the Company to allow additional investors allowable under the Certificate of Designation (as defined in the Agreement) to become parties to the Agreement by execution of the signature page by the Company and such investors, the Company and the investors listed below hereby execute this signature page to the Agreement as of the 8th day of November, 2005.

COMPANY:

FIBROGEN, INC.

By: _____

Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

JANUS INVESTMENT FUND ON BEHALF OF ITS SERIES JANUS GLOBAL LIFE SCIENCES FUND

By: /s/ Thomas Malley
Name: Tom Malley, Portfolio Manager

Address for Notice:

c/o Gregory P. Dulski, Associate Counsel
151 Detroit Street
Denver, CO 80206
Telephone: (303) 336-4675
Fax: (303) 394-7714

JANUS ASPEN SERIES ON BEHALF OF ITS SERIES JANUS ASPEN GLOBAL LIFE SCIENCES PORTFOLIO

By: /s/ Thomas Malley
Name: Tom Malley, Portfolio Manager

Address for Notice:

c/o Gregory P. Dulski, Associate Counsel
151 Detroit Street
Denver, CO 80206
Telephone: (303) 336-4675
Fax: (303) 394-7714

Pursuant to Section 3.3 of the Investors' Rights Agreement dated as of December 22, 2004 between FibroGen, Inc., a Delaware corporation (the "Company"), and the purchasers of the Company's Series F Preferred Stock listed on the signature pages thereto (the "Agreement"), which permits the Company to allow additional investors allowable under the Certificate of Designation (as defined in the Agreement) to become parties to the Agreement by execution of the signature page by the Company and such investors, the Company and the investors listed below hereby execute this signature page to the Agreement as of the 8th day of November, 2005.

COMPANY:

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, President and Chief Executive Officer

Address: 225 Gateway Boulevard
South San Francisco, CA 94080
650-866-7200 (phone)
650-866-7202 (fax)

INVESTORS:

TPG-AXON PARTNERS, L.P.

By: TPG-Axon Capital Management, L.P., its investment adviser

By: /s/ Carl O'Connell
Name: Carl O'Connell
Title: Chief Financial Officer

Address for Notice:

c/o TPG-Axon Capital Management, LP
888 Seventh Avenue, 38th Floor
New York, NY 10019
Attention: Mary A. Lee
Fax: 212-479-2144

TPG-AXON PARTNERS (OFFSHORE), LTD

By: TPG-Axon Capital Management, L.P., its investment adviser

By: /s/ Carl O'Connell
Name: Carl O'Connell
Title: Chief Financial Officer

Address for Notice:

c/o TPG-Axon Capital Management, LP 888 Seventh Avenue, 38th Floor
New York, NY 10019
Attention: Mary A. Lee
Fax: 212-479-2144

[SIGNATURE PAGE TO
INVESTORS' RIGHTS AGREEMENT]

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: September 13, 2005

HOLDER:

Number of Series F shares Held: 3,296,704

Name: Adage Capital Partners LP (As it appears on Stock Certificate)

By: /s/ Phil Gross

Phil Gross
Name

Managing Director
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 30, 2005

HOLDER:

Number of Series F shares Held: 109,891

Name: Thomas F. Kearns, Jr. (As it appears on Stock Certificate)

By: /s/ Thomas F. Kearns, Jr.

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 23, 2005

HOLDER:

Number of Series F shares Held: 5,500

Name: Risk/Reward FBO Burdon (As it appears on Stock Certificate)

By: /s/ [Illegible Signature]

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 31, 2005

HOLDER:

Number of Series F shares Held: 21,979

Name: Elizabeth W. Kearns (As it appears on Stock Certificate)

By: /s/ Elizabeth W. Kearns

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: September 29, 2005

HOLDER:

Number of Series F shares Held: 50,000

Name: C.A.L.M. Venture Parties (As it appears on Stock Certificate)

By: /s/ Charles Antell

Charles Antell
Name

G.P.
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: September 12, 2005

HOLDER:

Number of Series F shares Held:4,395

Name: William B. Campbell (As it appears on Stock Certificate)

By: /s/ William B. Campbell

William B. Campbell
Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 30, 2005

HOLDER:

Number of Series F shares Held: 10,989

Name: Douglas Cameron (As it appears on Stock Certificate)

By: /s/ Douglas Cameron

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 24, 2005

HOLDER:

Number of Series F shares Held: 109,891

Name: Ronald E. & Sandra L. Clark, JT. (As it appears on Stock Certificate)

By: /s/ Ronald E. Clark

/s/ Sandra L. Clark

Ronald E. Clark
Name

Sandra L. Clark

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 23, 2005

HOLDER:

Number of Series F shares Held: 65,000

Name: Akros Capital Fund, LP (As it appears on Stock Certificate)

By: /s/ Brady T. Lipp

Brady T. Lipp
Name

Manager
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: September 8, 2005

HOLDER:

Number of Series F shares Held: 69,934

Name: Concentrated Alpha Partners LP (As it appears on Stock Certificate)

By: /s/ William O. Reimann

William O. Reimann
Name

VP of Managing General Partner
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 22, 2005

HOLDER:

Number of Series F shares Held: 6,000

Name: Luke J. Haran Jr. (As it appears on Stock Certificate)

By: /s/ Luke J. Haran Jr.

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: September 2, 2005

HOLDER:

Number of Series F shares Held: 1,207,693

Name: Corriente Biotechnology Partners LP (As it appears on Stock Certificate)
Corriente Biotechnology Partners, L.P.
By: Corriente Biotechnology Capital Management, L.P., its general partner
By: Corriente Advisers, LLC, its general partner

By: /s/ Mark L. Hurt, II

Mark L. Hurt, II
Name

Chairman – Corriente Advisors, L.L.C.
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: September 26, 2005

HOLDER:

Number of Series F shares Held: 41,593

Name: Henry A. Cousineau III (As it appears on Stock Certificate)

By: /s/ Henry A. Cousineau III

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 23, 2005

HOLDER:

Number of Series F shares Held: 1090,890

Name: Elizabeth B. Dater (As it appears on Stock Certificate)

By: /s/ Elizabeth B. Dater

Elizabeth B. Dater
Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: August 22, 2005

HOLDER:

Number of Series F shares Held: 43,956

Name: Charles G. Davis 1990 Trust (As it appears on Stock Certificate)

By: /s/ Charles G. Davis

Charles G. Davis 1990 Trust
Name

Trustee
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 24, 2005

HOLDER:

Number of Series F shares Held: 21,978

Name: Adage Capital Partners LP (As it appears on Stock Certificate)

By: /s/ Frank Deford

Frank Deford
Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 25, 2005

HOLDER:

Number of Series F shares Held: 40,000

Name: John W. Lawless TTEE (As it appears on Stock Certificate)

By: /s/ John W. Lawless
/s/ Barbara G. Lawless

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 31, 2005

HOLDER:

Number of Series F shares Held: 439,560

Name: DFL Investing, Inc. (As it appears on Stock Certificate)

By: /s/ C. Jedson Nau

C. Jedson Nau
Name

Vice President
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 22, 2005

HOLDER:

Number of Series F shares Held: 54,945

Name: Dreadnought Finance Oy (As it appears on Stock Certificate)

By: /s/ Juha Jouhki

Juha Jouhki
Name

Chairman of the Board
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 29, 2005

HOLDER:

Number of Series F shares Held: 11,000

Name: Jack Druga and Eileen Druga JTWRDS (As it appears on Stock Certificate)

By: /s/ Jack Druga /s/ Eileen Druga

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 29, 2005

HOLDER:

Number of Series F shares Held: 110,000

Name: Duquesne Fund, L.P. (As it appears on Stock Certificate)

By: /s/ Joseph W. Haleski

Joseph W. Haleski
Name

Vice President
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

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   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 29, 2005

HOLDER:

Number of Series F shares Held: 2,087,802

Name: Steeler Fund, Ltd. (As it appears on Stock Certificate)

By: /s/ Joseph W. Haleski

Joseph W. Haleski
Name

Vice President
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: August 24, 2005

HOLDER:

Number of Series F shares Held: 21,978

Name: Jeffrey D. Estes (As it appears on Stock Certificate)

By: /s/ Jeffrey D. Estes

Jeffrey D. Estes
Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: August 29, 2005

HOLDER:

Number of Series F shares Held: 22,000

Name: Robert C. Eubanks, Jr. (As it appears on Stock Certificate)

By: /s/ Robert C. Eubanks

Robert C. Eubanks
Name

Chief Investment Officer
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: August 30, 2005

HOLDER:

Number of Series F shares Held: 21,978

Name: Robert W. Ford (As it appears on Stock Certificate)

By: /s/ Robert W. Ford

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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Dated: September 8, 2005

HOLDER:

Number of Series F shares Held: 153,846

Name: BBT Fund, LP (As it appears on Stock Certificate)

By: /s/ William O. Reimann

William O. Reimann
Name

VP of Managing General Partner
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: September 1, 2005

HOLDER:

Number of Series F shares Held: 43,956

Name: Fortress Venture Capital II, L.P. (As it appears on Stock Certificate)

By: /s/ Ken D. Mindell

Ken D. Mindell
Name

Senior Vice President
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

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Dated: August 22, 2005

HOLDER:

Number of Series F shares Held: All

Name: Lakeside Capital Group (As it appears on Stock Certificate)

By: /s/ John Hemmingson

John Hemmingson
Name

Managing Director
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: September 1, 2005

HOLDER:

Number of Series F shares Held: 22,000

Name: Scott T. Jagedzinski (As it appears on Stock Certificate)

By: /s/ Scott T. Jagedzinski

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: September 12, 2005

HOLDER:

Number of Series F shares Held: 1,070,066

Name: Buoy Breeze & Co. (As it appears on Stock Certificate)

By: /s/ Bonnie Howe

Bonnie Howe
Name

Vice President & Assistant General Counsel
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: September 7, 2005

HOLDER:

Number of Series F shares Held: 219,800

Name: Bio Fund Ventures I Follow-On L.P. (As it appears on Stock Certificate)

By: /s/ Kalevi Kurkijärvi

Kalevi Kurkijärvi
Name

General Partner
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: August 22, 2005

HOLDER:

Number of Series F shares Held: 4,395

Name: William D. Kirsh (As it appears on Stock Certificate)

By: /s/ William D. Kirsh

William D. Kirsh
Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: September 7, 2005

HOLDER:

Number of Series F shares Held: 570,000

Name: Bio Fund Ventures II Follow-On L.P. (As it appears on Stock Certificate)

By: /s/ Kalevi Kurkijärvi

Kalevi Kurkijärvi
Name

General Partner
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: August 29, 2005

HOLDER:

Number of Series F shares Held: 2,197,802

Name: Brookside Capital Partners Fund, L.P. (As it appears on Stock Certificate)

By: /s/ Matt McPherson

Matt McPherson
Name

Managing Director
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

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Dated: September 7, 2005

HOLDER:

Number of Series F shares Held: 109,890

Name: John J. Mack (As it appears on Stock Certificate)

By: /s/ John J. Mack

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: August 30, 2005

HOLDER:

Number of Series F shares Held: 29,670

Name: Merlin BioMed II L.P. (As it appears on Stock Certificate)

By: /s/ Norman Schieifer

Norman Schieifer
Name

CFO
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

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Dated: September 1, 2005

HOLDER:

Number of Series F shares Held: 9,000

Name: Ken D. Mindell (As it appears on Stock Certificate)

By: /s/ Ken D. Mindell

Ken D. Mindell
Name

Individual
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

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Dated: August 23, 2005

HOLDER:

Number of Series F shares Held: 5,494

Name: Sharlett R. OKyle (As it appears on Stock Certificate)

By: /s/ Sharlett R. OKyle

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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Dated: _____, 2005

HOLDER:

Number of Series F shares Held: 20,000

Name: Diana Quasha (As it appears on Stock Certificate)

By: /s/ Diana Quasha

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: August 30, 2005

HOLDER:

Number of Series F shares Held: 110,000

Name: The Weatherspoon Family Ltd. Partnership (As it appears on Stock Certificate)

By: /s/ Van L. Weatherspoon

Van L. Weatherspoon
Name

General Partner
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: September 9, 2005

HOLDER:

Number of Series F shares Held: 10,000

Name: Ridasol Finance Inc. (As it appears on Stock Certificate)

By: /s/ Peter Krummenacher

Peter Krummenacher
Name

President
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: August 25, 2005

HOLDER:

Number of Series F shares Held: 10,989

Name: Paul Wright III & Mary M. Miller (As it appears on Stock Certificate)

By: /s/ Paul Wright III /s/ Mary M. Miller

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: _____, 2005

HOLDER:

Number of Series F shares Held: 50,000

Name: _____ (As it appears on Stock Certificate)

By: /s/ Rory Riggs

Rory Riggs
Name

_____
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: August 25, 2005

HOLDER:

Number of Series F shares Held: 11,000

Name: Paul Wright, IV (As it appears on Stock Certificate)

By: /s/ Paul Wright, IV

Paul Wright, IV
Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: August 29, 2005

HOLDER:

Number of Series F shares Held: 50,000

Name: Paul J. Rizzo (As it appears on Stock Certificate)

By: /s/ Paul J. Rizzo

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: _____, 2005

HOLDER:

Number of Series F shares Held: 1,208,800

Name: Yamanouchi Pharmaceuticals Co. Ltd. (As it appears on Stock Certificate)

By: /s/ Toichi Takenaka

Toichi Takenaka
Name

President and CEO
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: August 26, 2005

HOLDER:

Number of Series F shares Held: 6,595

Name: RJ8 Virginia LLC (As it appears on Stock Certificate)

By: /s/ Richard B. Silverman

Richard B. Silverman
Name

Trustee
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 22, 2005

HOLDER:

Number of Series F shares Held: 8,000

Name: Michael Salinaro (As it appears on Stock Certificate)

By: /s/ Michael Salinaro

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: September 9, 2005

HOLDER:

Number of Series F shares Held: 10,989

Name: Laurie Sands Harrison (As it appears on Stock Certificate)

By: /s/ Laurie Sands Harrison

Laurie Sands Harrison
Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: September 3, 2005

HOLDER:

Number of Series F shares Held: 22,000

Name: Caroline Kearns Schernecker (As it appears on Stock Certificate)

By: /s/ Caroline Kearns Schernecker

Caroline Kearns Schernecker
Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: September 26, 2005

HOLDER:

Number of Series F shares Held: 13,187

Name: Schuyler B. Marshall (As it appears on Stock Certificate)

By: /s/ Schuyler B. Marshall

Schuyler B. Marshall
Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 29, 2005

HOLDER:

Number of Series F shares Held: 32,000

Name: Alan M. Sebulsky (As it appears on Stock Certificate)

By: /s/ Alan M. Sebulsky

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: September 2, 2005

HOLDER:

Number of Series F shares Held: 61,605

Name: Dan Settle, Jr. (As it appears on Stock Certificate)

By: /s/ Dan Settle, Jr.

Dan Settle, Jr.
Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: _____, 2005

HOLDER:

Number of Series F shares Held: 8,000

Name: Shew, L.P. (As it appears on Stock Certificate)

By: /s/ Steven J. Eller

Steven J. Eller
Name

General Partner
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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Dated: September 7, 2005

HOLDER:

Number of Series F shares Held: 21,978

Name: Christy K. Mack (As it appears on Stock Certificate)

By: /s/ Christy K. Mack

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: August 24, 2005

HOLDER:

Number of Series F shares Held: 5,000

Name: David J. Shorma (As it appears on Stock Certificate)

By: /s/ David J. Shorma

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: _____, 2005

HOLDER:

Number of Series F shares Held: 5,494

Name: Elisa G. Silverman & Steven J. Silverman (As it appears on Stock Certificate)

By: /s/ Elisa G. Silverman & Steven J. Silverman

_____
Name

_____
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: August 22, 2005

HOLDER:

Number of Series F shares Held: 21,980

Name: James Silverman (As it appears on Stock Certificate)

By: /s/ James Silverman

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

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Dated: August 23, 2005

HOLDER:

Number of Series F shares Held: 10,989

Name: Julian N. Stern (As it appears on Stock Certificate)

By: /s/ Julian N. Stern

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

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Dated: August 26, 2005

HOLDER:

Number of Series F shares Held: _____

Name: C. Knox Massey, Jr. (As it appears on Stock Certificate)

By: /s/ C. Knox Massey, Jr.

_____
Name

_____
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: August 29, 2005

HOLDER:

Number of Series F shares Held: 16,500

Name: Mayukh V. Sukhatme (As it appears on Stock Certificate)

By: /s/ Mayukh V. Sukhatme

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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Dated: August 22, 2005

HOLDER:

Number of Series F shares Held: 10,000

Name: Christopher McCampbell (As it appears on Stock Certificate)

By: /s/ Christopher McCampbell

Name

Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

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Dated: August 23, 2005

HOLDER:

Number of Series F shares Held: 10,989

Name: Sutton International (As it appears on Stock Certificate)

By: /s/ Ned Prochnow

Ned Prochnow
Name

Corporate Secretary
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

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WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 24, 2005

HOLDER:

Number of Series F shares Held: 21,978

Name: Patricia M. McConnell (As it appears on Stock Certificate)

By: _____

Patricia M. McConnell
Name

_____
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 22, 2005

HOLDER:

Number of Series F shares Held: 109,890

Name: Thominvest Oy (As it appears on Stock Certificate)

By: /s/ Huha Jouhki

Huha Jouhki
Name

President
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 30, 2005

HOLDER:

Number of Series F shares Held: 80,220

Name: Merlin BioMed, LP (As it appears on Stock Certificate)

By: /s/ Norman Schieifer

Norman Schieifer
Name

CFO
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: August 23, 2005

HOLDER:

Number of Series F shares Held: 44,000

Name: Gus Van Sant, Jr. Trust (As it appears on Stock Certificate)

By: /s/ Gus G. Van Sant

Gus G. Van Sant
Name

Trustee
Title

CONSENT TO AMENDMENT
OF SERIES F INVESTORS' RIGHTS AGREEMENT

WHEREAS, The undersigned holder ("Holder") of Series F Preferred Stock of FibroGen, Inc. (the "Company") holds a right of first offer with respect to certain future sales by the Company of its Shares pursuant to Section 2.3 of the Investors' Rights Agreement dated December 22, 2004 (the "Investors' Rights Agreement");

WHEREAS, Section 2.3(c)(i) of the Investors' Rights Agreement provides that the right of first offer shall not apply to bona fide options issued to employees, directors and consultants pursuant to written stock option or stock purchase plans that have been approved by the stockholders of the Company;

WHEREAS, The Board of Directors of the Company has adopted and submitted to the stockholders of the Company for approval the 2005 Stock Plan, which provides for the ability to issue a variety of forms of equity compensation in addition to bona fide options;

WHEREAS, In order to grant to employees, directors, consultants and other service providers the various forms of equity compensation issuable under the 2005 Stock Plan without the administrative inconvenience of offering such compensation to the Holders, the Company hereby requests that the Holders consent to the amendment, under Section 3.7 if the Investors' Rights Agreement, of Section 2.3 of the Investors' Rights Agreement such that the right of first offer shall not apply to any form of equity compensation issued under a written plan approved by the stockholders of the Company.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Holder hereby agrees as follows:

1. Amendment of Investors' Rights Agreement. That Section 2.3(c)(i) of the Investors' Rights Agreement is hereby amended to read as follows:

   "The right of first offer in this Section 2.3 shall not be applicable to (i) bona fide options *and other forms of equity compensation* (and the shares issuable upon exercise thereof) issued to employees, directors and consultants *or other service providers* of the Corporation pursuant to written *equity incentive plans, including* stock option or stock purchase plans, that have been approved by the stockholders of the Corporation"

Dated: 25, 2005

HOLDER:

Number of Series F shares Held: 350,000

Name: SMBC Capital No. 6 Venture Capital Investment Limited (As it appears on Stock Certificate)

By: /s/ Michihiro Matsuda

Michihiro Matsuda
Name

President, SMBC Capital Co., Ltd. General Partner of SMBC Capital No. 6 Venture Capital Investment Limited Partnership
Title

INVESTOR RIGHTS AGREEMENT

INVESTOR RIGHTS AGREEMENT (the "Agreement") made and entered into as of June 3, 1999, by and among FIBROGEN,INC., a Delaware corporation (the "Company"), and the parties who have executed this Agreement as Investors (the "Investors").

THE PARTIES AGREE AS FOLLOWS:

ARTICLE 1

DEFINITIONS

As used in this Agreement, the following terms shall have the following respective meanings:

1.1 "Commission" shall mean the Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.

1.2 "Holder" shall mean any holder of outstanding Registrable Securities which have not been sold to the public but only if such holder is an Investor or an assignee or transferee of registration rights permitted by Section 2.10.

1.3 "Piggy back Registration" shall have the meaning set forth in Section 2.1.

1.4 "Registration Expenses" shall have the meaning set forth in Section 2.5.

1.5 "Registrable Securities" shall mean all Common Stock of the Company issued or issuable upon conversion of the Company's Series B Preferred Stock, including Common Stock issued pursuant to stock splits, stock dividends and similar distributions with respect to the Registrable Securities, and any securities of the Company granted registration rights pursuant to Section 3.9 of this Agreement.

1.6 "Securities Act" shall mean the Securities Act of 1933, as amended, or any similar federal statute, and the rules and regulations of the Commissioner thereunder, all as the same shall be in effect at the time.

ARTICLE 2

REGISTRATION RIGHTS

2.1 Piggy back Registration. If at any time the Company proposes to file a registration statement under the Securities Act with respect to an offering of its Common Stock (i) for the Company's own account (other than a registration statement on Form S 4 or S 8 or any substitute form that may be adopted by the Commission or a registration statement with respect to the first registered offering of the Company's Common Stock to the public) or (ii) for the account of any holders of its Common Stock, then the Company shall give written notice of such proposed filing to each Holder as soon as practicable (but in no event less than ten days before the anticipated filing date), and such notice shall offer each Holder the opportunity to register such number of shares of Registrable Securities as such Holder may request on the same terms and conditions as the Company's or such holder's registration (a "Piggy back Registration"); provided, that the Holders shall have this right only (a) after the Company's initial public offering, and (b) if the underwriters for the primary offering (in the case of a primary offering by the Company under clause (i) above) approve that secondary shares be included.

2.2 Underwriting. If the registration of which the Company gives notice is for a registered public offering involving an underwriting, the Company shall so advise the Holders as a part of the written notice given pursuant to Section 2.1. In such event, the right of any Holder to registration pursuant to this Section 2 shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company and the other holders of securities of the Company with registration rights to participate therein distributing their securities through such underwriting) enter into an underwriting agreement in customary form with the representative of the underwriter or underwriters selected by the Company.

2.3 Reduction of Offering. Notwithstanding anything contained herein, if the managing underwriter of an offering described in Section 2.2 hereof delivers a written opinion to the Company that the amount of Registrable Securities requested to be included in such offering by the Holders, the Company and any other persons exceeds the amount of such Registrable Securities which can be successfully sold in such offering, then the amount of Registrable Securities to be offered for the account of each Holder shall be reduced to the extent necessary to reduce the total amount of securities to be included in such offering to the amount recommended by such managing underwriter; provided, that the proportion by which the amount of such Registrable Securities intended to be offered for the account of each participating

Holder is reduced shall not exceed the proportion by which the amount of such securities intended to be offered for the account of each other Holder or person is reduced.

2.4 Plan of Distribution. The Company may require, as a condition precedent to its registration obligations under this Article 2, that each Holder promptly furnish in writing to the Company such information regarding such Holder, the plan of distribution of the Registrable Securities and other information as the Company may from time to time reasonably request or as may be legally required in connection with such registration.

2.5 Registration Expenses. All expenses incurred by the Company in connection with the Company's performance of or compliance with this Article 2, including, without limitation: (i) all registration and filing fees (including for filings with the Commission or the National Association of Securities Dealers, Inc.), (ii) fees and expenses of compliance with securities or blue sky laws (including reasonable fees and disbursements of counsel in connection with blue sky qualifications of the Registrable Securities), (iii) printing expenses, (iv) fees and expenses incurred in connection with the listing of the Registrable Securities, and (v) fees and expenses of counsel and independent certified public accountants for the Company (all such expenses being herein called "Registration Expenses"), shall be paid by the Company except as otherwise expressly provided in this Section 2.5. Each participating Holder shall pay any underwriting fees, discounts or commissions attributable to the sale of such Holder's Registrable Securities and any counsel fees and other out of pocket expenses of such Holder.

2.6 Indemnification by the Company. The Company hereby agrees to indemnify, to the extent permitted by law, each Holder its partners, officers and directors, if any, and each person, if any, who controls such Holder within the meaning of the Securities Act, against all losses, claims, damages, liabilities and expenses (under the Securities Act, applicable state securities laws, common law or otherwise) caused by any untrue statement or alleged untrue statement of a material fact contained in any registration statement or prospectus (and as amended or supplemented if the Company has furnished any amendments or supplements thereto) or any preliminary prospectus, which registration statement, prospectus or preliminary prospectus shall be prepared in connection with a Piggy back Registration, or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, except insofar as such losses, claims, damages, liabilities or expenses are caused by any untrue statement or alleged untrue statement contained in or by any omission or alleged omission from information furnished in writing to the Company by such Holder in connection with such Piggy back Registration, provided the Company will not be liable pursuant to

this Section 2.6 if such losses, claims, damages, liabilities or expenses have been caused by (a) any Holder's failure to deliver a copy of the registration statement or prospectus, or any amendments or supplements thereto, after the Company has furnished such Holder with a sufficient amount of copies of the same or (b) any untrue statement or omission based upon information furnished to the Company by such Holder or controlling person for use in connection with the offering of securities.

2.7 Indemnification by the Holders of Registrable Securities. In connection with any registration statement in which a Holder is participating, each such Holder shall furnish to the Company in writing such information as is reasonably requested by the Company for use in any such registration statement or prospectus and shall indemnify, to the extent permitted by law, the Company, its directors and officers and each person, if any, who controls the Company within the meaning of the Securities Act, against any losses, claims, damages, liabilities and expenses resulting from any untrue statement or alleged untrue statement of a material fact or any omission or alleged omission of a material fact required to be stated in the registration statement or prospectus or any amendment thereof or supplement thereto or necessary to make the statements therein not misleading, but only to the extent such losses, claims, damages, liabilities or expenses are caused by an untrue statement or alleged untrue statement contained in or by an omission or alleged omission from information so furnished in writing by such holder in connection with the Piggy back Registration; provided that no such Holder shall be liable under this Section 2.7 for any amounts exceeding the product of (i) the offering price per share of Registrable Securities pursuant to the registration statement in which such Holder is participating, multiplied by (ii) the number of shares of Registrable Securities being sold by such Holder pursuant to such registration statement. If the offering pursuant to any such registration is made through underwriters, each such Holder agrees to enter into an underwriting agreement in customary form with such underwriters and to indemnify such underwriters, their officers and directors, if any, and each person who controls such underwriters within the meaning of the Securities Act to the same extent as hereinabove provided with respect to indemnification by such Holder of the Company.

2.8 Conduct of Indemnification Proceedings. Promptly after receipt by an indemnified party under Section 2.6 or Section 2.7 of notice of the commencement of any action or proceeding, such indemnified party will, if a claim in respect thereof is made against the indemnifying party under such Section, notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party will not relieve it from any liability which it may have to any indemnified party otherwise than under such Section. In case any such action or proceeding is brought against any indemnified party, and it notifies the indemnifying

party of the commencement thereof, the indemnifying party will be entitled to participate therein, and, to the extent that it wishes, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party, and after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party will not be liable to such indemnified party under such Section for any legal or any other expenses subsequently incurred by such indemnified party in connection with the defense thereof (other than reasonable costs of investigation) unless incurred at the written request of the indemnifying party. Notwithstanding the above, the indemnified party will have the right to employ counsel of its own choice in any such action or proceeding if the indemnified party has reasonably concluded that there may be defenses available to it which are different from or additional to those of the indemnifying party, or counsel to the indemnified party is of the opinion that it would not be desirable for the same counsel to represent both the indemnifying party and the indemnified party because such representation might result in a conflict of interest (in either of which cases the indemnifying party will not have the right to assume the defense of any such action or proceeding on behalf of the indemnified party or parties and such legal and other expenses will be borne by the indemnifying party). An indemnifying party will not be liable to any indemnified party for any settlement of any such action or proceeding effected without the consent of such indemnifying party.

2.9 Contribution. If the indemnification provided for in Section 2.6 or Section 2.7 is unavailable under applicable law to an indemnified party in respect of any losses, claims, damages or liabilities referred to therein, then each applicable indemnifying party, in lieu of indemnifying such indemnified party, shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities in such proportion as is appropriate to reflect the relative fault.

2.10 Transfer of Registration Rights. The registration rights of any Holder under this Article 2 may be transferred by such Holder to a transferee of its Registrable Securities who agrees in writing to be bound by the provisions of this Agreement (a) if such transferee acquires at least 20% of such Holder’s Registrable Securities (or, if the transferring Holder acquired registration rights through a transfer pursuant to this Section 2.10, at least 200 6 of the Registrable Securities held by the original party to this Agreement), or (b) if such transferee is a partner, stockholder or member of such Holder, without restriction as to the minimum amount acquired.

ARTICLE 3

MISCELLANEOUS

3.1 Successors and Assigns. Subject to the exceptions specifically set forth in this Agreement, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective executors, administrators, heirs, successors and assigns of the parties.

3.2 Governing Law. Except to the extent that the Delaware General Corporation Law shall be applicable with respect to matters relating to the internal corporate affairs of the Company, this Agreement and (unless otherwise provided) all amendments, supplements, waivers and consents relating thereto or hereto shall be governed by and construed in accordance with the laws of the State of California.

3.3 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

3.4 Headings. The headings of the Articles and Sections of this Agreement are for convenience and shall not by themselves determine the interpretation of this Agreement.

3.5 Notices. Any notice required or permitted hereunder shall be given in writing and shall be conclusively deemed effectively given upon personal delivery, or five business days after deposit in the United States mail, by first class mail, postage prepaid, and addressed (i) if to the Company, as set forth below the Company's name on the signature page of this Agreement, and (ii) if to an Investor, at such Investor's address as set forth in the books of the Company, or at such other addresses as the Company or such Investor may designate by ten days, advance written notice to the Investor or the Company, respectively. Investors with addresses outside of the United States shall be given such notice by facsimile at such Investor's facsimile number as set forth in the books of the Company, or at such other facsimile number as the Investor may designate by ten (10) days' written notice to the Company.

3.6 Amendment of Agreement. Any provision of this Agreement may be amended only by a written instrument signed by the Company and by persons holding at least fifty one percent of the Registrable Securities then outstanding.

3.7 Severability. If any provision of this Agreement is held to be unenforceable for any reason, it shall be adjusted rather than voided, if possible, in order to achieve the intent of the parties to the extent possible. In any event, all other provisions of this Agreement shall be deemed valid and enforceable to the full extent possible.

3.8 Entire Agreement; Effectiveness of Agreement; Termination of Prior Agreements. This Agreement constitutes the entire contract between the Company and the Investors relative to the subject matter hereof. This Agreement shall become effective with respect to each Investor upon the execution of this Agreement by such Investor.

3.9 Additional Parties. From and after the date of this Agreement, the Company may grant registration rights under this Agreement to any holder or prospective holder of securities of the Company. Upon execution of a signature page to this Agreement by any such additional party and by the Company, such additional party shall be considered an Investor for all purposes of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

THE COMPANY: FIBROGEN, INC.

By: /s/ Thomas B. Neff

Title: CEO

Address: 225 Gateway Boulevard
So. San Francisco, CA
94080

THE INVESTORS: Slough Estates USA Inc.
(Print name of Investor)

/s/ R. W. Rohner
(Signature)

Randall W. Rohner, CFO
(Name and title of signatory if Investor is not an individual)

3.8 Entire Agreement; Effectiveness of Agreement; Termination of Prior Agreements. This Agreement constitutes the entire contract between the Company and the Investors relative to the subject matter hereof. This Agreement shall become effective with respect to each Investor upon the execution of this Agreement by such Investor.

3.9 Additional Parties. From and after the date of this Agreement, the Company may grant registration rights under this Agreement to any holder or prospective holder of securities of the Company. Upon execution of a signature page to this Agreement by any such additional party and by the Company, such additional party shall be considered an Investor for all purposes of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

THE COMPANY: FIBROGEN, INC.

By: /s/ Thomas B. Neff

Title: CEO

Address: 225 Gateway Boulevard
So. San Francisco, CA
94080

THE INVESTORS: Bristow Investments L.P.
(Print name of Investor)

/s/ T.J. Bristow
(Signature)

T.J. Bristow – General Partner
(Name and title of signatory if Investor is not an individual)

3.8 Entire Agreement; Effectiveness of Agreement; Termination of Prior Agreements. This Agreement constitutes the entire contract between the Company and the Investors relative to the subject matter hereof. This Agreement shall become effective with respect to each Investor upon the execution of this Agreement by such Investor.

3.9 Additional Parties. From and after the date of this Agreement, the Company may grant registration rights under this Agreement to any holder or prospective holder of securities of the Company. Upon execution of a signature page to this Agreement by any such additional party and by the Company, such additional party shall be considered an Investor for all purposes of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

THE COMPANY: FIBROGEN, INC.

By: /s/ Thomas B. Neff

Title: CEO

Address: 225 Gateway Boulevard
So. San Francisco, CA
94080

THE INVESTORS:

Laurence S. Shushan and Magdalena Shushan, Trustees of the Laurence and Magdalena Shushan Family Trust
(Print name of Investor)

/s/ Laurence Shushan, Trustee
(Signature)

Laurence Shushan, Trustee
(Name and title of signatory if Investor is not an individual)

/s/ Magdalena Shushan, Trustee
(Signature)

Magdalena Shushan, Trustee
(Name and title of signatory if Investor is not an individual)

INVESTOR RIGHTS AGREEMENT

INVESTOR RIGHTS AGREEMENT (the "Agreement") made and entered into as of February 8, 2000, by and among FIBROGEN, INC., a Delaware corporation (the "Company"), and the parties who have executed this Agreement as Investors (the "Investors").

THE PARTIES AGREE AS FOLLOWS:

ARTICLE 1

DEFINITIONS

As used in this Agreement, the following terms shall have the following respective meanings:

1.1 "Commission" shall mean the Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.

1.2 "Holder" shall mean any holder of outstanding Registrable Securities which have not been sold to the public but only if such holder is an Investor or an assignee or transferee of registration rights permitted by Section 2.10.

1.3 "Piggy back Registration" shall have the meaning set forth in Section 2.1.

1.4 "Registration Expenses" shall have the meaning set forth in Section 2.5.

1.5 "Registrable Securities" shall mean all Common Stock of the Company issued or issuable upon conversion of the Company's Series B Preferred Stock, including Common Stock issued pursuant to stock splits, stock dividends and similar distributions with respect to the Registrable Securities, and any securities of the Company granted registration rights pursuant to Section 3.9 of this Agreement.

1.6 "Securities Act" shall mean the Securities Act of 1933, as amended, or any similar federal statute, and the rules and regulations of the Commissioner thereunder, all as the same shall be in effect at the time.

ARTICLE 2

REGISTRATION RIGHTS

2.1 Piggy back Registration. If at any time the Company proposes to file a registration statement under the Securities Act with respect to an offering of its Common Stock (i) for the Company's own account (other than a registration statement on Form S 4 or S 8 or any substitute form that may be adopted by the Commission or a registration statement with respect to the first registered offering of the Company's Common Stock to the public) or (ii) for the account of any holders of its Common Stock, then the Company shall give written notice of such proposed filing to each Holder as soon as practicable (but in no event less than ten days before the anticipated filing date), and such notice shall offer each Holder the opportunity to register such number of shares of Registrable Securities as such Holder may request on the same terms and conditions as the Company's or such holder's registration (a "Piggy back Registration"); provided, that the Holders shall have this right only (a) after the Company's initial public offering, and (b) if the underwriters for the primary offering (in the case of a primary offering by the Company under clause (i) above) approve that secondary shares be included.

2.2 Underwriting. If the registration of which the Company gives notice is for a registered public offering involving an underwriting, the Company shall so advise the Holders as a part of the written notice given pursuant to Section 2.1. In such event, the right of any Holder to registration pursuant to this Section 2 shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company and the other holders of securities of the Company with registration rights to participate therein distributing their securities through such underwriting) enter into an underwriting agreement in customary form with the representative of the underwriter or underwriters selected by the Company.

2.3 Reduction of Offering. Notwithstanding anything contained herein, if the managing underwriter of an offering described in Section 2.2 hereof delivers a written opinion to the Company that the amount of Registrable Securities requested to be included in such offering by the Holders, the Company and any other persons exceeds the amount of such Registrable Securities which can be successfully sold in such offering, then the amount of Registrable Securities to be offered for the account of each Holder shall be reduced to the extent necessary to reduce the total amount of securities to be included in such offering to the amount recommended by such managing underwriter; provided, that the proportion by which the amount of such Registrable Securities intended to be offered for the account of each participating

Holder is reduced shall not exceed the proportion by which the amount of such securities intended to be offered for the account of each other Holder or person is reduced.

2.4 Plan of Distribution. The Company may require, as a condition precedent to its registration obligations under this Article 2, that each Holder promptly furnish in writing to the Company such information regarding such Holder, the plan of distribution of the Registrable Securities and other information as the Company may from time to time reasonably request or as may be legally required in connection with such registration.

2.5 Registration Expenses. All expenses incurred by the Company in connection with the Company's performance of or compliance with this Article 2, including, without limitation: (i) all registration and filing fees (including for filings with the Commission or the National Association of Securities Dealers, Inc.), (ii) fees and expenses of compliance with securities or blue sky laws (including reasonable fees and disbursements of counsel in connection with blue sky qualifications of the Registrable Securities), (iii) printing expenses, (iv) fees and expenses incurred in connection with the listing of the Registrable Securities, and (v) fees and expenses of counsel and independent certified public accountants for the Company (all such expenses being herein called "Registration Expenses"), shall be paid by the Company except as otherwise expressly provided in this Section 2.5. Each participating Holder shall pay any underwriting fees, discounts or commissions attributable to the sale of such Holder's Registrable Securities and any counsel fees and other out of pocket expenses of such Holder.

2.6 Indemnification by the Company. The Company hereby agrees to indemnify, to the extent permitted by law, each Holder its partners, officers and directors, if any, and each person, if any, who controls such Holder within the meaning of the Securities Act, against all losses, claims, damages, liabilities and expenses (under the Securities Act, applicable state securities laws, common law or otherwise) caused by any untrue statement or alleged untrue statement of a material fact contained in any registration statement or prospectus (and as amended or supplemented if the Company has furnished any amendments or supplements thereto) or any preliminary prospectus, which registration statement, prospectus or preliminary prospectus shall be prepared in connection with a Piggy back Registration, or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, except insofar as such losses, claims, damages, liabilities or expenses are caused by any untrue statement or alleged untrue statement contained in or by any omission or alleged omission from information furnished in writing to the Company by such Holder in connection with such Piggy back Registration, provided the Company will not be liable pursuant to

this Section 2.6 if such losses, claims, damages, liabilities or expenses have been caused by (a) any Holder's failure to deliver a copy of the registration statement or prospectus, or any amendments or supplements thereto, after the Company has furnished such Holder with a sufficient amount of copies of the same or (b) any untrue statement or omission based upon information furnished to the Company by such Holder or controlling person for use in connection with the offering of securities.

2.7 Indemnification by the Holders of Registrable Securities. In connection with any registration statement in which a Holder is participating, each such Holder shall furnish to the Company in writing such information as is reasonably requested by the Company for use in any such registration statement or prospectus and shall indemnify, to the extent permitted by law, the Company, its directors and officers and each person, if any, who controls the Company within the meaning of the Securities Act, against any losses, claims, damages, liabilities and expenses resulting from any untrue statement or alleged untrue statement of a material fact or any omission or alleged omission of a material fact required to be stated in the registration statement or prospectus or any amendment thereof or supplement thereto or necessary to make the statements therein not misleading, but only to the extent such losses, claims, damages, liabilities or expenses are caused by an untrue statement or alleged untrue statement contained in or by an omission or alleged omission from information so furnished in writing by such holder in connection with the Piggy back Registration; provided that no such Holder shall be liable under this Section 2.7 for any amounts exceeding the product of (i) the offering price per share of Registrable Securities pursuant to the registration statement in which such Holder is participating, multiplied by (ii) the number of shares of Registrable Securities being sold by such Holder pursuant to such registration statement. If the offering pursuant to any such registration is made through underwriters, each such Holder agrees to enter into an underwriting agreement in customary form with such underwriters and to indemnify such underwriters, their officers and directors, if any, and each person who controls such underwriters within the meaning of the Securities Act to the same extent as hereinabove provided with respect to indemnification by such Holder of the Company.

2.8 Conduct of Indemnification Proceedings. Promptly after receipt by an indemnified party under Section 2.6 or Section 2.7 of notice of the commencement of any action or proceeding, such indemnified party will, if a claim in respect thereof is made against the indemnifying party under such Section, notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party will not relieve it from any liability which it may have to any indemnified party otherwise than under such Section. In case any such action or proceeding is brought against any indemnified party, and it notifies the indemnifying

party of the commencement thereof, the indemnifying party will be entitled to participate therein, and, to the extent that it wishes, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party, and after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party will not be liable to such indemnified party under such Section for any legal or any other expenses subsequently incurred by such indemnified party in connection with the defense thereof (other than reasonable costs of investigation) unless incurred at the written request of the indemnifying party. Notwithstanding the above, the indemnified party will have the right to employ counsel of its own choice in any such action or proceeding if the indemnified party has reasonably concluded that there may be defenses available to it which are different from or additional to those of the indemnifying party, or counsel to the indemnified party is of the opinion that it would not be desirable for the same counsel to represent both the indemnifying party and the indemnified party because such representation might result in a conflict of interest (in either of which cases the indemnifying party will not have the right to assume the defense of any such action or proceeding on behalf of the indemnified party or parties and such legal and other expenses will be borne by the indemnifying party). An indemnifying party will not be liable to any indemnified party for any settlement of any such action or proceeding effected without the consent of such indemnifying party.

2.9 Contribution. If the indemnification provided for in Section 2.6 or Section 2.7 is unavailable under applicable law to an indemnified party in respect of any losses, claims, damages or liabilities referred to therein, then each applicable indemnifying party, in lieu of indemnifying such indemnified party, shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities in such proportion as is appropriate to reflect the relative fault.

2.10 Transfer of Registration Rights. The registration rights of any Holder under this Article 2 may be transferred by such Holder to a transferee of its Registrable Securities who agrees in writing to be bound by the provisions of this Agreement (a) if such transferee acquires at least 20% of such Holder's Registrable Securities (or, if the transferring Holder acquired registration rights through a transfer pursuant to this Section 2.10, at least 200 6 of the Registrable Securities held by the original party to this Agreement), or (b) if such transferee is a partner, stockholder or member of such Holder, without restriction as to the minimum amount acquired.

ARTICLE 3

MISCELLANEOUS

3.1 Successors and Assigns. Subject to the exceptions specifically set forth in this Agreement, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective executors, administrators, heirs, successors and assigns of the parties.

3.2 Governing Law. Except to the extent that the Delaware General Corporation Law shall be applicable with respect to matters relating to the internal corporate affairs of the Company, this Agreement and (unless otherwise provided) all amendments, supplements, waivers and consents relating thereto or hereto shall be governed by and construed in accordance with the laws of the State of California.

3.3 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

3.4 Headings. The headings of the Articles and Sections of this Agreement are for convenience and shall not by themselves determine the interpretation of this Agreement.

3.5 Notices. Any notice required or permitted hereunder shall be given in writing and shall be conclusively deemed effectively given upon personal delivery, or five business days after deposit in the United States mail, by first class mail, postage prepaid, and addressed (i) if to the Company, as set forth below the Company's name on the signature page of this Agreement, and (ii) if to an Investor, at such Investor's address as set forth in the books of the Company, or at such other addresses as the Company or such Investor may designate by ten days, advance written notice to the Investor or the Company, respectively. Investors with addresses outside of the United States shall be given such notice by facsimile at such Investor's facsimile number as set forth in the books of the Company, or at such other facsimile number as the Investor may designate by ten (10) days' written notice to the Company.

3.6 Amendment of Agreement. Any provision of this Agreement may be amended only by a written instrument signed by the Company and by persons holding at least fifty one percent of the Registrable Securities then outstanding.

3.7 Severability. If any provision of this Agreement is held to be unenforceable for any reason, it shall be adjusted rather than voided, if possible, in order to achieve the intent of the parties to the extent possible. In any event, all other provisions of this Agreement shall be deemed valid and enforceable to the full extent possible.

3.8 Entire Agreement; Effectiveness of Agreement; Termination of Prior Agreements. This Agreement constitutes the entire contract between the Company and the Investors relative to the subject matter hereof. This Agreement shall become effective with respect to each Investor upon the execution of this Agreement by such Investor.

3.9 Additional Parties. From and after the date of this Agreement, the Company may grant registration rights under this Agreement to any holder or prospective holder of securities of the Company. Upon execution of a signature page to this Agreement by any such additional party and by the Company, such additional party shall be considered an Investor for all purposes of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

THE COMPANY:

FIBROGEN, INC.

By: /s/ Tom Neff

Title: CEO

Address: 225 Gateway Boulevard
So. San Francisco, CA
94080

THE INVESTORS:

(Print name of Investor)

(Signature)

(Name and title of signatory if Investor is not an individual)

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THE COMPANY:

FIBROGEN, INC.

By: /s/ Tom Neff

Title: CEO

Address: 225 Gateway Boulevard
So. San Francisco, CA
94080

THE INVESTORS:

Laurence S. Shushan and Magdalena Shushan, Trustees of The Laurence and Magdalena Shushan Family Trust under Agreement dated October 8, 1997
(Print name of Investor)

/s/ Magdalena Shushan, Trustee
Magdalena Shushan, Trustee

/s/ Laurence S. Shushan, Trustee
(Signature)

Laurence S. Shushan, Trustee
(Name and title of signatory if Investor is not an individual)

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

THE COMPANY:

FIBROGEN, INC.

By: /s/ Tom Neff

Title: CEO

Address: 225 Gateway Boulevard
So. San Francisco, CA
94080

THE INVESTORS:

Bristow Investments, L.P.
(Print name of Investor)

/s/ T.J. Bristow
(Signature)

T.J. Bristow, Co-Trustee of the Bristow Revocable Trust dated July 29, 1999, as amended and restated, General Partner
(Name and title of signatory if Investor is not an individual)

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

THE COMPANY:

FIBROGEN, INC.

By: /s/ Tom Neff

Title: CEO

Address: 225 Gateway Boulevard
So. San Francisco, CA
94080

THE INVESTORS:

HCP Estates USA Inc.
(Print name of Investor)

/s/ Jonathan M. Bergschneider
(Signature)

Jonathan M. Bergschneider
Executive Vice President
(Name and title of signatory if Investor is not an individual)

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AS AMENDED. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER SAID ACT OR WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR THE HOLDER, SATISFACTORY TO THE COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

WARRANT TO PURCHASE 67,200 SHARES OF COMMON STOCK

June 6, 1995

THIS CERTIFIES THAT, for value received, Lease Management Services, Inc., ("Holder") is entitled to subscribe for and purchase Sixty Seven Thousand Two Hundred (67,200) shares of the fully paid and nonassessable Common Stock ("the Shares") of FIBROGEN, INC., a Delaware corporation (the "Company"), at the Warrant Price (as hereinafter defined), subject to the provisions and upon the terms and conditions hereinafter set forth. As used herein, the term "Common Stock" shall mean the Company's presently authorized Common Stock, and any stock into which such Common Stock may hereafter be exchanged.

1. Warrant Price. The Warrant Price shall initially be One & 25/100 Dollars ($1.25) per share, subject to adjustment as provided in Section 7 below.

2. Conditions to Exercise. The purchase right represented by this Warrant may be exercised at any time, or from time to time, in whole or in part during the term commencing on the date hereof and ending on the earlier of:

(a) 5:00 P.M. California time on the sixth annual anniversary of this Warrant Agreement; or

(b) the effective date of the merger of the Company with or into, the consolidation of the Company with, or the sale by the Company of all or substantially all of its assets to another corporation or other entity (other than such a transaction wherein the shareholders of the Company retain or obtain a majority of the voting capital stock of the surviving, resulting, or purchasing corporation); provided that the Company shall notify the registered Holder of this Warrant of the proposed effective date of the merger, consolidation, or sale at least 60 days prior to the effectiveness thereof.

In the event that, although the Company shall have given notice of a transaction pursuant to subparagraph (b) hereof, the transaction does not close on approximately the day specified by the Company, unless otherwise elected by the Holder any exercise of the Warrant subsequent to the giving of such notice shall be rescinded and the Warrant shall again be exercisable until terminated in accordance with this Paragraph 2.

3. Method of Exercise: Payment; Issuance of Shares; Issuance of New Warrant.

(a) Cash Exercise. Subject to Section 2 hereof, the purchase right represented by this Warrant may be exercised by the Holder hereof, in whole or in part, by the surrender of this Warrant (with a duly executed Notice of Exercise in the form attached hereto) at the principal office of the Company (as set forth in Section 18 below) and by payment to the Company, by check, of

an amount equal to the then applicable Warrant Price per share multiplied by the number of shares then being purchased. In the event of any exercise of the rights represented by this Warrant, certificates for the shares of stock so purchased shall be in the name of, and delivered to, the Holder hereof, or as such Holder may direct (subject to the terms of transfer contained herein and upon payment by such Holder hereof of any applicable transfer taxes). Such delivery shall be made within 10 days after exercise of the Warrant and at the Company's expense and, unless this Warrant has been fully exercised or expired, a new Warrant having terms and conditions substantially identical to this Warrant and representing the portion of the Shares, if any, with respect to which this Warrant shall not have been exercised, shall also be issued to the Holder hereof within 10 days after exercise of the Warrant.

(b) Net Issue Exercise. In lieu of exercising this Warrant pursuant to Section 3(a), Holder may elect to receive shares equal to the value of this Warrant (or of any portion thereof remaining unexercised) by surrender of this Warrant at the principal office of the Company together with notice of such election, in which event the Company shall issue to Holder the number of shares of the Company's Common Stock computed using the following formula:

$$X = \frac{Y\,(A-B)}{A}$$

Where X = the number of shares of Common Stock to be issued to Holder.

Y = the number of shares of Common Stock purchasable under this Warrant (at the date of such calculation).

A = the fair market value of one share of the Company's Common Stock (at the date of such calculation).

B = Warrant exercise price (as adjusted to the date of such calculation).

(c) Fair Market Value. For purposes of this Section 3, Fair Market Value of one share of the Company's Common Stock shall mean:

(i) In the event of an Initial Public Offering, the per share Fair Market Value for the Common Stock shall be the Offering Price at which the underwriters sell Common Stock to the public; or

(ii) If the Common Stock is traded on NASDAQ or Over-The-Counter or on an exchange, the per share Fair Market Value for the Common Stock will be the average of the closing bid and asked prices of the Common Stock quoted in the Over-The-Counter Market Summary or the closing price quoted on any exchange on which the Common Stock is listed, whichever is applicable, as published in the Western Edition of The Wall Street Journal for the ten (10) trading days prior to the date of determination of Fair Market Value; or

(iii) If the Company shall be subject to a merger, acquisition or other consolidation in which the Company is not the surviving entity, pursuant to Section 2(b), the per share Fair Market Value for the Common Stock shall be the value received per share of Common Stock by all holders of the Common Stock as determined by the Board of Directors; or

(iv) In any other instance, the per share Fair Market Value for the Common Stock shall be as determined by the Board of Directors in its reasonable business judgment.

In the event of 3(c)(iii) or 3(c)(iv), above, the Company's Board of Directors shall prepare a certificate, to be signed by an authorized Officer of the Company, setting forth in reasonable detail the basis for and method of determination of the per share Fair Market Value of the Common Stock. The Board will also certify to the Holder that this per share Fair Market Value will be applicable to all holders of the Company's Common Stock. Such certification must be made to Holder at least thirty (30) business days prior to the proposed effective date of the merger, consolidation, sale, or other triggering event as defined in 3(c)(iii) and 3(c)(iv).

(d) Automatic Exercise. To the extent this Warrant is not previously exercised, it shall be automatically exercised in accordance with Sections 3(b) and 3(c) hereof (even if not surrendered) immediately before: (i) its expiration, or (ii) the consummation of any consolidation or merger of the Company, or any sale or transfer of a majority of a company's assets pursuant to Section 2(b).

4. Representations and Warranties of Holder and Restrictions on Transfer Imposed by the Securities Act of 1933.

(a) Representations and Warranties by Holder. The Holder represents and warrants to the Company with respect to this purchase as follows:

(i) The Holder has substantial experience in evaluating and investing in private placement transactions of securities of companies similar to the Company so that the Holder is capable of evaluating the merits and risks of its investment in the Company and has the capacity to protect its interests.

(ii) The Holder is acquiring the Warrant and the Shares of Common Stock issuable upon exercise of the Warrant (collectively the "Securities") for investment for its own account and not with a view to, or for resale in connection with, any distribution thereof. The Holder understands that the Securities have not been registered under the Act by reason of a specific exemption from the registration provisions of the Act which depends upon, among other things, the bona fide nature of the investment intent as expressed herein. In this connection, the Holder understands that, in the view of the Securities and Exchange Commission (the "SEC"), the statutory basis for such exemption may be unavailable if this representation was predicated solely upon a present intention to hold the Securities for the minimum capital gains period specified under tax statutes, for a deferred sale, for or until an increase or decrease in the market price of the Securities or for a period of one year or any other fixed period in the future.

(iii) The Holder acknowledges that the Securities must be held indefinitely unless subsequently registered under the Act or an exemption from such registration is available. The Holder is aware of the provisions of Rule 144 promulgated under the Act ("Rule 144") which permits limited resale of securities purchased in a private placement subject to the satisfaction of certain conditions, including, in case the securities have been held for less than three years, the existence of a public market for the shares, the availability of certain public information about the Company, the resale occurring not less than two years after a party has purchased and paid for the security to be sold, the sale being through a "broker's transaction" or in a transaction directly with a "market maker" (as provided by Rule 144(f)) and the number of shares or other securities being sold during any three-month period not exceeding specified limitations:

(iv) The Holder further understands that at the time the Holder wishes to sell the Securities there may be no public market upon which such a sale may be effected, and

that even if such a public market exists, the Company may not be satisfying the current public information requirements of Rule 144, and that in such event, the Holder may be precluded from selling the Securities under Rule 144 unless a) a three-year minimum holding period has been satisfied and b) the Holder was not at the time of the sale nor at any time during the three-month period prior to such sale an affiliate of the Company.

(v) The Holder has had an opportunity to discuss the Company's business, management and financial affairs with its management and an opportunity to review the Company's facilities. The Holder understands that such discussions, as well as the written information issued by the Company, were intended to describe the aspects of the Company's business and prospects which it believes to be material but were not necessarily a thorough or exhaustive description.

(b) Legends. Each certificate representing the Securities shall be endorsed with the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND MAY NOT BE TRANSFERRED UNLESS COVERED BY AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT, A "NO ACTION" LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION WITH RESPECT TO SUCH TRANSFER, A TRANSFER MEETING THE REQUIREMENTS OF RULE 144 OF THE SECURITIES AND EXCHANGE COMMISSION, OR AN OPINION OF COUNSEL SATISFACTORY TO THE ISSUER TO THE EFFECT THAT ANY SUCH TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

The Company need not register a transfer of Securities unless the conditions specified in the foregoing legend are satisfied. The Company may also instruct its transfer agent not to register the transfer of any of the Shares unless the conditions specified in the foregoing legend are satisfied.

(c) Removal of Legend and Transfer Restrictions. The legend relating to the Act endorsed on a certificate pursuant to paragraph 4(b) of this Warrant and the stop transfer instructions with respect to the Securities represented by such certificate shall be removed and the Company shall issue a certificate without such legend to the Holder of the Securities if (i) the Securities are registered under the Act and a prospectus meeting the requirements of Section 10 of the Act is available or (ii) the Holder provides to the Company an opinion of counsel for the Holder reasonably satisfactory to the Company, or a no-action letter or interpretive opinion of the staff of the SEC reasonably satisfactory to the Company, to the effect that public sale, transfer or assignment of the Securities may be without registration and without compliance with any restriction such as Rule 144.

5. Condition of Transfer or Exercise of Warrant. It shall be a condition to any transfer or exercise of this Warrant that at the time of such transfer or exercise, the Holder shall provide the Company with a representation in writing that the Holder or transferee is acquiring this Warrant and the shares of Common Stock to be issued upon exercise, for investment purposes only and not with a view to any sale or distribution, or a statement of pertinent facts covering any proposed distribution. As a further condition to any transfer of this Warrant or any or all of the shares of Common Stock issuable upon exercise of this Warrant, other than a transfer registered under the Act, the Company must have received a legal opinion, in form and substance satisfactory to the Company and its counsel, reciting the pertinent circumstances surrounding the proposed transfer and stating that such transfer is exempt from the registration and prospectus delivery requirements of the Act. Each certificate evidencing the shares issued

upon exercise of the Warrant or upon any-transfer of the shares (other than a transfer registered under the Act or any subsequent transfer of shares so registered) shall, at the Company's option, contain a legend in form and substance satisfactory to the Company and its counsel, restricting the transfer of the shares to sales or other dispositions exempt from the requirements of the Act.

As further condition to each transfer, the transferee shall receive and accept a Warrant, of like tenor and date, executed by the Company.

6. Stock Fully Paid; Reservation of Shares. All Shares which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be fully paid and nonassessable, and free from all taxes, liens, and charges with respect to the issue thereof. During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for issuance upon exercise of the purchase rights evidenced by this Warrant, a sufficient number of shares of its Common Stock to provide for the exercise of the rights represented by this Warrant.

7. Adjustment for Certain Events. In the event of changes in the outstanding Common Stock by reason of stock dividends, split-ups, recapitalizations, reclassifications, mergers, consolidations, combinations or exchanges of shares, separations, reorganizations, liquidations, or the like, the number and class of shares available under the Warrant in the aggregate and the Warrant Price shall be correspondingly adjusted, as appropriate, by the Board of Directors of the Company. The adjustment shall be such as will give the Holder of this Warrant upon exercise for the same aggregate Warrant Price the total number, class and kind of shares as he would have owned had the Warrant been exercised prior to the event and had he continued to hold such shares until after the event requiring adjustment.

8. Notice of Adjustments. Whenever any Warrant Price shall be adjusted pursuant to Section 7 hereof, the Company shall prepare a certificate signed by its chief financial officer setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated, and the Warrant Price and number of shares issuable upon exercise of the Warrant after giving effect to such adjustment, and shall cause copies of such certificate to be mailed (by certified or registered mail, return receipt required, postage prepaid) within thirty (30) days of such adjustment to the Holder of this Warrant as set forth in Section 18 hereof.

9. "Market Stand-Off" Agreement. Holder hereby agrees that for a period of 180 days following the effective date of the first registration statement of the Company covering common stock (or other securities) to be sold on its behalf in an underwritten public offering, it will not, to the extent requested by the Company and any underwriter, sell or otherwise transfer or dispose of (other than to donees or transferees who agree to be similarly bound) any of the Shares at any time during such period except common stock included in such registration; provided, however, that all officers and directors of the Company who hold securities of the Company or options to acquire securities of the Company and all other persons with registration rights enter into similar agreements.

10. Transferability of Warrant. This Warrant is transferable on the books of the Company at its principal office by the registered Holder hereof upon surrender of this Warrant properly endorsed, subject to compliance with applicable federal and state securities laws. The Company shall issue and deliver to the transferee a new Warrant representing the Warrant so transferred. Upon any partial transfer, the Company will issue and deliver to Holder a new Warrant with respect to the Warrant not so transferred. Holder shall not have any right to transfer any portion of this Warrant to any direct competitor of the Company.

11. No Fractional Shares. No fractional share of Common Stock will be issued in connection with any exercise hereunder, but in lieu of such fractional share the Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

12. Charges, Taxes and Expenses. Issuance of certificates for shares of Common Stock upon the exercise of this Warrant shall be made without charge to the Holder for any United States or state of the United States documentary stamp tax or other incidental expense in respect of the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder.

13. No Shareholder Rights Until Exercise. This Warrant does not entitle the Holder hereof to any voting rights or other rights as a shareholder of the Company prior to the exercise hereof.

14. Registry of Warrant. The Company shall maintain a registry showing the name and address of the registered Holder of this Warrant. This Warrant may be surrendered for exchange or exercise, in accordance with its terms, at such office or agency of the Company, and the Company and Holder shall be entitled to rely in all respects, prior to written notice to the contrary, upon such registry.

15. Loss, Theft, Destruction or Mutilation of Warrant. Upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft, or destruction, of indemnity reasonably satisfactory to it, and, if mutilated, upon surrender and cancellation of this Warrant, the Company will execute and deliver a new Warrant, having terms and conditions substantially identical to this Warrant, in lieu hereof.

16. Miscellaneous.

(a) Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by the Company on the date hereof.

(b) Successors. This Warrant shall be binding upon any successors or assigns of the Company.

(c) Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of California.

(d) Headings. The headings used in this Warrant are used for convenience only and are not to be considered in construing or interpreting this Warrant.

(e) Saturdays, Sundays, Holidays. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday or a Sunday or shall be a legal holiday in the State of California, then such action may be taken or such right may be exercised on the next succeeding day not a legal holiday.

17. No Impairment. The Company will not, by amendment of its Articles of Incorporation or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Holder hereof against impairment.

18. Addresses. Any notice required or permitted hereunder shall be in writing and shall be mailed by overnight courier, registered or certified mail, return receipt required, and postage

pre-paid, or otherwise delivered by hand or by messenger, addressed as set forth below, or at such other address as the Company or the Holder hereof shall have furnished to the other party.

If to the Company: FibroGen, Inc.
772 Lucerne Drive
Sunnyvale, CA 94303
Attn: Thomas B. Neff, President & CEO

If to the Holder: Lease Management Services, Inc.
2500 Sand Hill Road, Ste 101
Menlo Park, CA 94025
Attn: Barbara B. Kaiser, EVP/GM

IN WITNESS WHEREOF, FibroGen, Inc. has caused this Warrant to be executed by its officers thereunto duly authorized.

Dated as of June 6, 1995.

FibroGen, Inc.

BY: /s/ Thomas B. Neff

TITLE: President and Chief Executive Officer

NOTICE OF EXERCISE

TO:

1. The undersigned Warrantholder ("Holder") elects to acquire shares of the Common Stock of _____ (the "Company"), pursuant to the terms of the Stock Purchase Warrant dated _____ (the "Warrant").

2. The Holder exercises its rights under the Warrant as set forth below:

( ) The Holder elects to purchase _____ shares of Common Stock as provided in Section 3(a),(c) and tenders herewith a check in the amount of $_____ as payment of the purchase price.

( ) The Holder elects to convert the purchase rights into shares of Common Stock as provided in Section 3(b),(c) of the Warrant.

3. The Holder surrenders the Warrant with this Notice of Exercise.

4. The Holder represents that it is acquiring the aforesaid shares of Common Stock for investment and not with a view to, or for resale in connection with, distribution and that the Holder has no present intention of distributing or reselling the shares.

5. Please issue a certificate representing the shares of Common Stock in the name of the Holder or in such other name as is specified below:

Name:
Address:

Taxpayer I.D.:

_____
(Holder)

By: _____

Title: _____

Date: _____

AMENDMENT TO
WARRANT TO PURCHASE 67,200 SHARES OF COMMON STOCK

WHEREAS; Phoenixcor, Inc. as successor in interest to Lease Management Services, Inc. (the "Holder") is the holder of that certain Warrant, dated June 6, 1995, to purchase Sixty Seven Thousand Two Hundred (67,200) shares of fully paid and non-assessable Common Stock of FibroGen, Inc. (the "Company") (the "Warrant").

WHEREAS; The Company and the Holder wish to amend the Warrant to provide that it may be exercisable until the date one year after effectiveness of the Company's initial public offering.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and in consideration of the mutual promises contained herein, the parties hereto agree as follows:

Section 2(a) of the Warrant is hereby amended to read as follows:

(a) at 5:00 P.M. P.S.T on the date one year after the effectiveness of the Company's Initial Public Offering; or

Capitalized terms not defined herein shall have the meaning ascribed to them in the Warrant.

AGREED AND ACCEPTED:

COMPANY

/s/ Wilbert Lee
By: Bert Lee

CFO

Date: June 5, 2001

HOLDER

/s/ [Illegible Signature]
By:

Vice Present GE Capital Corp.
Title

Date: June 5, 2001

NEITHER THIS WARRANT NOR THE SECURITIES ISSUABLE UPON EXERCISE OF THIS WARRANT HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER SAID ACT OR WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR THE HOLDER, SATISFACTORY TO THE COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

WARRANT TO PURCHASE 43,140 SHARES OF COMMON STOCK

December 11, 1997

THIS CERTIFIES THAT, for value received, Lease Management Services, Inc., ("Holder") is entitled to subscribe for and purchase 43,140 shares of the fully paid and nonassessable Common Stock ("the Shares") of **FIBROGEN, INC.**, a Delaware corporation (the "Company"), at the Warrant Price (as hereinafter defined), subject to the provisions and upon the terms and conditions hereinafter set forth. As used herein, the term "Common Stock" shall mean the Company's presently authorized Common Stock, and any stock into which such Common Stock may hereafter be exchanged.

1. Warrant Price. The Warrant Price shall initially be One and 75/100 dollars ($1.75) per share, subject to adjustment as provided in Section 7 below.

2. Conditions to Exercise. The purchase right represented by this Warrant may be exercised at any time, or from time to time, in whole or in part during the term commencing on the date hereof and ending on the earlier of:

(a) 5:00 P.M. Pacific time on the 6th annual anniversary of this Warrant; or

(b) the closing of the initial public offering of the Company's Common Stock pursuant to a registration statement under the Securities Act of 1933, as amended (the "Initial Public Offering"). The Company shall provide notice of the Initial Public Offering to the Holder at least 30 days prior to the closing thereof; or

(c) the effective date of the merger of the Company with or into, the consolidation of the Company with, or the sale by the Company of all or substantially all of its assets to another corporation or other entity (other than such a transaction wherein the shareholders of the Company retain or obtain a majority of the voting capital stock of the surviving, resulting, or purchasing corporation); provided that the Company shall notify the registered Holder of this Warrant of the proposed effective date of the merger, consolidation, or sale at least 30 days prior to the effectiveness thereof.

In the event that, although the Company shall have given notice of a transaction pursuant to subparagraph (b) or subparagraph (c) hereof, the transaction does not close within 60 days of the day specified by the Company, unless otherwise elected by the Holder any exercise of the Warrant subsequent to the giving of such notice shall be rescinded and the Warrant shall again be exercisable until terminated in accordance with this Paragraph 2.

3. Method of Exercise; Payment; Issuance of Shares; Issuance of New Warrant.

(a) Cash Exercise. Subject to Section 2 hereof, the purchase right represented by this Warrant may be exercised by the Holder hereof, in whole or in part, by the surrender of this Warrant (with a duly executed Notice of Exercise in the form attached hereto) at the principal office of the Company (as set forth in Section 18 below) and by payment to the Company, by check, of an amount equal to the then applicable Warrant Price per share multiplied by the number of shares then being purchased. In the event of any exercise of the rights represented by this Warrant, certificates for the shares of stock so purchased shall be in the name of, and delivered to, the Holder hereof, or as such Holder may direct (subject to the terms of transfer contained herein and upon payment by such Holder hereof of any applicable transfer taxes). Such delivery shall be made within 30 days after exercise of the Warrant and at the Company's expense and, unless this Warrant has been fully exercised or expired, a new Warrant having terms and conditions substantially identical to this Warrant and representing the portion of the Shares, if any, with respect to which this Warrant shall not have been exercised, shall also be issued to the Holder hereof within 30 days after exercise of the Warrant.

(b) Net Issue Exercise. In lieu of exercising this Warrant pursuant to Section 3(a), Holder may elect to receive shares equal to the value of this Warrant (or of any portion thereof remaining unexercised) by surrender of this Warrant at the principal office of the Company together with notice of such election, in which event the Company shall issue to Holder the number of shares of the Company's Common Stock computed using the following formula:

$$X = \frac{Y\,(A-B)}{A}$$

Where X = the number of shares of Common Stock to be issued to Holder.

Y = the number of shares of Common Stock purchasable under this Warrant (at the date of such calculation).

A = the Fair Market Value of one share of the Company's Common Stock (at the date of such calculation).

B = Warrant Price (as adjusted to the date of such calculation).

(c) Fair Market Value. For purposes of this Section 3, Fair Market Value of one share of the Company's Common Stock shall mean:

(i) In the event of an exercise in connection with an Initial Public Offering, the per share Fair Market Value for the Common Stock shall be the Offering Price at which the underwriters initially sell Common Stock to the public; or

(ii) The average of the closing bid and asked prices of the Common Stock quoted in the Over-The-Counter Market Summary, or the average of the last reported sale price of the Common Stock or the closing price quoted on the Nasdaq National Market System ("NMS") or on any exchange on which the Common Stock is listed, whichever is applicable, as published in the Western Edition of the Wall Street Journal over the ten (10) trading days prior to the date of determination of fair market value; or

(iii) In the event of an exercise in connection with a merger, acquisition or other consolidation in which the Company is not the surviving entity, as described in Section 2(c), the per share Fair Market Value for the Common Stock shall be the value to be

received per share of Common Stock by all holders of the Common Stock in such transaction as determined by the Board of Directors; or

(iv) If the Common Stock is not publicly traded, the per share fair market value of the Common Stock shall be as determined in good faith by the Company's Board of Directors.

In the event of 3(c)(iii) or 3(c)(iv), above, the Company's Board of Directors shall prepare a certificate, to be signed by an authorized Officer of the Company, setting forth in reasonable detail the basis for and method of determination of the per share Fair Market Value of the Common Stock. The Board will also certify to the Holder that this per share Fair Market Value will be applicable to all holders of the Company's Common Stock. Such certification must be made to Holder at least thirty (30) business days prior to the proposed effective date of the merger, consolidation, sale, or other triggering event as defined in 3(c)(iii) and 3(c)(iv).

(d) Automatic Exercise. To the extent this Warrant is not previously exercised, it shall be automatically exercised in accordance with Sections 3(6) and 3(c) hereof (even if not surrendered) immediately before: (i) its expiration, or (ii) the closing of an Initial Public Offering pursuant to Section 2(b), or (iii) the consummation of any consolidation or merger of the Company, or any sale or transfer of a majority of the Company's assets pursuant to Section 2(c).

4. Representations and Warranties of Holder and Restrictions on Transfer Imposed by the Securities Act of 1933.

(a) Representations and Warranties by Holder. The Holder represents and warrants to the Company with respect to this purchase as follows:

(i) The Holder has substantial experience in evaluating and investing in private placement transactions of securities of companies similar to the Company so that the Holder is capable of evaluating the merits and risks of its investment in the Company and has the capacity to protect its interests.

(ii) The Holder is acquiring the Warrant and the Shares of Common Stock issuable upon exercise of the Warrant (collectively the "Securities") for investment for its own account and not with a view to, or for resale in connection with, any distribution thereof. The Holder understands that the Securities have not been registered under the Securities Act of 1933, as amended (the "Act") by reason of a specific exemption from the registration provisions of the Act which depends upon, among other things, the bona fide nature of the investment intent as expressed herein. In this connection, the Holder understands that, in the view of the Securities and Exchange Commission (the "SEC"), the statutory basis for such exemption may be unavailable if this representation was predicated solely upon a present intention to hold the Securities for the minimum capital gains period specified under tax statutes, for a deferred sale, for or until an increase or decrease in the market price of the Securities or for a period of one year or any other fixed period in the future.

(iii) The Holder acknowledges that the Securities must be held indefinitely unless subsequently registered under the Act or an exemption from such registration is available. The Holder is aware of the provisions of Rule 144 promulgated under the Act ("Rule 144") which permits limited resale of securities purchased in a private placement subject to the satisfaction of certain conditions, including, in case the securities have been held for less than two years, the existence of a public market for the shares, the availability of certain public information about the Company, the resale occurring not less than one year

after a party has purchased and paid for the security to be sold, the sale being through a "broker's transaction" or in a transaction directly with a "market maker" (as provided by Rule 144(f)) and the number of shares or other securities being sold during any three-month period not exceeding specified limitations.

(iv) The Holder further understands that at the time the Holder wishes to sell the Securities there may be no public market upon which such a sale may be effected, and that even if such a public market exists, the Company may not be satisfying the current public information requirements of Rule 144, and that in such event, the Holder may be precluded from selling the Securities under Rule 144 unless a) a two-year minimum holding period has been satisfied and b) the Holder was not at the time of the sale nor at any time during the three-month period prior to such sale an affiliate of the Company.

(v) The Holder has had an opportunity to discuss the Company's business, management and financial affairs with its management and an opportunity to review the Company's facilities. The Holder understands that such discussions, as well as the written information issued by the Company, were intended to describe the aspects of the Company's business and prospects which it believes to be material but were not necessarily a thorough or exhaustive description.

(b) Legends. Each certificate representing the Securities shall be endorsed with the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND MAY NOT BE TRANSFERRED UNLESS COVERED BY AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT, A "NO ACTION" LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION WITH RESPECT TO SUCH TRANSFER, A TRANSFER MEETING THE REQUIREMENTS OF RULE 144 OF THE SECURITIES AND EXCHANGE COMMISSION, OR AN OPINION OF COUNSEL SATISFACTORY TO THE ISSUER TO THE EFFECT THAT ANY SUCH TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

The Company need not enter into its stock record a transfer of Securities unless the conditions specified in the foregoing legend are satisfied. The Company may also instruct its transfer agent not to allow the transfer of any of the Shares unless the conditions specified in the foregoing legend are satisfied.

(c) Removal of Legend and Transfer Restrictions. The legend relating to the Act endorsed on a certificate pursuant to paragraph 4(b) of this Warrant and the stop transfer instructions with respect to the Securities represented by such certificate shall be removed and the Company shall issue a certificate without such legend to the Holder of the Securities if (i) the Securities are registered under the Act and a prospectus meeting the requirements of Section 10 of the Act is available or (ii) the Holder provides to the Company an opinion of counsel for the Holder reasonably satisfactory to the Company, or a no-action letter or interpretive opinion of the staff of the SEC reasonably satisfactory to the Company, to the effect that public sale, transfer or assignment of the Securities may be made without registration and without compliance with any restriction such as Rule 144.

5. Condition of Transfer or Exercise of Warrant. It shall be a condition to any transfer or exercise of this Warrant that at the time of such transfer or exercise, the Holder shall provide the Company with a representation in writing that the Holder or transferee is acquiring this Warrant and the shares of Common Stock to be issued upon exercise for investment purposes only and

not with a view to any sale or distribution, or will provide the Company with a statement of pertinent facts covering any proposed distribution. As a further condition to any transfer of this Warrant or any or all of the shares of Common Stock issuable upon exercise of this Warrant, other than a transfer registered under the Act, the Company must have received a legal opinion, in form and substance satisfactory to the Company and its counsel, reciting the pertinent circumstances surrounding the proposed transfer and stating that such transfer is exempt from the registration and prospectus delivery requirements of the Act. Each certificate evidencing the shares issued upon exercise of the Warrant or upon any transfer of the shares (other than a transfer registered under the Act or any subsequent transfer of shares so registered) shall, at the Company's option, contain a legend in form and substance satisfactory to the Company and its counsel, restricting the transfer of the shares to sales or other dispositions exempt from the requirements of the Act.

As further condition to each transfer, the Holder shall surrender this Warrant to the Company and the transferee shall receive and accept a Warrant, of like tenor and date, executed by the Company.

6. Stock Fully Paid; Reservation of Shares. All Shares which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be fully paid and nonassessable, and free from all taxes, liens, and charges with respect to the issue thereof. During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for issuance upon exercise of the purchase rights evidenced by this Warrant, a sufficient number of shares of its Common Stock to provide for the exercise of the rights represented by this Warrant.

7. Adjustment for Certain Events. In the event of changes in the outstanding Common Stock by reason of stock dividends, split-ups, recapitalizations, reclassifications, mergers, consolidations, combinations or exchanges of shares, separations, reorganizations, liquidations, or the like, the number and class of shares available under the Warrant in the aggregate and the Warrant Price shall be correspondingly adjusted, as appropriate, by the Board of Directors of the Company. The adjustment shall be such as will give the Holder of this Warrant upon exercise for the same aggregate Warrant Price the total number, class and kind of shares as he would have owned had the Warrant been exercised prior to the event and had he continued to hold such shares until after the event requiring adjustment.

8. Notice of Adjustments. Whenever any Warrant Price shall be adjusted pursuant to Section 7 hereof, the Company shall prepare a certificate signed by an officer of the Company setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated, and the Warrant Price and number of shares issuable upon exercise of the Warrant after giving effect to such adjustment, and shall cause copies of such certificate to be mailed (by certified or registered mail, return receipt required, postage prepaid) within thirty (30) days of such adjustment to the Holder of this Warrant as set forth in Section 18 hereof.

9. "Market Stand-Off" Agreement. Holder hereby agrees that for a period of up to 180 days following the effective date of the first registration statement of the Company covering common stock (or other securities) to be sold on behalf of the Company in an underwritten public offering, it will not, to the extent requested by the Company and any underwriter, sell or otherwise transfer or dispose of (other than to donees or transferees who agree to be similarly bound) any of the Shares at any time during such period except common stock included in such registration; provided, however, that all officers and directors of the Company who hold

securities of the Company or options to acquire securities of the Company and all other persons with registration rights enter into similar agreements.

10. Transferability of Warrant. This Warrant is transferable on the books of the Company at its principal office by the registered Holder hereof upon surrender of this Warrant properly endorsed, subject to compliance with Section 5 and applicable federal and state securities laws. The Company shall issue and deliver to the transferee a new Warrant representing the Warrant so transferred. Upon any partial transfer, the Company will issue and deliver to Holder a new Warrant with respect to the Warrant not so transferred. Holder shall not have any right to transfer any portion of this Warrant to any direct competitor of the Company.

11. No Fractional Shares. No fractional share of Common Stock will be issued in connection with any exercise hereunder, but in lieu of such fractional share the Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

12. Charges, Taxes and Expenses. Issuance of certificates for shares of Common Stock upon the exercise of this Warrant shall be made without charge to the Holder for any United States or state of the United States documentary stamp tax or other incidental expense with respect to the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder.

13. No Shareholder Rights Until Exercise. This Warrant does not entitle the Holder hereof to any voting rights or other rights as a shareholder of the Company prior to the exercise hereof.

14. Registry of Warrant. The Company shall maintain a registry showing the name and address of the registered Holder of this Warrant. This Warrant may be surrendered for exchange or exercise, in accordance with its terms, at such office or agency of the Company, and the Company and Holder shall be entitled to rely in all respects, prior to written notice to the contrary, upon such registry.

15. Loss, Theft, Destruction or Mutilation of Warrant. Upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft, or destruction, of indemnity reasonably satisfactory to it, and, if mutilated, upon surrender and cancellation of this Warrant, the Company will execute and deliver a new Warrant, having terms and conditions substantially identical to this Warrant, in lieu hereof.

16. Miscellaneous.

(a) Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by the Company on the date hereof.

(b) Successors. This Warrant shall be binding upon any successors or assigns of the Company.

(c) Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of California.

(d) Headings. The headings used in this Warrant are used for convenience only and are not to be considered in construing or interpreting this Warrant.

(e) Saturdays, Sundays, Holidays. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday or a Sunday or shall be a legal holiday in the State of California, then such action may be taken or such right may be exercised on the next succeeding day not a legal holiday.

17. No Impairment. The Company will not, by amendment of its Certificate of Incorporation or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Holder hereof against impairment.

18. Addresses. Any notice required or permitted hereunder shall be in writing and shall be mailed by overnight courier, registered or certified mail, return receipt required, and postage pre-paid, or otherwise delivered by hand or by messenger, addressed as set forth below, or at such other address as the Company or the Holder hereof shall have furnished to the other party.

If to the Company:

FIBROGEN, INC.
260 Littlefield Avenue
South San Francisco, CA 94080
Attn: Thomas Neff, CEO

After February 1, 1998:
225 Gateway Blvd.
South San Francisco, CA 94080

If to the Holder:

Lease Management Services, Inc.
2500 Sand Hill Road, Suite 101
Menlo Park, CA 94025
Attn: Barbara B. Kaiser, EVP/GM

IN WITNESS WHEREOF, FIBROGEN, INC. has caused this Warrant to be executed by its officers thereunto duly authorized.

Dated as of Dec 11, 1997.

/s/ Thomas Neff

BY: Thomas Neff

TITLE: CEO

NOTICE OF EXERCISE

TO:

1. The undersigned Warrantholder ("Holder") elects to acquire shares of the Common Stock of **FIBROGEN, INC.** (the "Company"), pursuant to the terms of the Stock Purchase Warrant dated _____, 1997, (the "Warrant").

2. The Holder exercises its rights under the Warrant as set forth below:

( ) The Holder elects to purchase _____ shares of Common Stock as provided in Section 3(a), (c) and tenders herewith a check in the amount of $_____ as payment of the purchase price.

( ) The Holder elects to convert the purchase rights into shares of Common Stock as provided in Section 3(b), (c) of the Warrant.

3. The Holder surrenders the Warrant with this Notice of Exercise.

4. The Holder represents that it is acquiring the aforesaid shares of Common Stock for investment and not with a view to, or for resale in connection with, distribution and that the Holder has no present intention of distributing or reselling the shares.

5. Please issue a certificate representing the shares of Common Stock in the name of the Holder or in such other name as is specified below:

Name:
Address:

Taxpayer I.D.:

_____
(Holder)

By: _____

Title: _____

Date: _____

AMENDMENT TO WARRANT TO PURCHASE
43,140 SHARES
OF COMMON STOCK

WHEREAS; General Electric Capital Corporation as successor in interest to Lease Management Services, Inc. (the “Holder” or the “Secured Party”) is the holder of that certain Warrant, dated December 11,1997, to purchase Forty Three Thousand One Hundred Forty (43,140) shares of fully paid and non-assessable Common Stock of FibroGen, Inc. (the “Company”) (the “Warrant”);

WHEREAS; The Company and the Holder wish to amend the Warrant to provide that it may be exercisable until the date one year after effectiveness of the Company’s initial public offering;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and in consideration of the mutual promises contained herein, the parties hereto agree as follows:

Section 2(a) of the Warrant is hereby amended to read as follows:

(a) at 5:00 P.M. P.S.T on the date one year after the effectiveness of the Company’s Initial Public Offering; or

Capitalized terms not defined herein shall have the meaning ascribed to them in the Warrant.

AGREED AND ACCEPTED:

COMPANY

/s/ Wilbert Lee
By:

CFO
Title

Date: December 9, 2003

HOLDER

/s/ [Illegible Signature]
By:

SVP
Title

Date: December 9, 2003

Exhibit 4.10

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF l933 AS AMENDED. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER SAID ACT OR WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR THE HOLDER, SATISFACTORY TO THE COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

WARRANT TO PURCHASE 4,000 SHARES OF COMMON STOCK

June 3, 1999

THIS CERTIFIES THAT, for value received, Laurence S. Shushan and Magdalena Shushan, Trustees of the Laurence and Magdalena Shushan Family Trust, ("Holder") are entitled to subscribe for and purchase Four Thousand (4,000) shares of the fully paid and nonassessable Common Stock ("the Shares") of FIBROGEN, INC., a Delaware corporation (the "Company"), at the Warrant Price (as hereinafter defined), subject to the provisions and upon the terms and conditions hereinafter set forth. As used herein, the term "Common Stock" shall mean the Company's presently authorized Common Stock, and any stock into which such Common Stock may hereafter be exchanged.

1. Warrant Price. The Warrant Price shall initially be One & 75/100 Dollars ($1.75) per share, subject to adjustment as provided in Section 7 below.

2. Conditions to Exercise. The purchase right represented by this Warrant may be exercised at any time, or from time to time, in whole or in part during the term commencing on the date hereof and ending on the earlier of:

(a) 5:00 P.M. California time on the fifth annual anniversary of the effective date of the first registration statement of the Company under the Securities Act of 1933 covering Common Stock, or

(b) the effective date of the merger of the Company with or into, the consolidation of the Company with, or the sale by the Company of all or substantially all of its assets (in any one transaction or series of related transactions) to another corporation or other entity (other than such a transaction wherein the shareholders of the Company retain or obtain a majority of the voting capital stock of the surviving, resulting, or purchasing corporation); provided that the Company shall notify the registered Holder of this Warrant of the proposed effective date of the merger, consolidation, or sale at least 60 days prior to the effectiveness thereof.

In the event that, although the Company shall have given notice of a transaction pursuant to subparagraph (b) hereof, the transaction does not close on approximately the day specified by the Company, unless otherwise elected by the Holder any exercise of the Warrant subsequent to the giving of such notice shall be rescinded and the Warrant shall again be exercisable until terminated in accordance with this Paragraph 2.

3. Method of Exercise: Payment: Issuance of Shares: Issuance of New Warrant.

Subject to Section 2 hereof, the purchase right represented by this Warrant may be exercised by the Holder hereof, in whole or in part, by the surrender of this Warrant (with a duly executed Notice of Exercise in the form attached hereto) at the principal office of the Company (as set forth in Section 19 below) and by payment to the Company, by check, of an amount equal to the then applicable Warrant Price per share multiplied by the number of shares then being purchased. In the event of any exercise of the rights represented by this Warrant, certificates for the shares of stock so purchased shall be in the name of, and delivered to, the Holder hereof, or as such Holder may direct (subject to the terms of transfer contained herein and upon payment by such Holder hereof of any applicable transfer taxes). Such delivery shall be made within 10 days after exercise of the Warrant and at the Company's expense and, unless this Warrant has been fully exercised or expired, a new Warrant having terms and conditions substantially identical to this Warrant, dated as of the same date as this Warrant, and representing the portion of the Shares, if any, with respect to which this Warrant shall not have been exercised, shall also be issued to the Holder hereof within 10 days after exercise of the Warrant.

4. Representations and Warranties of Holder and Restrictions on Transfer Imposed by the Securities Act of 1933.

(a) Representations and Warranties by Holder. The Holder represents and warrants to the Company with respect to this purchase as follows:

(i) The Holder has substantial experience in evaluating and investing in private placement transactions of securities of companies similar to the Company so that the Holder is capable of evaluating the merits and risks of its investment in the Company and has the capacity to protect its interests.

(ii) The Holder is acquiring the Warrant and the Shares of Common Stock issuable upon exercise of the Warrant (collectively the "Securities") for investment for its own account and not with a view to, or for resale in connection with, any distribution thereof. The Holder understands that

the Securities have not been registered under the Act by reason of a specific exemption from the registration provisions of the Act which depends upon, among other things, the bona fide nature of the investment intent as expressed herein. In this connection, the Holder understands that, in the view of the Securities and Exchange Commission (the "SEC"), the statutory basis for such exemption may be unavailable if this representation was predicated solely upon a present intention to hold the Securities for the minimum capital gains period specified under tax statutes for a deferred sale, for or until an increase or decrease in the market price of the Securities or for a period of less than one year or any other fixed period in the future.

(iii) The Holder acknowledges that the Securities must be held indefinitely unless subsequently registered under the Act or an exemption from such registration is available. The Holder is aware of the provisions of Rule 144 promulgated under the Act ("Rule 144") which permits limited resale of securities purchased in a private placement subject to the satisfaction of certain conditions, including, in case the securities have been held for less than three years, the existence of a public market for the shares, the availability of certain public information about the Company, the resale occurring not less than one year after a party has purchased and paid for the security to be sold, the sale being through a "broker's transaction" or in a transaction directly with a "market maker'' (as provided by Rule 144(f)) and the number of shares or other securities being sold during any three-month period not exceeding specified limitations.

(iv) The Holder further understands that at the time the Holder wishes to sell the Securities there may be no public market upon which such a sale may be effected, and that even if such a public market exists, the Company may not be satisfying the current public information requirements of Rule 144, and that in such event, the Holder may be precluded from selling the Securities under Rule 144 unless a) a three-year minimum holding period has been satisfied and b) the Holder was not at the time of the sale nor at any time during the three-month period prior to such sale an affiliate of the Company.

(v) The Holder has had an opportunity to discuss the Company's business, management and financial affairs with its management and an opportunity to review the Company's facilities. The Holder understands that such discussions, as well as the written information issued by the Company, were intended to describe the aspects of the Company's business and prospects which it believes to be material but were not necessarily a thorough or exhaustive description.

(b) Legends. Each certificate representing the Securities shall be endorsed with the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND MAY NOT BE TRANSFERRED UNLESS COVERED BY AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT, A "NO ACTION" LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION WITH RESPECT TO SUCH TRANSFER, A TRANSFER MEETING THE REQUIREMENTS OF RULE 144 OF THE SECURITIES AND EXCHANGE COMMISSION, OR AN OPINION OF COUNSEL SATISFACTORY TO THE ISSUER TO THE EFFECT THAT ANY SUCH TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

The Company need not register a transfer of Securities unless the conditions specified in the foregoing legend are satisfied. The Company may also instruct its transfer agent not to register the transfer of any of the Shares unless the conditions specified in the foregoing legend are satisfied.

(c) Removal of Legend and Transfer Restrictions. The legend relating to the Act endorsed on a certificate pursuant to paragraph 4(b) of this Warrant and the stop transfer instructions with respect to the Securities represented by such certificate shall be removed and the Company shall issue a certificate without such legend to the Holder of the Securities if (i) the Securities are registered under the Act and a prospectus meeting the requirements of Section 10 of the Act is available or (ii) the Holder provides to the Company an opinion of counsel for the Holder reasonably satisfactory to the Company, or a no-action letter or interpretive opinion of the staff of the SEC reasonably satisfactory to the Company, to the effect that public sale, transfer or assignment of the Securities may be effected without registration and without compliance with any restriction such as Rule 144.

5. Condition of Transfer or Exercise of Warrant. It shall be a condition to any transfer or exercise of this Warrant that at the time of such transfer or exercise, the Holder shall provide the Company with a representation in writing that the Holder or transferee is acquiring this Warrant and the shares of Common Stock to be issued upon exercise, for investment purposes only and not with a view to any sale or distribution, or a statement of pertinent facts covering any proposed distribution. As a further condition to any transfer of this Warrant or any or all of the shares of Common Stock issuable upon exercise of this Warrant, other than a transfer registered under the Act, the Company must have received a legal opinion, in form and substance satisfactory to the Company and its counsel, reciting the pertinent circumstances surrounding the proposed transfer and stating that such transfer is exempt from the registration and prospectus delivery requirements of the Act. Each certificate evidencing the shares issued upon exercise of the Warrant or upon any transfer of the shares (other than a transfer registered under the Act or any subsequent transfer of shares so registered) shall, at the Company's option, contain a legend in form and substance satisfactory to the Company and its counsel, restricting the transfer of the shares to sales or other dispositions exempt from the requirements of the Act.

As further condition to each transfer, the transferee shall receive and accept a Warrant, of like tenor and date, executed by the Company.

6. Stock Fully Paid: Reservation of Shares. All Shares which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be fully paid and nonassessable, and free from all taxes, liens, and charges with respect to the issue thereof. During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for issuance upon exercise of the purchase rights evidenced by this Warrant, a sufficient number of shares of its Common Stock to provide for the exercise of the rights represented by this Warrant.

7. Adjustment for Certain Events. In the event of changes in the outstanding Common Stock by reason of stock dividends, split-ups, recapitalizations, reclassifications, mergers, consolidations, combinations or exchanges of shares, separations, reorganizations, liquidations, or the like, the number and class of shares available under the Warrant in the aggregate and the Warrant Price shall be correspondingly adjusted, as appropriate; by the Board of Directors of the Company. The adjustment shall be such as will give the Holder of this Warrant upon exercise for the same aggregate Warrant Price the total number, class and kind of shares as he would have owned had the Warrant been exercised prior to the event and had he continued to hold such shares until after the event requiring adjustment.

8. Notice of Adjustments. Whenever any Warrant Price shall be adjusted pursuant to Section 7 hereof, the Company shall prepare a certificate signed by its chief

financial officer setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated, and the Warrant Price and number of shares issuable upon exercise of the Warrant after giving effect to such adjustment, and shall cause copies of such certificate to be mailed (by certified or registered mail, return receipt required, postage prepaid) within thirty (30) days of such adjustment to the Holder of this Warrant as set forth in Section 19 hereof.

9. Registration Rights. In accordance with Section 3.9 of the Investor Rights Agreement dated December 1995 between the Company and certain holders of its securities (a copy of which is attached as Exhibit A hereto), the Company hereby grants registration rights to any Holder in accordance with the provisions of the said Investors Rights Agreement and, upon execution of a signature page to such Investor Rights Agreement, such Holder shall be considered an Investor for all purposes of such Investor Rights Agreement and the Shares purchasable under this Warrant shall be considered Registrable Securities for all purposes of such Investor Rights Agreement.

10. "Market Stand-Off" Agreement. Holder hereby agrees that for a period of 180 days following the effective date of the first registration statement of the Company covering Common Stock (or other securities) to be sold on its behalf in an underwritten public offering, it will not, to the extent requested by the Company and any underwriter, sell or otherwise transfer or dispose of (other than to donees or transferees who agree to be similarly bound) any of the Shares at any time during such period except common stock included in such registration; provided, however, that all officers and directors of the Company who hold securities of the Company or options to acquire securities of the Company and all other persons with registration rights enter into similar agreements.

11. Transferability of Warrant. This Warrant is transferable on the books of the Company at its principal office by the registered Holder hereof upon surrender of this Warrant properly endorsed, subject to compliance with applicable federal and state securities laws. The Company shall issue and deliver to the transferee a new Warrant representing the Warrant so transferred. Upon any partial transfer, the Company will issue and deliver to Holder a new Warrant with respect to the Warrant not so transferred. Holder shall not have any right to transfer any portion of this Warrant to any direct competitor of the Company.

12. No Fractional Shares. No fractional share of Common Stock will be issued in connection with any exercise hereunder, but in lieu of such fractional share the Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

13. Charges, Taxes and Expenses. Issuance of certificates for shares of Common Stock upon the exercise of this Warrant shall be made without charge to the Holder for any United States or state of the United States documentary stamp tax or other incidental expense in respect of the issuance of such certificate; all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder.

14. No Shareholder Rights Until Exercise. (a) This Warrant does not entitle the Holder hereof to any voting rights or other rights as a shareholder of the Company prior to the exercise hereof.

(b) Notwithstanding Section 14(a) hereof, as a courtesy to the registered Holder and in order to enable the registered Holder to make informed decisions regarding the possible exercise of this Warrant from time to time, the Company agrees, upon written request by the registered Holder to the chief financial officer of the Company from time to time (but not more often than twice in any twelve-(12)-month period) to provide to the registered Holder copies of the following documents within a reasonable time after such request (but in all events only to the extent that, and no sooner than the time that, such documents have been distributed or made available to all the Company's shareholders), subject to the provisions of Section 14(c) hereof;

(i) the Company's most recent audited annual financial statements or, if audited statements are not available, then the Company's unaudited annual financial statements as of the end of the Company's most recently ended fiscal year;

(ii) unaudited quarterly financial statements for each quarter of the Company's fiscal year since the date of the annual financial statements delivered pursuant to subparagraph (i) above; and

(iii) any other reports, proxy statements or notices distributed to holders of the Company's Common Stock within the last twelve (12) months preceding such request (or within the period since the last such request by the registered Holder, whichever is shorter).

(c) During any period in which the Company has outstanding a class of publicly-traded securities or is for any other reason a reporting company under the Securities Exchange Act of 1934, it shall be sufficient compliance with any information request from the registered Holder pursuant to Section 14(b) above for the Company to provide copies of its most recent Form 10-K and annual report, any Form 10-Q, and any

proxy statements or other publicly distributed shareholder materials as described in Section 14(b)(iii) above.

15. Registry of Warrant. The Company shall maintain a registry showing the name and address of the registered Holder of this Warrant. This Warrant may be surrendered for exchange or exercise, in accordance with its terms, at such office or agency of the Company, and the Company and Holder shall be entitled to rely in all respects, prior to written notice to the contrary, upon such registry.

16. Loss, Theft, Destruction or Mutilation of Warrant. Upon receipt by the Company of evidence reasonably satisfactory to it (such as an affidavit of the registered Holder) of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft, or destruction, of indemnity reasonably satisfactory to it, and, if mutilated, upon surrender and cancellation of this Warrant, the Company will execute and deliver a new Warrant, having terms and conditions substantially identical to this Warrant, in lieu hereof.

17. Miscellaneous.

(a) Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by the Company on the date hereof.

(b) Successors. This Warrant shall be binding upon any successors or assigns of the Company.

(c) Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of California.

(d) Headings. The headings used in this Warrant are used for convenience only and are not to be considered in construing or interpreting this Warrant.

(e) Saturdays, Sundays, Holidays. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday or a Sunday or shall be a legal holiday in the State of California, then such action may be taken or such right may be exercised on the next succeeding day not a legal holiday.

18. No Impairment. The Company will not, by amendment of its Articles of Incorporation or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be

necessary or appropriate in order to protect the rights of the Holder hereof against impairment.

19. Addresses. Any notice required or permitted hereunder shall be in writing and shall be mailed by registered or certified mail, return receipt required, and postage pre-paid, or otherwise delivered by hand or by messenger or overnight courier, addressed as set forth below, or at such other address as the Company or the Holder hereof shall have furnished to the other party.

If to the Company: FibroGen
225 Gateway Boulevard
So. San Francisco, CA 94080
Attn: President

If to the Holder: The Shushan Family Trust
Attn: Magdalena Shushan
1939 Harrison Street, Suite 715
Oakland, California 94612

20. Conversion Right. In addition to and without limiting the rights of the registered Holder under any other terms set forth herein, the registered Holder shall have the right at any time during the term of this Warrant, in lieu of exercising this Warrant in accordance with Section 3 hereof, to convert this Warrant in whole or in part into the number of Shares of Common Stock of the Company equal to the quotient of (a) the aggregate fair market value on the date of such conversion of the number of Shares as to which the registered Holder wishes to effect such conversion minus the aggregate Warrant Price for such Shares, divided by (b) the fair market value on the date of such conversion of one Share. For purposes of this Section 20, the fair market value of a share shall be determined as follows: (i) if the class of stock of which the Shares are a part is listed on a national stock exchange, on the NASDAQ National Market System or on any other over-the-counter market, then the fair market value shall be the closing price per share reported for such class on such national stock exchange or on the NASDAQ National Market System, or the average of the final “bid” and “asked” prices reported on such over-the-counter market, at the close of business on the date of such conversion, as reported in the Wall Street Journal (subject to adjustment to reflect any adjustments in the Warrant Price subsequent to the date of this Warrant pursuant to Section 7 hereof or otherwise); and (ii) if the class of stock of which the Shares are a part is not listed on a national stock exchange, on the NASDAQ National Market System or on any other over-the-counter market, then the Board of Directors of the Company shall determine the fair market value of the Shares in its reasonable good faith judgment, and shall (upon written request by the registered Holder) advise the registered Holder of such determination prior to any decision by the registered Holder to exercise such conversion right.

21. Notice of Certain Actions. If at any time the Company proposes:

(a) To declare any dividend, whether payable in cash or in stock or other property, upon its Common Stock or upon any other class of its securities purchasable upon exercise of this Warrant, or to make any other special dividend or distribution to the holders of its Common Stock or to the holders of any other class of its securities purchasable upon exercise of this Warrant;

(b) To offer for subscription prorata to the holders of its Common Stock or to the holders of any other class of its securities purchasable upon exercise of this Warrant any additional shares of stock of any class or any other rights;

(c) To engage in any capital reorganization or reclassification of the capital stock of the Company, any consolidation or merger involving the Company, or any sale of all or substantially all of the Company's assets in any one transaction or series of related transaction; or

(d) To engage in a voluntary or involuntary dissolution, liquidation or winding-up of the Company;

then, in each of such cases, the Company shall give written notice to the registered Holder in accordance with Section 19 hereof, specifying, as the case may be, (i) in the case of a proposed dividend, distribution, subscription or other right, the date on which the books of the Company shall close or a record shall be taken for the purpose thereof, the amount, character and terms thereof, and the date on which it is proposed that the dividend, distribution, subscription or other right will be distributed, and (ii) in case of a proposed reorganization, reclassification, consolidation, merger, sale, dissolution, liquidation or winding-up, the date (if any) on which the books of the Company shall close or a record shall be taken for the purpose of the proposed event, the character and terms of the proposed event, the effective date on which such proposed event is to take place, and the date on which the holders of the applicable class of securities of the Company shall be entitled to exchange their shares for securities or other property deliverable upon such event. Such notice shall be given at least twenty (20) days prior to the record date or proposed effective date, whichever is earlier, for the event specified in the notice, and the registered Holder shall use its best efforts to respond to such notice as promptly as reasonably possible after the receipt thereof.

22. Certain Other Adjustment Events. If any change in the shares of the class of the Company's securities purchasable upon exercise of this Warrant or any other event occurs as to which the provisions of Section 7 hereof are not strictly applicable or, if strictly applicable, would not fairly protect the reasonable expectations of the registered Holder with respect to its purchase rights under this Warrant, then the Company shall

make an adjustment in the number and class of shares purchasable under this Warrant, the Warrant Price and/or the other terms and provisions of this Warrant so as to protect such reasonable expectations of the registered Holder by giving such Holder, upon exercise of this Warrant for the same aggregate Warrant Price payable for full exercise of this Warrant prior to such event, the total number, class and kind of share (or the closest then available equivalent thereto) as such Holder would have owned had this Warrant been exercised prior to such event and had such Holder continued to hold such shares until after the event requiring such adjustment.

23. Attorneys' Fees. In any litigation, arbitration or other legal proceeding between the Company and the registered Holder relating to or arising out of this Warrant, the prevailing party shall be entitled to recover all its fees, costs and expenses incurred in connection with such proceeding, including (but not limited to) reasonable fees and expenses of attorneys and accountants and including (but not limited to) all such fees, costs and expenses incurred in connection with any appeals and/or in connection with the enforcement of any judgment or award rendered in such proceeding.

IN WITNESS WHEREOF, FibroGen, Inc. has caused this Warrant to be executed by its officers thereunto duly authorized.

Dated as of June 3, 1999.

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Title: President and
Chief Executive Officer

NOTICE OF EXERCISE

TO: FibroGen, Inc.

1. The undersigned Warrantholder (‘‘Holder”) elects to acquire shares of the Common Stock of FibroGen, Inc. (the “Company”), pursuant to the terms of the Warrant dated December 20, 1996 (the “Warrant”).

2. The Holder exercises its rights under the Warrant as set forth below:

   ( ) The Holder elects to purchase _____ shares of Common Stock and tenders herewith a check in the amount of $____ as payment of the Warrant Price.

   ( ) The Holder elects to convert the purchase rights for _____ shares into shares of Common Stock as provided in Section 20 of the Warrant.

3. The Holder surrenders the Warrant with this Notice of Exercise.

4. The Holder represents that it is acquiring the aforesaid shares of Common Stock for investment and not with a view to, or for resale in connection with, distribution and that the Holder has no present intention of distributing or reselling the shares.

5. Please issue a certificate representing the shares of Common Stock in the name of the Holder or in such other name as is specified below and, if this is less than a full exercise of the Warrant, issue a replacement Warrant for the balance of the shares purchasable under the Warrant surrendered herewith:

   Name:
   Address:
   Taxpayer I.D.:

_____
(Holder)

By: _____
Title: _____
Date: _____

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AS AMENDED. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER SAID ACT OR WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR THE HOLDER, SATISFACTORY TO THE COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

WARRANT TO PURCHASE 180,000 SHARES OF COMMON STOCK

June 3, 1999

THIS CERTIFIES THAT, for value received, Slough Estates USA, Inc., a Delaware corporation, ("Holder") is entitled to subscribe for and purchase One Hundred Eighty Thousand (180,000) shares of the fully paid and nonassessable Common Stock ("the Shares") of FIBROGEN, INC., a Delaware corporation (the "Company"), at the Warrant Price (as hereinafter defined), subject to the provisions and upon the terms and conditions hereinafter set forth. As used herein, the term "Common Stock" shall mean the Company's presently authorized Common Stock, and any stock into which such Common Stock may hereafter be exchanged.

1. Warrant Price. The Warrant Price shall initially be One & 75/100 Dollars ($1.75) per share, subject to adjustment as provided in Section 7 below.

2. Conditions to Exercise. The purchase right represented by this Warrant may be exercised at any time, or from time to time, in whole or in part during the term commencing on the date hereof and ending on the earlier of

(a) 5:00 P.M. California time on the fifth annual anniversary of the effective date of the first registration statement of the Company under the Securities Act of 1933 covering Common Stock, or

(b) the effective date of the merger of the Company with or into, the consolidation of the Company with, or the sale by the Company of all or substantially all of its assets (in any one transaction or series of related transactions) to another corporation or other entity (other than such a transaction wherein the shareholders of the Company retain or obtain a majority of the voting capital stock of the surviving, resulting, or purchasing corporation); provided that the Company shall notify the registered Holder of this Warrant of the proposed effective date of the merger, consolidation, or sale at least 60 days prior to the effectiveness thereof.

In the event that, although the Company shall have given notice of a transaction pursuant to subparagraph (b) hereof, the transaction does not close on approximately the day specified by the Company, unless otherwise elected by the Holder any exercise of the Warrant subsequent to the giving of such notice shall be rescinded and the Warrant shall again be exercisable until terminated in accordance with this Paragraph 2.

3. Method of Exercise: Payment: Issuance of Shares: Issuance of New Warrant.

Subject to Section 2 hereof, the purchase right represented by this Warrant may be exercised by the Holder hereof, in whole or in part, by the surrender of this Warrant (with a duly executed Notice of Exercise in the form attached hereto) at the principal office of the Company (as set forth in Section 19 below) and by payment to the Company, by check, of an amount equal to the then applicable Warrant Price per share multiplied by the number of shares then being purchased. In the event of any exercise of the rights represented by this Warrant, certificates for the shares of stock so purchased shall be in the name of, and delivered to, the Holder hereof, or as such Holder may direct (subject to the terms of transfer contained herein and upon payment by such Holder hereof of any applicable transfer taxes). Such delivery shall be made within 10 days after exercise of the Warrant and at the Company's expense and, unless this Warrant has been fully exercised or expired, a new Warrant having terms and conditions substantially identical to this Warrant, dated as of the same date as this Warrant, and representing the portion of the Shares, if any, with respect to which this Warrant shall not have been exercised, shall also be issued to the Holder hereof within 10 days after exercise of the Warrant.

4. Representations and Warranties of Holder and Restrictions on Transfer Imposed by the Securities Act of 1933.

(a) Representations and Warranties by Holder. The Holder represents and warrants to the Company with respect to this purchase as follows:

(i) The Holder has substantial experience in evaluating and investing in private placement transactions of securities of companies similar to the Company so that the Holder is capable of evaluating the merits and risks of its investment in the Company and has the capacity to protect its interests.

(ii) The Holder is acquiring the Warrant and the Shares of Common Stock issuable upon exercise of the Warrant (collectively the "Securities") for investment for its own account and not with a view to, or for resale in connection with, any distribution thereof. The Holder understands that

the Securities have not been registered under the Act by reason of a specific exemption from the registration provisions of the Act which depends upon, among other things, the bona fide nature of the investment intent as expressed herein. In this connection, the Holder understands that, in the view of the Securities and Exchange Commission (the "SEC"), the statutory basis for such exemption may be unavailable if this representation was predicated solely upon a present intention to hold the Securities for the minimum capital gains period specified under tax statutes, for a deferred sale, for or until an increase or decrease in the market price of the Securities or for a period of less than one year or any other fixed period in the future.

(iii) The Holder acknowledges that the Securities must be held indefinitely unless subsequently registered under the Act or an exemption from such registration is available. The Holder is aware of the provisions of Rule 144 promulgated under the Act ("Rule 144") which permits limited resale of securities purchased in a private placement subject to the satisfaction of certain conditions, including, in case the securities have been held for less than three years, the existence of a public market for the shares, the availability of certain public information about the Company, the resale occurring not less than one year after a party has purchased and paid for the security to be sold, the sale being through a "broker's transaction" or in a transaction directly with a "market maker" (as provided by Rule 144(f)) and the number of shares or other securities being sold during any three-month period not exceeding specified limitations.

(iv) The Holder further understands that at the time the Holder wishes to sell the Securities there may be no public market upon which such a sale may be effected, and that even if such a public market exists, the Company may not be satisfying the current public information requirements of Rule 144, and that in such event, the Holder may be precluded from selling the Securities under Rule 144 unless a) a three-year minimum holding period has been satisfied and b) the Holder was not at the time of the sale nor at any time during the three-month period prior to such sale an affiliate of the Company.

(v) The Holder has had an opportunity to discuss the Company's business, management and financial affairs with its management and an opportunity to review the Company's facilities. The Holder understands that such discussions, as well as the written information issued by the Company, were intended to describe the aspects of the Company's business and prospects which it believes to be material but were not necessarily a thorough or exhaustive description.

(b) Legends. Each certificate representing the Securities shall be endorsed with the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND MAY NOT BE TRANSFERRED UNLESS COVERED BY AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT, A "NO ACTION" LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION WITH RESPECT TO SUCH TRANSFER, A TRANSFER MEETING THE REQUIREMENTS OF RULE 144 OF THE SECURITIES AND EXCHANGE COMMISSION, OR AN OPINION OF COUNSEL SATISFACTORY TO THE ISSUER TO THE EFFECT THAT ANY SUCH TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

The Company need not register a transfer of Securities unless the conditions specified in the foregoing legend are satisfied. The Company may also instruct its transfer agent not to register the transfer of any of the Shares unless the conditions specified in the foregoing legend are satisfied.

(c) Removal of Legend and Transfer Restrictions. The legend relating to the Act endorsed on a certificate pursuant to paragraph 4(b) of this Warrant and the stop transfer instructions with respect to the Securities represented by such certificate shall be removed and the Company shall issue a certificate without such legend to the Holder of the Securities if (i) the Securities are registered under the Act and a prospectus meeting the requirements of Section 10 of the Act is available or (ii) the Holder provides to the Company an opinion of counsel for the Holder reasonably satisfactory to the Company, or a no-action letter or interpretive opinion of the staff of the SEC reasonably satisfactory to the Company, to the effect that public sale, transfer or assignment of the Securities may be effected without registration and without compliance with any restriction such as Rule 144.

5. Condition of Transfer or Exercise of Warrant. It shall be a condition to any transfer or exercise of this Warrant that at the time of such transfer or exercise, the Holder shall provide the Company with a representation in writing that the Holder or transferee is acquiring this Warrant and the shares of Common Stock to be issued upon exercise, for investment purposes only and not with a view to any sale or distribution, or a statement of pertinent facts covering any proposed distribution. As a further condition to any transfer of this Warrant or any or all of the shares of Common Stock issuable upon exercise of this Warrant, other than a transfer registered under the Act, the Company must have received a legal opinion, in form and substance satisfactory to the Company and its counsel, reciting the pertinent circumstances surrounding the proposed transfer and stating that such transfer is exempt from the registration and prospectus delivery requirements of the Act. Each certificate evidencing the shares issued upon exercise of the Warrant or upon any transfer of the shares (other than a transfer registered under the Act or any subsequent transfer of shares so registered) shall, at the Company's option, contain a legend in form and substance satisfactory to the Company and its counsel, restricting the transfer of the shares to sales or other dispositions exempt from the requirements of the Act.

As further condition to each transfer, the transferee shall receive and accept a Warrant, of like tenor and date, executed by the Company.

6. Stock Fully Paid: Reservation of Shares. All Shares which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be fully paid and nonassessable, and free from all taxes, liens, and charges with respect to the issue thereof. During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for issuance upon exercise of the purchase rights evidenced by this Warrant, a sufficient number of shares of its Common Stock to provide for the exercise of the rights represented by this Warrant.

7. Adjustment for Certain Events. In the event of changes in the outstanding Common Stock by reason of stock dividends, split-ups, recapitalizations, reclassifications, mergers, consolidations, combinations or exchanges of shares, separations, reorganizations, liquidations, or the like, the number and class of shares available under the Warrant in the aggregate and the Warrant Price shall be correspondingly adjusted, as appropriate, by the Board of Directors of the Company. The adjustment shall be such as will give the Holder of this Warrant upon exercise for the same aggregate Warrant Price the total number, class and kind of shares as he would have owned had the Warrant been exercised prior to the event and had he continued to hold such shares until after the event requiring adjustment.

8. Notice of Adjustments. Whenever any Warrant Price shall be adjusted pursuant to Section 7 hereof, the Company shall prepare a certificate signed by its chief

financial officer setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated, and the Warrant Price and number of shares issuable upon exercise of the Warrant after giving effect to such adjustment, and shall cause copies of such certificate to be mailed (by certified or registered mail, return receipt required, postage prepaid) within thirty (30) days of such adjustment to the Holder of this Warrant as set forth in Section 19 hereof.

9. Registration Rights. In accordance with Section 3.9 of the Investor Rights Agreement dated December 1995 between the Company and certain holders of its securities (a copy of which is attached as Exhibit A hereto), the Company hereby grants registration rights to any Holder in accordance with the provisions of the said Investors Rights Agreement and, upon execution of a signature page to such Investor Rights Agreement, such Holder shall be considered an Investor for all purposes of such Investor Rights Agreement and the Shares purchasable under this Warrant shall be considered Registrable Securities for all purposes of such Investor Rights Agreement.

10. "Market Stand-Off' Agreement. Holder hereby agrees that for a period of 180 days following the effective date of the first registration statement of the Company covering Common Stock (or other securities) to be sold on its behalf in an underwritten public offering, it will not, to the extent requested by the Company and any underwriter, sell or otherwise transfer or dispose of (other than to donees or transferees who agree to be similarly bound) any of the Shares at any time during such period except common stock included in such registration; provided, however, that all officers and directors of the Company who hold securities of the Company or options to acquire securities of the Company and all other persons with registration rights enter into similar agreements.

11. Transferability of Warrant. This Warrant is transferable on the books of the Company at its principal office by the registered Holder hereof upon surrender of this Warrant properly endorsed, subject to compliance with applicable federal and state securities laws. The Company shall issue and deliver to the transferee a new Warrant representing the Warrant so transferred. Upon any partial transfer, the Company will issue and deliver to Holder a new Warrant with respect to the Warrant not so transferred. Holder shall not have any right to transfer any portion of this Warrant to any direct competitor of the Company.

12. No Fractional Shares. No fractional share of Common Stock will be issued in connection with any exercise hereunder, but in lieu of such fractional share the Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

13. Charges, Taxes and Expenses. Issuance of certificates for shares of Common Stock upon the exercise of this Warrant shall be made without charge to the Holder for any United States or state of the United States documentary stamp tax or other incidental expense in respect of the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder.

14. No Shareholder Rights Until Exercise. (a) This Warrant does not entitle the Holder hereof to any voting rights or other rights as a shareholder of the Company prior to the exercise hereof.

(b) Notwithstanding Section 14(a) hereof, as a courtesy to the registered Holder and in order to enable the registered Holder to make informed decisions regarding the possible exercise of this Warrant from time to time, the Company agrees, upon written request by the registered Holder to the chief financial officer of the Company from time to time (but not more often than twice in any twelve-(12)-month period) to provide to the registered Holder copies of the following documents within a reasonable time after such request (but in all events only to the extent that, and no sooner than the time that, such documents have been distributed or made available to all the Company's shareholders), subject to the provisions of Section 14(c) hereof;

(i) the Company's most recent audited annual financial statements or, if audited statements are not available, then the Company's unaudited annual financial statements as of the end of the Company's most recently ended fiscal year;

(ii) unaudited quarterly financial statements for each quarter of the Company's fiscal year since the date of the annual financial statements delivered pursuant to subparagraph (i) above; and

(iii) any other reports, proxy statements or notices distributed to holders of the Company's Common Stock within the last twelve (12) months preceding such request (or within the period since the last such request by the registered Holder, whichever is shorter).

(c) During any period in which the Company has outstanding a class of publicly-traded securities or is for any other reason a reporting company under the Securities Exchange Act of 1934, it shall be sufficient compliance with any information request from the registered Holder pursuant to Section 14(b) above for the Company to provide copies of its most recent Form 10-K and annual report, any Form 10-Q, and any

proxy statements or other publicly distributed shareholder materials as described in Section 14(b)(iii) above.

15. Registry of Warrant. The Company shall maintain a registry showing the name and address of the registered Holder of this Warrant. This Warrant may be surrendered for exchange or exercise, in accordance with its terms, at such office or agency of the Company, and the Company and Holder shall be entitled to rely in all respects, prior to written notice to the contrary, upon such registry.

16. Loss, Theft, Destruction or Mutilation of Warrant. Upon receipt by the Company of evidence reasonably satisfactory to it (such as an affidavit of the registered. Holder) of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft, or destruction, of indemnity reasonably satisfactory to it, and, if mutilated, upon surrender and cancellation of this Warrant, the Company will execute and deliver a new Warrant, having terms and conditions substantially identical to this Warrant, in lieu hereof.

17. Miscellaneous.

(a) Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by the Company on the date hereof.

(b) Successors. This Warrant shall be binding upon any successors or assigns of the Company.

(c) Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of California.

(d) Headings. The headings used in this Warrant are used for convenience only and are not to be considered in construing or interpreting this Warrant.

(e) Saturdays, Sundays, Holidays. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday or a Sunday or shall be a legal holiday in the State of California, then such action may be taken or such right may be exercised on the next succeeding day not a legal holiday.

18. No Impairment. The Company will not, by amendment of its Articles of Incorporation or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be

necessary or appropriate in order to protect the rights of the Holder hereof against impairment.

19. Addresses. Any notice required or permitted hereunder shall be in writing and shall be mailed by registered or certified mail, return receipt required, and postage pre-paid, or otherwise delivered by hand or by messenger or overnight courier, addressed as set forth below, or at such other address as the Company or the Holder hereof shall have furnished to the other party.

If to the Company: FibroGen
225 Gateway Boulevard
So. San Francisco, CA 94080
Attn: President

If to the Holder: Slough Estates, USA, Inc.
33 West Monroe Street, Suite 2000
Chicago, Illinois 60603-2409

20. Conversion Right. In addition to and without limiting the rights of the registered Holder under any other terms set forth herein, the registered Holder shall have the right at any time during the term of this Warrant, in lieu of exercising this Warrant in accordance with Section 3 hereof, to convert this Warrant in whole or in part into the number of Shares of Common Stock of the Company equal to the quotient of (a) the aggregate fair market value on the date of such conversion of the number of Shares as to which the registered Holder wishes to effect such conversion minus the aggregate Warrant Price for such Shares, divided by (b) the fair market value on the date of such conversion of one Share. For purposes of this Section 20, the fair market value of a share shall be determined as follows: (i) if the class of stock of which the Shares are a part is listed on a national stock exchange, on the NASDAQ National Market System or on any other over-the-counter market, then the fair market value shall be the closing price per share reported for such class on such national stock exchange or on the NASDAQ National Market System, or the average of the final “bid” and “asked” prices reported on such over-the-counter market, at the close of business on the date of such conversion, as reported in the Wall Street Journal (subject to adjustment to reflect any adjustments in the Warrant Price subsequent to the date of this Warrant pursuant to Section 7 hereof or otherwise); and (ii) if the class of stock of which the Shares are a part is not listed on a national stock exchange, on the NASDAQ National Market System or on any other over-the-counter market, then the Board of Directors of the Company shall determine the fair market value of the Shares in its reasonable good faith judgment, and shall (upon written request by the registered Holder) advise the registered Holder of such determination prior to any decision by the registered Holder to exercise such conversion right.

22. Notice of Certain Actions. If at any time the Company proposes:

(a) To declare any dividend, whether payable in cash or in stock or other property, upon its Common Stock or upon any other class of its securities purchasable upon exercise of this Warrant, or to make any other special dividend or distribution to the holders of its Common Stock or to the holders of any other class of its securities purchasable upon exercise of this Warrant;

(b) To offer for subscription prorata to the holders of its Common Stock or to the holders of any other class of its securities purchasable upon exercise of this Warrant any additional shares of stock of any class or any other rights;

(c) To engage in any capital reorganization or reclassification of the capital stock of the Company, any consolidation or merger involving the Company, or any sale of all or substantially all of the Company's assets in any one transaction or series of related transaction; or

(d) To engage in a voluntary or involuntary dissolution, liquidation or winding-up of the Company;

then, in each of such cases, the Company shall give written notice to the registered Holder in accordance with Section 19 hereof, specifying, as the case may be, (i) in the case of a proposed dividend, distribution, subscription or other right, the date on which the books of the Company shall close or a record shall be taken for the purpose thereof, the amount, character and terms thereof, and the date on which it is proposed that the dividend, distribution, subscription or other right will be distributed, and (ii) in case of a proposed reorganization, reclassification, consolidation, merger, sale, dissolution, liquidation or winding-up, the date (if any) on which the books of the Company shall close or a record shall be taken for the purpose of the proposed event, the character and terms of the proposed event, the effective date on which such proposed event is to take place, and the date on which the holders of the applicable class of securities of the Company shall be entitled to exchange their shares for securities or other property deliverable upon such event. Such notice shall be given at least twenty (20) days prior to the record date or proposed effective date, whichever is earlier, for the event specified in the notice, and the registered Holder shall use its best efforts to respond to such notice as promptly as reasonably possible after the receipt thereof.

23. Certain Other Adjustment Events. If any change in the shares of the class of the Company's securities purchasable upon exercise of this Warrant or any other event occurs as to which the provisions of Section 7 hereof are not strictly applicable or, if strictly applicable, would not fairly protect the reasonable expectations of the registered Holder with respect to its purchase rights under this Warrant, then the Company shall

make an adjustment in the number and class of shares purchasable under this Warrant, the Warrant Price and/or the other terms and provisions of this Warrant so as to protect such reasonable expectations of the registered Holder by giving such Holder, upon exercise of this Warrant for the same aggregate Warrant Price payable for full exercise of this Warrant prior to such event, the total number, class and kind of share (or the closest then available equivalent thereto) as such Holder would have owned had this Warrant been exercised prior to such event and had such Holder continued to hold such shares until after the event requiring such adjustment.

24. Attorneys' Fees. In any litigation, arbitration or other legal proceeding between the Company and the registered Holder relating to or arising out of this Warrant, the prevailing party shall be entitled to recover all its fees, costs and expenses incurred in connection with such proceeding, including (but not limited to) reasonable fees and expenses of attorneys and accountants and including (but not limited to) all such fees, costs and expenses incurred in connection with any appeals and/or in connection with the enforcement of any judgment or award rendered in such proceeding.

IN WITNESS WHEREOF, FibroGen, Inc. has caused this Warrant to be executed by its officers thereunto duly authorized.

Dated as of June 3, 1999.

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Title: President and Chief Executive Officer

NOTICE OF EXERCISE

TO: FibroGen, Inc.

1. The undersigned Warrantholder ("Holder") elects to acquire shares of the Common Stock of FibroGen, Inc. (the "Company"), pursuant to the terms of the Warrant dated December 20, 1996 (the "Warrant").

2. The Holder exercises its rights under the Warrant as set forth below:

   ( ) The Holder elects to purchase _____ shares of Common Stock and tenders herewith a check in the amount of $____ as payment of the Warrant Price.

   ( ) The Holder elects to convert the purchase rights for _____ shares into shares of Common Stock as provided in Section 20 of the Warrant.

3. The Holder surrenders the Warrant with this Notice of Exercise.

4. The Holder represents that it is acquiring the aforesaid shares of Common Stock for investment and not with a view to, or for resale in connection with, distribution and that the Holder has no present intention of distributing or reselling the shares.

5. Please issue a certificate representing the shares of Common Stock in the name of the Holder or in such other name as is specified below and, if this is less than a full exercise of the Warrant, issue a replacement Warrant for the balance of the shares purchasable under the Warrant surrendered herewith:

   Name:
   Address:
   Taxpayer I.D.:

_____
(Holder)

By: _____
Title: _____
Date: _____

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AS AMENDED. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER SAID ACT OR WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR THE HOLDER, SATISFACTORY TO THE COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

WARRANT TO PURCHASE 11,076 SHARES OF COMMON STOCK

February 8, 2000

THIS CERTIFIES THAT, for value received, Bristow Investments, L.P., a California limited partnership, ("Holder") is entitled to subscribe for and purchase Eleven Thousand and Seventy-Six (11,076) shares of the fully paid and nonassessable Common Stock ("the Shares") of FIBROGEN, INC., a Delaware corporation (the "Company"), at the Warrant Price (as hereinafter defined), subject to the provisions and upon the terms and conditions hereinafter set forth. As used herein, the term "Common Stock" shall mean the Company's presently authorized Common Stock, and any stock into which such Common Stock may hereafter be exchanged.

1. Warrant Price. The Warrant Price shall initially be Six Dollars ($6.00) per share, subject to adjustment as provided in Section 7 below.

2. Conditions to Exercise. The purchase right represented by this Warrant may be exercised at any time, or from time to time, in whole or in part during the term commencing on the date hereof and ending on the earlier of:

(a) 5:00 P.M. California time on the fifth annual anniversary of the effective date of the first registration statement of the Company under the Securities Act of 1933 covering Common Stock, or

(b) the effective date of the merger of the Company with or into, the consolidation of the Company with, or the sale by the Company of all or substantially all of its assets (in any one transaction or series of related transactions) to another corporation or other entity (other than such a transaction wherein the shareholders of the Company retain or obtain a majority of the voting capital stock of the surviving, resulting, or purchasing corporation); provided that the Company shall notify the registered Holder of this Warrant of the proposed effective date of the merger, consolidation, or sale at least 60 days prior to the effectiveness thereof.

In the event that, although the Company shall have given notice of a transaction pursuant to subparagraph (b) hereof, the transaction does not close on approximately the

day specified by the Company, unless otherwise elected by the Holder any exercise of the Warrant subsequent to the giving of such notice shall be rescinded and the Warrant shall again be exercisable until terminated in accordance with this Paragraph 2.

3. Method of Exercise: Payment: Issuance of Shares: Issuance of New Warrant.

Subject to Section 2 hereof, the purchase right represented by this Warrant may be exercised by the Holder hereof, in whole or in part, by the surrender of this Warrant (with a duly executed Notice of Exercise in the form attached hereto) at the principal office of the Company (as set forth in Section 19 below) and by payment to the Company, by check, of an amount equal to the then applicable Warrant Price per share multiplied by the number of shares then being purchased. In the event of any exercise of the rights represented by this Warrant, certificates for the shares of stock so purchased shall be in the name of, and delivered to, the Holder hereof; or as such Holder may direct (subject to the terms of transfer contained herein and upon payment by such Holder hereof of any applicable transfer taxes). Such delivery shall be made within 10 days after exercise of the Warrant and at the Company's expense and, unless this Warrant has been fully exercised or expired, a new Warrant having terms and conditions substantially identical to this Warrant, dated as of the same date as this Warrant, and representing the portion of the Shares, if any, with respect to which this Warrant shall not have been exercised, shall also be issued to the Holder hereof within 10 days after exercise of the Warrant.

4. Representations and Warranties of Holder and Restrictions on Transfer Imposed by the Securities Act of 1933.

(a) Representations .and Warranties by Holder. The Holder represents and warrants to the Company with respect to this purchase as follows:

(i) The Holder has substantial experience in evaluating and investing in private placement transactions of securities of companies similar to the Company so that the Holder is capable of evaluating the merits and risks of its investment in the Company and has the capacity to protect its interests.

(ii) The Holder is acquiring the Warrant and the Shares of Common Stock issuable upon exercise of the Warrant (collectively the "Securities") for investment for its own account and not with a view to, or for resale in connection with, any distribution thereof. The Holder understands that the Securities have not been registered under the Act by reason of a specific exemption from the registration provisions of the Act which depends upon, among other things, the bona fide nature of the investment intent as expressed herein. In this connection, the Holder understands that, in the view of the Securities and Exchange Commission (the "SEC"), the statutory basis for such exemption may be unavailable if this representation was predicated solely

upon a present intention to hold the Securities for the minimum capital gains period specified under tax statutes, for a deferred sale, for or until an increase or decrease in the market price of the Securities or for a period of less than one year or any other fixed period in the future.

(iii) The Holder acknowledges that the Securities must be held indefinitely unless subsequently registered under the Act or an exemption from such registration is available. The Holder is aware of the provisions of Rule 144 promulgated under the Act ("Rule 144") which permits limited resale of securities purchased in a private placement subject to the satisfaction of certain conditions, including, in case the securities have been held for less than two years, the existence of a public market for the shares, the availability of certain public information about the Company, the resale occurring not less than one year after a party has purchased and paid for the security to be sold, the sale being through a "broker's transaction" or in a transaction directly with a "market maker" (as provided by Rule 144(0) and the number of shares or other securities being sold during any three-month period not exceeding specified limitations.

(iv) The Holder further understands that at the time the Holder wishes to sell the Securities there may be no public market upon which such a sale may be effected, and that even if such a public market exists, the Company may not be satisfying the current public information requirements of Rule 144, and that in such event, the Holder may be precluded from selling the Securities under Rule 144 unless a) a minimum holding period has been satisfied and b) the Holder was not at the time of the sale nor at any time during the three-month period prior to such sale an affiliate of the Company.

(v) The Holder has had an opportunity to discuss the Company's business, management and financial affairs with its management and an opportunity to review the Company's facilities. The Holder understands that such discussions, as well as the written information issued by the Company, were intended to describe the aspects of the Company's business and prospects which it believes to be material but were not necessarily a thorough or exhaustive description.

(b) Legends. Each certificate representing the Securities shall be endorsed with the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND MAY NOT BE TRANSFERRED UNLESS COVERED BY AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT, A "NO ACTION" LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION WITH RESPECT TO SUCH TRANSFER, A TRANSFER MEETING THE REQUIREMENTS OF RULE 144 OF THE SECURITIES AND EXCHANGE COMMISSION, OR AN OPINION OF COUNSEL

SATISFACTORY TO THE ISSUER TO THE EFFECT THAT ANY SUCH TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

The Company need not register a transfer of Securities unless the conditions specified in the foregoing legend are satisfied. The Company may also instruct its transfer agent not to register the transfer of any of the Shares unless the conditions specified in the foregoing legend are satisfied.

(c) Removal of Legend and Transfer Restrictions. The legend relating to the Act endorsed on a certificate pursuant to paragraph 4(b) of this Warrant and the stop transfer instructions with respect to the Securities represented by such certificate shall be removed and the Company shall issue a certificate without such legend to the Holder of the Securities if (i) the Securities are registered under the Act and a prospectus meeting the requirements of Section 10 of the Act is available or (ii) the Holder provides to the Company an opinion of counsel for the Holder reasonably satisfactory to the Company, or a no-action letter or interpretive opinion of the staff of the SEC reasonably satisfactory to the Company, to the effect that public sale, transfer or assignment of the Securities may be effected without registration and without compliance with any restriction such as Rule 144.

5. Condition of Transfer or Exercise of Warrant. It shall be a condition to any transfer or exercise of this Warrant that at the time of such transfer or exercise, the Holder shall provide the Company with a representation in writing that the Holder or transferee is acquiring this Warrant and the shares of Common Stock to be issued upon exercise, for investment purposes only and not with a view to any sale or distribution, or a statement of pertinent facts covering any proposed distribution. As a further condition to any transfer of this Warrant or any or all of the shares of Common Stock issuable upon exercise of this Warrant, other than a transfer registered under the Act, the Company must have received a legal opinion, in form and substance satisfactory to the Company and its counsel, reciting the pertinent circumstances surrounding the proposed transfer and stating that such transfer is exempt from the registration and prospectus delivery requirements of the Act. Each certificate evidencing the shares issued upon exercise of the Warrant or upon any transfer of the shares (other than a transfer registered under the Act or any subsequent transfer of shares so registered) shall, at the Company's option, contain a legend in form and substance satisfactory to the Company and its counsel, restricting the transfer of the shares to sales or other dispositions exempt from the requirements of the Act.

As further condition to each transfer, the transferee shall receive and accept a Warrant, of like tenor and date, executed by the Company.

6. Stock Fully Paid: Reservation of Shares. All Shares which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be fully paid and nonassessable, and free from all taxes, liens, and charges with respect to the

issue thereof. During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for issuance upon exercise of the purchase rights evidenced by this Warrant, a sufficient number of shares of its Common Stock to provide for the exercise of the rights represented by this Warrant.

7. Adjustment for Certain Events. In the event of changes in the outstanding Common Stock by reason of stock dividends, split-ups, recapitalizations, reclassifications, mergers, consolidations, combinations or exchanges of shares, separations, reorganizations, liquidations, or the like, the number and class of shares available under the Warrant in the aggregate and the Warrant Price shall be correspondingly adjusted, as appropriate, by the Board of Directors of the Company. The adjustment shall be such as will give the Holder of this Warrant upon exercise for the same aggregate Warrant Price the total number, class and kind of shares as he would have owned had the Warrant been exercised prior to the event and had he continued to hold such shares until after the event requiring adjustment.

8. Notice of Adjustments. Whenever any Warrant Price shall be adjusted pursuant to Section 7 hereof, the Company shall prepare a certificate signed by its chief financial officer setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated, and the Warrant Price and number of shares issuable upon exercise of the Warrant after giving effect to such adjustment, and shall cause copies of such certificate to be mailed (by certified or registered mail, return receipt required, postage prepaid) within thirty (30) days of such adjustment to the Holder of this Warrant as set forth in Section 19 hereof.

9. Registration Rights. In accordance with Section 3.9 of the Investor Rights Agreement dated December 1995 between the Company and certain holders of its securities (a copy of which is attached as Exhibit A hereto), the Company hereby grants registration rights to any Holder in accordance with the provisions of the said Investors Rights Agreement and, upon execution of a signature page to such Investor Rights Agreement, such Holder shall be considered an Investor for all purposes of such Investor Rights Agreement and the Shares purchasable under this Warrant shall be considered Registrable Securities for all purposes of such Investor Rights Agreement.

10. "Market Stand-Off' Agreement. Holder hereby agrees that for a period of 180 days following the effective date of the first registration statement of the Company covering Common Stock (or other securities) to be sold on its behalf in an underwritten public offering, it will not, to the extent requested by the Company and any underwriter, sell or otherwise transfer or dispose of (other than to donees or transferees who agree to be similarly bound) any of the Shares at any time during such period except common stock included in such registration; provided, however, that all officers and directors of the Company who hold securities of the Company or options to acquire securities of the Company and all other persons with registration rights enter into similar agreements.

11. Transferability of Warrant. This Warrant is transferable on the books of the Company at its principal office by the registered Holder hereof upon surrender of this Warrant properly endorsed, subject to compliance with applicable federal and state securities laws. The Company shall issue and deliver to the transferee a new Warrant representing the Warrant so transferred. Upon any partial transfer, the Company will issue and deliver to Holder a new Warrant with respect to the Warrant not so transferred. Holder shall not have any right to transfer any portion of this Warrant to any direct competitor of the Company.

12. No Fractional Shares. No fractional share of Common Stock will be issued in connection with any exercise hereunder, but in lieu of such fractional share the Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

13. Charges, Taxes and Expenses. Issuance of certificates for shares of Common Stock upon the exercise of this Warrant shall be made without charge to the Holder for any United States or state of the United States documentary stamp tax or other incidental expense in respect of the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder.

14. No Shareholder Rights Until Exercise.

(a) This Warrant does not entitle the Holder hereof to any voting rights or other rights as a shareholder of the Company prior to the exercise hereof.

(b) Notwithstanding Section 14(a) hereof, as a courtesy to the registered Holder and in order to enable the registered Holder to make informed decisions regarding the possible exercise of this Warrant from time to time, the Company agrees, upon written request by the registered Holder to the chief financial officer of the Company from time to time (but not more often than twice in any twelve-(12)-month period) to provide to the registered Holder copies of the following documents within a reasonable time after such request (but in all events only to the extent that, and no sooner than the time that, such documents have been distributed or made available to all the Company's shareholders), subject to the provisions of Section 14(c) hereof;

(i) the Company's most recent audited annual financial statements or, if audited statements are not available, then the Company's unaudited annual financial statements as of the end of the Company's most recently ended fiscal year;

(ii) unaudited quarterly financial statements for each quarter of the Company's fiscal year since the date of the annual financial statements delivered pursuant to subparagraph (i) above; and

(iii) any other reports, proxy statements or notices distributed to holders of the Company's Common Stock within the last twelve (12) months preceding such request (or within the period since the last such request by the registered Holder, whichever is shorter).

(c) During any period in which the Company has outstanding a class of publicly-traded securities or is for any other reason a reporting company under the Securities Exchange Act of 1934, it shall be sufficient compliance with any information request from the registered Holder pursuant to Section 14(b) above for the Company to provide copies of its most recent Form 10-K and annual report, any Form 10-Q, and any proxy statements or other publicly distributed shareholder materials as described in Section 14(b)(iii) above.

15. Registry of Warrant. The Company shall maintain a registry showing the name and address of the registered Holder of this Warrant. This Warrant may be surrendered for exchange or exercise, in accordance with its terms, at such office or agency of the Company, and the Company and Holder shall be entitled to rely in all respects, prior to written notice to the contrary, upon such registry.

16. Loss, Theft, Destruction or Mutilation of Warrant. Upon receipt by the Company of evidence reasonably satisfactory to it (such as an affidavit of the registered Holder) of the kiss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft, or destruction, of indemnity reasonably satisfactory to it, and, if mutilated, upon surrender and cancellation of this Warrant, the Company will execute and deliver a new Warrant, having terms and conditions substantially identical to this Warrant, in lieu hereof.

17. Miscellaneous.

(a) Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by the Company on the date hereof.

(b) Successors. This Warrant shall be binding upon any successors or assigns of the Company.

(c) Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of California.

(d) Headings. The headings used in this Warrant are used for convenience only and are not to be considered in construing or interpreting this Warrant.

(e) Saturdays, Sundays, Holidays. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday or a Sunday or shall be a legal holiday in the State of California, then such

action may be taken or such right may be exercised on the next succeeding day not a legal holiday.

18. No Impairment. The Company will not, by amendment of its Articles of Incorporation or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Holder hereof against impairment.

19. Addresses. Any notice required or permitted hereunder shall be in writing and shall be mailed by registered or certified mail, return receipt required, and postage pre-paid, or otherwise delivered by hand or by messenger or overnight courier, addressed as set forth below, or at such other address as the Company or the Holder hereof shall have furnished to the other party.

If to the Company: FibroGen
225 Gateway Boulevard
So. San Francisco, CA 94080
Attn: President

If to the Holder: Bristow Investments, L.P.
c/o Britannia Gateway II, LLC
1939 Harrison Street, Suite 715
Oakland, California 94612

20. Conversion Right. In addition to and without limiting the rights of the registered Holder under any other terms set forth herein, the registered Holder shall have the right at any time during the term of this Warrant, in lieu of exercising this Warrant in accordance with Section 3 hereof, to convert this Warrant in whole or in part into the number of Shares of Common Stock of the Company equal to the quotient of (a) the aggregate fair market value on the date of such conversion of the number of Shares as to which the registered Holder wishes to effect such conversion minus the aggregate Warrant Price for such Shares, divided by (b) the fair market value on the date of such conversion of one Share. For purposes of this Section 20, the fair market value of a share shall be determined as follows: (i) if the class of stock of which the Shares are a part is listed on a national stock exchange, on the NASDAQ National Market System or on any other over-the-counter market, then the fair market value shall be the closing price per share reported for such class on such national stock exchange or on the NASDAQ National Market System, or the average of the final “bid” and “asked” prices reported on such over-the-counter market, at the close of business on the date of such conversion, as reported in the Wall Street Journal (subject to adjustment to reflect any adjustments in the Warrant Price subsequent to the date of this Warrant pursuant to Section 7 hereof or otherwise); and (ii) if the class of stock of which the Shares are a part is not listed on a

national stock exchange, on the NASDAQ National Market System or on any other over-the-counter market, then the Board of Directors of the Company shall determine the fair market value of the Shares in its reasonable good faith judgment, and shall (upon written request by the registered Holder) advise the registered Holder of such determination prior to any decision by the registered Holder to exercise such conversion right.

21. Notice of Certain Actions. If at any time the Company proposes:

(a) To declare any dividend, whether payable in cash or in stock or other property, upon its Common Stock or upon any other class of its securities purchasable upon exercise of this Warrant, or to make any other special dividend or distribution to the holders of its Common Stock or to the holders of any other class of its securities purchasable upon exercise of this Warrant;

(b) To offer for subscription prorata to the holders of its Common Stock or to the holders of any other class of its securities purchasable upon exercise of this Warrant any additional shares of stock of any class or any other rights;

(c) To engage in any capital reorganization or reclassification of the capital stock of the Company, any consolidation or merger involving the Company, or any sale of all or substantially all of the Company's assets in any one transaction or series of related transaction; or

(d) To engage in a voluntary or involuntary dissolution, liquidation or winding-up of the Company;

then, in each of such cases, the Company shall give written notice to the registered Holder in accordance with Section 19 hereof, specifying, as the case may be, (i) in the case of a proposed dividend, distribution, subscription or other right, the date on which the books of the Company shall close or a record shall be taken for the purpose thereof, the amount, character and terms thereof, and the date on which it is proposed that the dividend, distribution, subscription or other right will be distributed, and (ii) in case of a proposed reorganization, reclassification, consolidation, merger, sale, dissolution, liquidation or winding-up, the date (if any) on which the books of the Company shall close or a record shall be taken for the purpose of the proposed event, the character and terms of the proposed event, the effective date on which such proposed event is to take place, and the date on which the holders of the applicable class of securities of the Company shall be entitled to exchange their shares for securities or other property deliverable upon such event. Such notice shall be given at least twenty (20) days prior to the record date or proposed effective date, whichever is earlier, for the event specified in the notice, and the registered Holder shall use its best efforts to respond to such notice as promptly as reasonably possible after the receipt thereof.

22. Certain Other Adjustment Events. If any change in the shares of the class of the Company's securities purchasable upon exercise of this Warrant or any other event occurs as to which the provisions of Section 7 hereof are not strictly applicable or, if strictly applicable, would not fairly protect the reasonable expectations of the registered Holder with respect to its purchase rights under this Warrant, then the Company shall make an adjustment in the number and class of shares purchasable under this Warrant, the Warrant Price and/or the other terms and provisions of this Warrant so as to protect such reasonable expectations of the registered Holder by giving such Holder, upon exercise of this Warrant for the same aggregate Warrant Price payable for full exercise of this Warrant prior to such event, the total number, class and kind of share (or the closest then available equivalent thereto) as such Holder would have owned had this Warrant been exercised prior to such event and had such Holder continued to hold such shares until after the event requiring such adjustment.

23. Attorneys' Fees. In any litigation, arbitration or other legal proceeding between the Company and the registered Holder relating to or arising out of this Warrant, the prevailing party shall be entitled to recover all its fees, costs and expenses incurred in connection with such proceeding, including (but not limited to) reasonable fees and expenses of attorneys and accountants and including (but not limited to) all such fees, costs and expenses incurred in connection with any appeals and/or in connection with the enforcement of any judgment or award rendered in such proceeding.

IN WITNESS WHEREOF, FibroGen, Inc. has caused this Warrant to be executed by its officers thereunto duly authorized.

Dated as of February 8, 2000.

FIBROGEN, INC.

By: /s/ Thomas B. Neff

Title: President and Chief Executive Officer

NOTICE OF EXERCISE

TO: FibroGen, Inc.

1. The undersigned Warrantholder ("Holder") elects to acquire shares of the Common Stock of FibroGen, Inc. (the "Company"), pursuant to the terms of the Warrant dated February 8, 2000 (the "Warrant").

2. The Holder exercises its rights under the Warrant as set forth below:

   ( ) The Holder elects to purchase _____ shares of Common Stock and tenders herewith a check in the amount of $____ as payment of the Warrant Price.

   ( ) The Holder elects to convert the purchase rights for _____ shares into shares of Common Stock as provided in Section 20 of the Warrant.

3. The Holder surrenders the Warrant with this Notice of Exercise.

4. The Holder represents that it is acquiring the aforesaid shares of Common Stock for investment and not with a view to, or for resale in connection with, distribution and that the Holder has no present intention of distributing or reselling the shares.

5. Please issue a certificate representing the shares of Common Stock in the name of the Holder or in such other name as is specified below and, if this is less than a full exercise of the Warrant, issue a replacement Warrant for the balance of the shares purchasable under the Warrant surrendered herewith:

   Name:

   Address:

   Taxpayer I.D.:

_____
(Holder)

By: _____
Title: _____
Date: _____

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AS AMENDED. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER SAID ACT OR WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR THE HOLDER, SATISFACTORY TO THE COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

WARRANT TO PURCHASE 2,769 SHARES OF COMMON STOCK

February 8, 2000

THIS CERTIFIES THAT, for value received, Laurence S. Shushan and Magdalena Shushan, Trustees of The Laurence and Magdalena Shushan Family Trust under Agreement dated October 8, 1997, ("Holder") is entitled to subscribe for and purchase Two Thousand Seven Hundred Sixty-Nine (2,769) shares of the fully paid and nonassessable Common Stock ("the Shares") of FIBROGEN, INC., a Delaware corporation (the "Company"), at the Warrant Price (as hereinafter defined), subject to the provisions and upon the terms and conditions hereinafter set forth. As used herein, the term "Common Stock" shall mean the Company's presently authorized Common Stock, and any stock into which such Common Stock may hereafter be exchanged.

1. Warrant Price. The Warrant Price shall initially be Six Dollars ($6.00) per share, subject to adjustment as provided in Section 7 below.

2. Conditions to Exercise. The purchase right represented by this Warrant may be exercised at any time, or from time to time, in whole or in part during the term commencing on the date hereof and ending on the earlier of:

(a) 5:00 P.M. California time on the fifth annual anniversary of the effective date of the first registration statement of the Company under the Securities Act of 1933 covering Common Stock, or

(b) the effective date of the merger of the Company with or into, the consolidation of the Company with, or the sale by the Company of all or substantially all of its assets (in any one transaction or series of related transactions) to another corporation or other entity (other than such a transaction wherein the shareholders of the Company retain or obtain a majority of the voting capital stock of the surviving, resulting, or purchasing corporation); provided that the Company shall notify the registered Holder of this Warrant of the proposed effective date of the merger, consolidation, or sale at least 60 days prior to the effectiveness thereof.

In the event that, although the Company shall have given notice of a transaction pursuant to subparagraph (b) hereof, the transaction does not close on approximately the day specified by the Company, unless otherwise elected by the Holder any exercise of the Warrant subsequent to the giving of such notice shall be rescinded and the Warrant shall again be exercisable until terminated in accordance with this Paragraph 2.

3. Method of Exercise: Payment: Issuance of Shares: Issuance of New Warrant.

Subject to Section 2 hereof, the purchase right represented by this Warrant may be exercised by the Holder hereof, in whole or in part, by the surrender of this Warrant (with a duly executed Notice of Exercise in the form attached hereto) at the principal office of the Company (as set forth in Section 19 below) and by payment to the Company, by check, of an amount equal to the then applicable Warrant Price per share multiplied by the number of shares then being purchased. In the event of any exercise of the rights represented by this Warrant, certificates for the shares of stock so purchased shall be in the name of; and delivered to, the Holder hereof, or as such Holder may direct (subject to the terms of transfer contained herein and upon payment by such Holder hereof of any applicable transfer taxes). Such delivery shall be made within 10 days after exercise of the Warrant and at the Company's expense and, unless this Warrant has been fully exercised or expired, a new Warrant having terms and conditions substantially identical to this Warrant, dated as of the same date as this Warrant, and representing the portion of the Shares, if any, with respect to which this Warrant shall not have been exercised, shall also be issued to the Holder hereof within 10 days after exercise of the Warrant.

4. Representations and Warranties of Holder and Restrictions on Transfer Imposed by the Securities Act of 1933.

(a) Representations and Warranties by Holder. The Holder represents and warrants to the Company with respect to this purchase as follows:

(i) The Holder has substantial experience in evaluating and investing in private placement transactions of securities of companies similar to the Company so that the Holder is capable of evaluating the merits and risks of its investment in the Company and has the capacity to protect its interests.

(ii) The Holder is acquiring the Warrant and the Shares of Common Stock issuable upon exercise of the Warrant (collectively the "Securities") for investment for its own account and not with a view to, or for resale in connection with, any distribution thereof. The Holder understands that the Securities have not been registered under the Act by reason of a specific exemption from the registration provisions of the Act which depends upon, among other things, the bona fide nature of the investment intent as expressed herein. In this connection, the Holder understands

that, in the view of the Securities and Exchange Commission (the "SEC"), the statutory basis for such exemption may be unavailable if this representation was predicated solely upon a present intention to hold the Securities for the minimum capital gains period specified under tax statutes, for a deferred sale, for or until an increase or decrease in the market price of the Securities or for a period of less than one year or any other fixed period in the future.

(iii) The Holder acknowledges that the Securities must be held indefinitely unless subsequently registered under the Act or an exemption from such registration is available. The Holder is aware of the provisions of Rule 144 promulgated under the Act ("Rule 144") which permits limited resale of securities purchased in a private placement subject to the satisfaction of certain conditions, including, in case the securities have been held for less than two years, the existence of a public market for the shares, the availability of certain public information about the Company, the resale occurring not less than one year after a party has purchased and paid for the security to be sold, the sale being through a "broker's transaction" or in a transaction directly with a "market maker" (as provided by Rule 144(f)) and the number of shares or other securities being sold during any three-month period not exceeding specified limitations.

(iv) The Holder further understands that at the time the Holder wishes to sell the Securities there may be no public market upon which such a sale may be effected, and that even if such a public market exists, the Company may not be satisfying the current public information requirements of Rule 144, and that in such event, the Holder may be precluded from selling the Securities under Rule 144 unless a) a minimum holding period has been satisfied and b) the Holder was not at the time of the sale nor at any time during the three-month period prior to such sale an affiliate of the Company.

(v) The Holder has had an opportunity to discuss the Company's business, management and financial affairs with its management and an opportunity to review the Company's facilities. The Holder understands that such discussions, as well as the written information issued by the Company, were intended to describe the aspects of the Company's business and prospects which it believes to be material but were not necessarily a thorough or exhaustive description.

(b) Legends. Each certificate representing the Securities shall be endorsed with the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND MAY NOT BE TRANSFERRED UNLESS COVERED BY AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT, A "NO ACTION" LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION WITH RESPECT TO SUCH TRANSFER, A TRANSFER MEETING THE

REQUIREMENTS OF RULE 144 OF THE SECURITIES AND EXCHANGE COMMISSION, OR AN OPINION OF COUNSEL SATISFACTORY TO THE ISSUER TO THE EFFECT THAT ANY SUCH TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

The Company need not register a transfer of Securities unless the conditions specified in the foregoing legend are satisfied. The Company may also instruct its transfer agent not to register the transfer of any of the Shares unless the conditions specified in the foregoing legend are satisfied.

(c) Removal of Legend and Transfer Restrictions. The legend relating to the Act endorsed on a certificate pursuant to paragraph 4(b) of this Warrant and the stop transfer instructions with respect to the Securities represented by such certificate shall be removed and the Company shall issue a certificate without such legend to the Holder of the Securities if (i) the Securities are registered under the Act and a prospectus meeting the requirements of Section 10 of the Act is available or (ii) the Holder provides to the Company an opinion of counsel for the Holder reasonably satisfactory to the Company, or a no-action letter or interpretive opinion of the staff of the SEC reasonably satisfactory to the Company, to the effect that public sale, transfer or assignment of the Securities may be effected without registration and without compliance with any restriction such as Rule 144.

5. Condition of Transfer or Exercise of Warrant. It shall be a condition to any transfer or exercise of this Warrant that at the time of such transfer or exercise, the Holder shall provide the Company with a representation in writing that the Holder or transferee is acquiring this Warrant and the shares of Common Stock to be issued upon exercise, for investment purposes only and not with a view to any sale or distribution, or a statement of pertinent facts covering any proposed distribution. As a further condition to any transfer of this Warrant or any or all of the shares of Common Stock issuable upon exercise of this Warrant, other than a transfer registered under the Act, the Company must have received a legal opinion, in form and substance satisfactory to the Company and its counsel, reciting the pertinent circumstances surrounding the proposed transfer and stating that such transfer is exempt from the registration and prospectus delivery requirements of the Act. Each certificate evidencing the shares issued upon exercise of the Warrant or upon any transfer of the shares (other than a transfer registered under the Act or any subsequent transfer of shares so registered) shall, at the Company's option, contain a legend in form and substance satisfactory to the Company and its counsel, restricting the transfer of the shares to sales or other dispositions exempt from the requirements of the Act.

As further condition to each transfer, the transferee shall receive and accept a Warrant, of like tenor and date, executed by the Company.

6. Stock Fully Paid: Reservation of Shares. All Shares which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be fully paid and nonassessable, and free from all taxes, liens, and charges with respect to the issue thereof. During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for issuance upon exercise of the purchase rights evidenced by this Warrant, a sufficient number of shares of its Common Stock to provide for the exercise of the rights represented by this Warrant.

7. Adjustment for Certain Events. In the event of changes in the outstanding Common Stock by reason of stock dividends, split-ups, recapitalizations, reclassifications, mergers, consolidations, combinations or exchanges of shares, separations, reorganizations, liquidations, or the like, the number and class of shares available under the Warrant in the aggregate and the Warrant Price shall be correspondingly adjusted, as appropriate, by the Board of Directors of the Company. The adjustment shall be such as will give the Holder of this Warrant upon exercise for the same aggregate Warrant Price the total number, class and kind of shares as he would have owned had the Warrant been exercised prior to the event and had he continued to hold such shares until after the event requiring adjustment.

8. Notice of Adjustments. Whenever any Warrant Price shall be adjusted pursuant to Section 7 hereof, the Company shall prepare a certificate signed by its chief financial officer setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated, and the Warrant Price and number of shares issuable upon exercise of the Warrant after giving effect to such adjustment, and shall cause copies of such certificate to be mailed (by certified or registered mail, return receipt required, postage prepaid) within thirty (30) days of such adjustment to the Holder of this Warrant as set forth in Section 19 hereof.

9. Registration Rights. In accordance with Section 3.9 of the Investor Rights Agreement dated December 1995 between the Company and certain holders of its securities (a copy of which is attached as Exhibit A hereto), the Company hereby grants registration rights to any Holder in accordance with the provisions of the said Investors Rights Agreement and, upon execution of a signature page to such Investor Rights Agreement, such Holder shall be considered an Investor for all purposes of such Investor Rights Agreement and the Shares purchasable under this Warrant shall be considered Registrable Securities for all purposes of such Investor Rights Agreement.

10. "Market Stand-Off' Agreement. Holder hereby agrees that for a period of 180 days following the effective date of the first registration statement of the Company covering Common Stock (or other securities) to be sold on its behalf in an underwritten public offering, it will not, to the extent requested by the Company and any underwriter, sell or otherwise transfer or dispose of (other than to donees or transferees who agree to be similarly bound) any of the Shares at any time during such period except common

stock included in such registration; provided, however, that all officers and directors of the Company who hold securities of the Company or options to acquire securities of the Company and all other persons with registration rights enter into similar agreements.

11. Transferability of Warrant. This Warrant is transferable on the books of the Company at its principal office by the registered Holder hereof upon surrender of this Warrant properly endorsed, subject to compliance with applicable federal and state securities laws. The Company shall issue and deliver to the transferee a new Warrant representing the Warrant so transferred. Upon any partial transfer, the Company will issue and deliver to Holder a new Warrant with respect to the Warrant not so transferred. Holder shall not have any right to transfer any portion of this Warrant to any direct competitor of the Company.

12. No Fractional Shares. No fractional share of Common Stock will be issued in connection with any exercise hereunder, but in lieu of such fractional share the Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

13. Charges, Taxes and Expenses. Issuance of certificates for shares of Common Stock upon the exercise of this Warrant shall be made without charge to the Holder for any United States or state of the United States documentary stamp tax or other incidental expense in respect of the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder.

14. No Shareholder Rights Until Exercise.

(a) This Warrant does not entitle the Holder hereof to any voting rights or other rights as a shareholder of the Company prior to the exercise hereof.

(b) Notwithstanding Section 14(a) hereof, as a courtesy to the registered Holder and in order to enable the registered Holder to make informed decisions regarding the possible exercise of this Warrant from time to time, the Company agrees, upon written request by the registered Holder to the chief financial officer of the Company from time to time (but not more often than twice in any twelve-(12)-month period) to provide to the registered Holder copies of the following documents within a reasonable time after such request (but in all events only to the extent that, and no sooner than the time that, such documents have been distributed or made available to all the Company's shareholders), subject to the provisions of Section 14(c) hereof;

(i) the Company's most recent audited annual financial statements or, if audited statements are not available, then the Company's unaudited annual financial statements as of the end of the Company's most recently ended fiscal year;

(ii) unaudited quarterly financial statements for each quarter of the Company's fiscal year since the date of the annual financial statements delivered pursuant to subparagraph (i) above; and

(iii) any other reports, proxy statements or notices distributed to holders of the Company's Common Stock within the last twelve (12) months preceding such request (or within the period since the last such request by the registered Holder, whichever is shorter).

(c) During any period in which the Company has outstanding a class of publicly-traded securities or is for any other reason a reporting company under the Securities Exchange Act of 1934, it shall be sufficient compliance with any information request from the registered Holder pursuant to Section 14(b) above for the Company to provide copies of its most recent Form 10-K and annual report, any Form 10-Q, and any proxy statements or other publicly distributed shareholder materials as described in Section 14(b)(iii) above.

15. Registry of Warrant. The Company shall maintain a registry showing the name and address of the registered Holder of this Warrant. This Warrant may be surrendered for exchange or exercise, in accordance with its terms, at such office or agency of the Company, and the Company and Holder shall be entitled to rely in all respects, prior to written notice to the contrary, upon such registry.

16. Loss, Theft, Destruction or Mutilation of Warrant. Upon receipt by the Company of evidence reasonably satisfactory to it (such as an affidavit or the registered Holder) of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft, or destruction, of indemnity reasonably satisfactory to it, and, if mutilated, upon surrender and cancellation of this Warrant, the Company will execute and deliver a new Warrant, having terms and conditions substantially identical to this Warrant, in lieu hereof.

17. Miscellaneous.

(a) Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by the Company on the date hereof.

(b) Successors. This Warrant shall be binding upon any successors or assigns of the Company.

(c) Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of California.

(d) Headings. The headings used in this Warrant are used for convenience only and are not to be considered in construing or interpreting this Warrant.

(e) Saturdays, Sundays, Holidays. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday or a Sunday or shall be a legal holiday in the State of California, then such action may be taken or such right may be exercised on the next succeeding day not a legal holiday.

18. No Impairment. The Company will not, by amendment of its Articles of Incorporation or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Holder hereof against impairment.

19. Addresses. Any notice required or permitted hereunder shall be in writing and shall be mailed by registered or certified mail, return receipt required, and postage pre-paid, or otherwise delivered by hand or by messenger or overnight courier, addressed as set forth below, or at such other address as the Company or the Holder hereof shall have furnished to the other party.

If to the Company:	FibroGen 225 Gateway Boulevard So. San Francisco, CA 94080 Attn: President
If to the Holder:	Laurence S. Shushan and Magdalena Shushan Trustees of The Laurence S. Shushan and Magdalena Shushan Family Trust c/o Britannia Gateway II, LLC 1939 Harrison Street, Suite 715 Oakland, California 94612

20. Conversion Right. In addition to and without limiting the rights of the registered Holder under any other terms set forth herein, the registered Holder shall have the right at any time during the term of this Warrant, in lieu of exercising this Warrant in accordance with Section 3 hereof; to convert this Warrant in whole or in part into the number of Shares of Common Stock of the Company equal to the quotient of (a) the aggregate fair market value on the date of such conversion of the number of Shares as to which the registered Holder wishes to effect such conversion minus the aggregate Warrant Price for such Shares, divided by (b) the fair market value on the date of such conversion of one Share. For purposes of this Section 20, the fair market value of a share shall be determined as follows: (i) if the class of stock of which the Shares are a part is listed on a national stock exchange, on the NASDAQ National Market System or on any other over-the-counter market, then the fair market value shall be the closing price per share reported for such class on such national stock exchange or on the NASDAQ

National Market System, or the average of the final "bid" and "asked" prices reported on such over-the-counter market, at the close of business on the date of such conversion, as reported in the Wall Street Journal (subject to adjustment to reflect any adjustments in the Warrant Price subsequent to the date of this Warrant pursuant to Section 7 hereof or otherwise); and (ii) if the class of stock of which the Shares are a part is not listed on a national stock exchange, on the NASDAQ National Market System or on any other over-the-counter market, then the Board of Directors of the Company shall determine the fair market value of the Shares in its reasonable good faith judgment, and shall (upon written request by the registered Holder) advise the registered Holder of such determination prior to any decision by the registered Holder to exercise such conversion right.

21. Notice of Certain Actions. If at any time the Company proposes:

(a) To declare any dividend, whether payable in cash or in stock or other property, upon its Common Stock or upon any other class of its securities purchasable upon exercise of this Warrant, or to make any other special dividend or distribution to the holders of its Common Stock or to the holders of any other class of its securities purchasable upon exercise of this Warrant;

(b) To offer for subscription prorata to the holders of its Common Stock or to the holders of any other class of its securities purchasable upon exercise of this Warrant any additional shares of stock of any class or any other rights;

(c) To engage in any capital reorganization or reclassification of the capital stock of the Company, any consolidation or merger involving the Company, or any sale of all or substantially all of the Company's assets in any one transaction or series of related transaction; or

(d) To engage in a voluntary or involuntary dissolution, liquidation or winding-up of the Company;

then, in each of such cases, the Company shall give written notice to the registered Holder in accordance with Section 19 hereof, specifying, as the case may be, (i) in the case of a proposed dividend, distribution, subscription or other right, the date on which the books of the Company shall close or a record shall be taken for the purpose thereof, the amount, character and terms thereof, and the date on which it is proposed that the dividend, distribution, subscription or other right will be distributed, and (ii) in case of a proposed reorganization, reclassification, consolidation, merger, sale, dissolution, liquidation or winding-up, the date (if any) on which the books of the Company shall close or a record shall be taken for the purpose of the proposed event, the character and terms of the proposed event, the effective date on which such proposed event is to take place, and the date on which the holders of the applicable class of securities of the Company shall be entitled to exchange their shares for securities or other property deliverable upon such event. Such notice shall be given at least twenty (20) days prior to

the record date or proposed effective date, whichever is earlier, for the event specified in the notice, and the registered Holder shall use its best efforts to respond to such notice as promptly as reasonably possible after the receipt thereof.

22. Certain Other Adjustment Events. If any change in the shares of the class of the Company's securities purchasable upon exercise of this Warrant or any other event occurs as to which the provisions of Section 7 hereof are not strictly applicable or, if strictly applicable, would not fairly protect the reasonable expectations of the registered Holder with respect to its purchase rights under this Warrant, then the Company shall make an adjustment in the number and class of shares purchasable under this Warrant, the Warrant Price and/or the other terms and provisions of this Warrant so as to protect such reasonable expectations of the registered Holder by giving such Holder, upon exercise of this Warrant for the same aggregate Warrant Price payable for full exercise of this Warrant prior to such event, the total number, class and kind of share (or the closest then available equivalent thereto) as such Holder would have owned had this Warrant been exercised prior to such event and had such Holder continued to hold such shares until after the event requiring such adjustment.

23. Attorneys' Fees. In any litigation, arbitration or other legal proceeding between the Company and the registered Holder relating to or arising out of this Warrant, the prevailing party shall be entitled to recover all its fees, costs and expenses incurred in connection with such proceeding, including (but not limited to) reasonable fees and expenses of attorneys and accountants and including (but not limited to) all such fees, costs and expenses incurred in connection with any appeals and/or in connection with the enforcement of any judgment or award rendered in such proceeding.

IN WITNESS WHEREOF, FibroGen, Inc. has caused this Warrant to be executed by its officers thereunto duly authorized.

Dated as of February 8, 2000.

FIBROGEN, INC.

By: /s/ Thomas B. Neff

Title: President and Chief Executive Officer

NOTICE OF EXERCISE

TO: FibroGen, Inc.

1. The undersigned Warrantholder ("Holder") elects to acquire shares of the Common Stock of FibroGen, Inc. (the "Company"), pursuant to the terms of the Warrant dated February 8, 2000 (the "Warrant").

2. The Holder exercises its rights under the Warrant as set forth below:

   ( ) The Holder elects to purchase _____ shares of Common Stock and tenders herewith a check in the amount of $____ as payment of the Warrant Price.

   ( ) The Holder elects to convert the purchase rights for _____ shares into shares of Common Stock as provided in Section 20 of the Warrant.

3. The Holder surrenders the Warrant with this Notice of Exercise.

4. The Holder represents that it is acquiring the aforesaid shares of Common Stock for investment and not with a view to, or for resale in connection with, distribution and that the Holder has no present intention of distributing or reselling the shares.

5. Please issue a certificate representing the shares of Common Stock in the name of the Holder or in such other name as is specified below and, if this is less than a full exercise of the Warrant, issue a replacement Warrant for the balance of the shares purchasable under the Warrant surrendered herewith:

   Name:

   Address:

   Taxpayer I.D.:

_____
(Holder)

By: _____
Title: _____
Date: _____

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AS AMENDED. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER SAID ACT OR WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR THE HOLDER, SATISFACTORY TO THE COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

WARRANT TO PURCHASE 124,605 SHARES OF COMMON STOCK

February 8, 2000

THIS CERTIFIES THAT, for value received, Slough Estates USA Inc., a Delaware corporation, ("Holder") is entitled to subscribe for and purchase One Hundred Twenty-Four Thousand Six Hundred and Five (124,605) shares of the fully paid and nonassessable Common Stock ("the Shares") of FIBROGEN, INC., a Delaware corporation (the "Company"), at the Warrant Price (as hereinafter defined), subject to the provisions and upon the terms and conditions hereinafter set forth. As used herein, the term "Common Stock" shall mean the Company's presently authorized Common Stock, and any stock into which such Common Stock may hereafter be exchanged.

1. Warrant Price. The Warrant Price shall initially be Six Dollars ($6.00) per share, subject to adjustment as provided in Section 7 below.

2. Conditions to Exercise. The purchase right represented by this Warrant may be exercised at any time, or from time to time, in whole or in part during the term commencing on the date hereof and ending on the earlier of:

(a) 5:00 P.M. California time on the fifth annual anniversary of the effective date of the first registration statement of the Company under the Securities Act of 1933 covering Common Stock, or

(b) the effective date of the merger of the Company with or into, the consolidation of the Company with, or the sale by the Company of all or substantially all of its assets (in any one transaction or series of related transactions) to another corporation or other entity (other than such a transaction wherein the shareholders of the Company retain or obtain a majority of the voting capital stock of the surviving, resulting, or purchasing corporation); provided that the Company shall notify the registered Holder of this Warrant of the proposed effective date of the merger, consolidation, or sale at least 60 days prior to the effectiveness thereof.

In the event that, although the Company shall have given notice of a transaction pursuant to subparagraph (b) hereof, the transaction does not close on approximately the

day specified by the Company, unless otherwise elected by the Holder any exercise of the Warrant subsequent to the giving of such notice shall be rescinded and the Warrant shall again be exercisable until terminated in accordance with this Paragraph 2.

3. Method of Exercise: Payment: Issuance of Shares: Issuance of New Warrant.

Subject to Section 2 hereof, the purchase right represented by this Warrant may be exercised by the Holder hereof, in whole or in part, by the surrender of this Warrant (with a duly executed Notice of Exercise in the form attached hereto) at the principal office of the Company (as set forth in Section 19 below) and by payment to the Company, by check, of an amount equal to the then applicable Warrant Price per share multiplied by the number of shares then being purchased. In the event of any exercise of the rights represented by this Warrant, certificates for the shares of stock so purchased shall be in the name of, and delivered to, the Holder hereof, or as such Holder may direct (subject to the terms of transfer contained herein and upon payment by such Holder hereof of any applicable transfer taxes). Such delivery shall be made within 10 days after exercise of the Warrant and at the Company's expense and, unless this Warrant has been fully exercised or expired, a new Warrant having terms and conditions substantially identical to this Warrant, dated as of the same date as this Warrant, and representing the portion of the Shares, if any, with respect to which this Warrant shall not have been exercised, shall also be issued to the Holder hereof within 10 days after exercise of the Warrant.

4. Representations and Warranties of Holder and Restrictions on Transfer Imposed by the Securities Act of 1933.

(a) Representations and Warranties by Holder. The Holder represents and warrants to the Company with respect to this purchase as follows:

(i) The Holder has substantial experience in evaluating and investing in private placement transactions of securities of companies similar to the Company so that the Holder is capable of evaluating the merits and risks of its investment in the Company and has the capacity to protect its interests.

(ii) The Holder is acquiring the Warrant and the Shares of Common Stock issuable upon exercise of the Warrant (collectively the "Securities") for investment for its own account and not with a view to, or for resale in connection with, any distribution thereof. The Holder understands that the Securities have not been registered under the Act by reason of a specific exemption from the registration provisions of the Act which depends upon, among other things, the bona fide nature of the investment intent as expressed herein. In this connection, the Holder understands that, in the view of the Securities and Exchange Commission (the "SEC"), the statutory basis for such exemption may be unavailable if this representation was predicated solely

upon a present intention to hold the Securities for the minimum capital gains period specified under tax statutes, for a deferred sale, for or until an increase or decrease in the market price of the Securities or for a period of less than one year or any other fixed period in the future.

(iii) The Holder acknowledges that the Securities must be held indefinitely unless subsequently registered under the Act or an exemption from such registration is available. The Holder is aware of the provisions of Rule 144 promulgated under the Act ("Rule 144") which permits limited resale of securities purchased in a private placement subject to the satisfaction of certain conditions, including, in case the securities have been held for less than two years, the existence of a public market for the shares, the availability of certain public information about the Company, the resale occurring not less than one year after a party has purchased and paid for the security to be sold, the sale being through a "broker's transaction" or in a transaction directly with a "market maker" (as provided by Rule 144(f)) and the number of shares or other securities being sold during any three-month period not exceeding specified limitations.

(iv) The Holder further understands that at the time the Holder wishes to sell the Securities there may be no public market upon which such a sale may be effected, and that even if such a public market exists, the Company may not be satisfying the current public information requirements of Rule 144, and that in such event, the Holder may be precluded from selling the Securities under Rule 144 unless a) a minimum holding period has been satisfied and b) the Holder was not at the time of the sale nor at any time during the three-month period prior to such sale an affiliate of the Company.

(v) The Holder has had an opportunity to discuss the Company's business, management and financial affairs with its management and an opportunity to review the Company's facilities. The Holder understands that such discussions, as well as the written information issued by the Company, were intended to describe the aspects of the Company's business and prospects which it believes to be material but were not necessarily a thorough or exhaustive description.

(b) Legends. Each certificate representing the Securities shall be endorsed with the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND MAY NOT BE TRANSFERRED UNLESS COVERED BY AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT, A "NO ACTION" LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION WITH RESPECT TO SUCH TRANSFER, A TRANSFER MEETING THE REQUIREMENTS OF RULE 144 OF THE SECURITIES AND EXCHANGE COMMISSION, OR AN OPINION OF COUNSEL

SATISFACTORY TO THE ISSUER TO THE EFFECT THAT ANY SUCH TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

The Company need not register a transfer of Securities unless the conditions specified in the foregoing legend are satisfied. The Company may also instruct its transfer agent not to register the transfer of any of the Shares unless the conditions specified in the foregoing legend are satisfied.

(c) Removal of Legend and Transfer Restrictions. The legend relating to the Act endorsed on a certificate pursuant to paragraph 4(b) of this Warrant and the stop transfer instructions with respect to the Securities represented by such certificate shall be removed and the Company shall issue a certificate without such legend to the Holder of the Securities if (i) the Securities are registered under the Act and a prospectus meeting the requirements of Section 10 of the Act is available or (ii) the Holder provides to the Company an opinion of counsel for the Holder reasonably satisfactory to the Company, or a no-action letter or interpretive opinion of the staff of the SEC reasonably satisfactory to the Company, to the effect that public sale, transfer or assignment of the Securities may be effected without registration and without compliance with any restriction such as Rule 144.

5. Condition of Transfer or Exercise of Warrant. It shall be a condition to any transfer or exercise of this Warrant that at the time of such transfer or exercise, the Holder shall provide the Company with a representation in writing that the Holder or transferee is acquiring this Warrant and the shares of Common Stock to be issued upon exercise, for investment purposes only and not with a view to any sale or distribution, or a statement of pertinent facts covering any proposed distribution. As a further condition to any transfer of this Warrant or any or all of the shares of Common Stock issuable upon exercise of this Warrant, other than a transfer registered under the Act, the Company must have received a legal opinion, in form and substance satisfactory to the Company and its counsel, reciting the pertinent circumstances surrounding the proposed transfer and stating that such transfer is exempt from the registration and prospectus delivery requirements of the Act. Each certificate evidencing the shares issued upon exercise of the Warrant or upon any transfer of the shares (other than a transfer registered under the Act or any subsequent transfer of shares so registered) shall, at the Company's option, contain a legend in form and substance satisfactory to the Company and its counsel, restricting the transfer of the shares to sales or other dispositions exempt from the requirements of the Act.

As further condition to each transfer, the transferee shall receive and accept a Warrant, of like tenor and date, executed by the Company.

6. Stock Fully Paid: Reservation of Shares. All Shares which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be fully paid and nonassessable, and free from all taxes, liens, and charges with respect to the

issue thereof. During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for issuance upon exercise of the purchase rights evidenced by this Warrant, a sufficient number of shares of its Common Stock to provide for the exercise of the rights represented by this Warrant.

7. Adjustment for Certain Events. In the event of changes in the outstanding Common Stock by reason of stock dividends, split-ups, recapitalizations, reclassifications, mergers, consolidations, combinations or exchanges of shares, separations, reorganizations, liquidations, or the like, the number and class of shares available under the Warrant in the aggregate and the Warrant Price shall be correspondingly adjusted, as appropriate, by the Board of Directors of the Company. The adjustment shall be such as will give the Holder of this Warrant upon exercise for the same aggregate Warrant Price the total number, class and kind of shares as he would have owned had the Warrant been exercised prior to the event and had he continued to hold such shares until after the event requiring adjustment.

8. Notice of Adjustments. Whenever any Warrant Price shall be adjusted pursuant to Section 7 hereof, the Company shall prepare a certificate signed by its chief financial officer setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated, and the Warrant Price and number of shares issuable upon exercise of the Warrant after giving effect to such adjustment, and shall cause copies of such certificate to be mailed (by certified or registered mail, return receipt required, postage prepaid) within thirty (30) days of such adjustment to the Holder of this Warrant as set forth in Section 19 hereof.

9. Registration Rights. In accordance with Section 3.9 of the Investor Rights Agreement dated December 1995 between the Company and certain holders of its securities (a copy of which is attached as Exhibit A hereto), the Company hereby grants registration rights to any Holder in accordance with the provisions of the said Investors Rights Agreement and, upon execution of a signature page to such Investor Rights Agreement, such Holder shall be considered an Investor for all purposes of such Investor Rights Agreement and the Shares purchasable under this Warrant shall be considered Registrable Securities for all purposes of such Investor Rights Agreement.

10. "Market Stand-Off' Agreement. Holder hereby agrees that for a period of 180 days following the effective date of the first registration statement of the Company covering Common Stock (or other securities) to be sold on its behalf in an underwritten public offering, it will not, to the extent requested by the Company and any underwriter, sell or otherwise transfer or dispose of (other than to donees or transferees who agree to be similarly bound) any of the Shares at any time during such period except common stock included in such registration; provided, however, that all officers and directors of the Company who hold securities of the Company or options to acquire securities of the Company and all other persons with registration rights enter into similar agreements.

11. Transferability of Warrant. This Warrant is transferable on the books of the Company at its principal office by the registered Holder hereof upon surrender of this Warrant properly endorsed, subject to compliance with applicable federal and state securities laws. The Company shall issue and deliver to the transferee a new Warrant representing the Warrant so transferred. Upon any partial transfer, the Company will issue and deliver to Holder a new Warrant with respect to the Warrant not so transferred. Holder shall not have any right to transfer any portion of this Warrant to any direct competitor of the Company.

12. No Fractional Shares. No fractional share of Common Stock will be issued in connection with any exercise hereunder, but in lieu of such fractional share the Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

13. Charges, Taxes and Expenses. Issuance of certificates for shares of Common Stock upon the exercise of this Warrant shall be made without charge to the Holder for any United States or state of the United States documentary stamp tax or other incidental expense in respect of the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder.

14. No Shareholder Rights Until Exercise.

(a) This Warrant does not entitle the Holder hereof to any voting rights or other rights as a shareholder of the Company prior to the exercise hereof.

(b) Notwithstanding Section 14(a) hereof, as a courtesy to the registered Holder and in order to enable the registered Holder to make informed decisions regarding the possible exercise of this Warrant from time to time, the Company agrees, upon written request by the registered Holder to the chief financial officer of the Company from time to time (but not more often than twice in any twelve-(12)-month period) to provide to the registered Holder copies of the following documents within a reasonable time after such request (but in all events only to the extent that, and no sooner than the time that, such documents have been distributed or made available to all the Company's shareholders), subject to the provisions of Section 14(c) hereof;

(i) the Company's most recent audited annual financial statements or, if audited statements are not available, then the Company's unaudited annual financial statements as of the end of the Company's most recently ended fiscal year;

(ii) unaudited quarterly financial statements for each quarter of the Company's fiscal year since the date of the annual financial statements delivered pursuant to subparagraph (i) above; and

(iii) any other reports, proxy statements or notices distributed to holders of the Company's Common Stock within the last twelve (12) months preceding such request (or within the period since the last such request by the registered Holder, whichever is shorter).

(c) During any period in which the Company has outstanding a class of publicly-traded securities or is for any other mason a reporting company under the Securities Exchange Act of 1934, it shall be sufficient compliance with any information request from the registered Holder pursuant to Section 14(b) above for the Company to provide copies of its most recent Form 10-K and annual report, any Form 10-Q, and any proxy statements or other publicly distributed shareholder materials as described in Section 14(b)(iii) above.

15. Registry of Warrant. The Company shall maintain a registry showing the name and address of the registered Holder of this Warrant. This Warrant may be surrendered for exchange or exercise, in accordance with its terms, at such office or agency of the Company, and the Company and Holder shall be entitled to rely in all respects, prior to written notice to the contrary, upon such registry.

16. Loss, Theft, Destruction or Mutilation of Warrant. Upon receipt by the Company of evidence reasonably satisfactory to it (such as an affidavit of the registered Holder) of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft, or destruction, of indemnity reasonably satisfactory to it, and, if mutilated, upon surrender and cancellation of this Warrant, the Company will execute and deliver a new Warrant, having terms and conditions substantially identical to this Warrant, in lieu hereof.

17. Miscellaneous.

(a) Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by the Company on the date hereof.

(b) Successors. This Warrant shall be binding upon any successors or assigns of the Company.

(c) Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of California.

(d) Headings. The headings used in this Warrant are used for convenience only and are not to be considered in construing or interpreting this Warrant.

(e) Saturdays, Sundays, Holidays. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday or a Sunday or shall be a legal holiday in the State of California, then such

action may be taken or such right may be exercised on the next succeeding day not a legal holiday.

18. No Impairment. The Company will not, by amendment of its Articles of Incorporation or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Holder hereof against impairment.

19. Addresses. Any notice required or permitted hereunder shall be in writing and shall be mailed by registered or certified mail, return receipt required, and postage pre-paid, or otherwise delivered by hand or by messenger or overnight courier, addressed as set forth below, or at such other address as the Company or the Holder hereof shall have furnished to the other party.

If to the Company:	FibroGen 225 Gateway Boulevard So. San Francisco, CA 94080 Attn: President
If to the Holder:	Slough Estates USA Inc. c/o Britannia Gateway II, LLC 1939 Harrison Street, Suite 715 Oakland, California 94612

20. Conversion Right. In addition to and without limiting the rights of the registered Holder under any other terms set forth herein, the registered Holder shall have the right at any time during the term of this Warrant, in lieu of exercising this Warrant in accordance with Section 3 hereof, to convert this Warrant in whole or in part into the number of Shares of Common Stock of the Company equal to the quotient of (a) the aggregate fair market value on the date of such conversion of the number of Shares as to which the registered Holder wishes to effect such conversion minus the aggregate Warrant Price for such Shares, divided by (b) the fair market value on the date of such conversion of one Share. For purposes of this Section 20, the fair market value of a share shall be determined as follows: (i) if the class of stock of which the Shares are a part is listed on a national stock exchange, on the NASDAQ National Market System or on any other over-the-counter market, then the fair market value shall be the closing price per share reported for such class on such national stock exchange or on the NASDAQ National Market System, or the average of the final “bid” and “asked” prices reported on such over-the-counter market, at the close of business on the date of such conversion, as reported in the Wall Street Journal (subject to adjustment to reflect any adjustments in the Warrant Price subsequent to the date of this Warrant pursuant to Section 7 hereof or otherwise); and (ii) if the class of stock of which the Shares are a part is not listed on a

national stock exchange, on the NASDAQ National Market System or on any other over-the-counter market, then the Board of Directors of the Company shall determine the fair market value of the Shares in its reasonable good faith judgment, and shall (upon written request by the registered Holder) advise the registered Holder of such determination prior to any decision by the registered Holder to exercise such conversion right.

21. Notice of Certain Actions. If at any time the Company proposes:

(a) To declare any dividend, whether payable in cash or in stock or other property, upon its Common Stock or upon any other class of its securities purchasable upon exercise of this Warrant, or to make any other special dividend or distribution to the holders of its Common Stock or to the holders of any other class of its securities purchasable upon exercise of this Warrant;

(b) To offer for subscription prorata to the holders of its Common Stock or to the holders of any other class of its securities purchasable upon exercise of this Warrant any additional shares of stock of any class or any other rights;

(c) To engage in any capital reorganization or reclassification of the capital stock of the Company, any consolidation or merger involving the Company, or any sale of all or substantially all of the Company's assets in any one transaction or series of related transaction; or

(d) To engage in a voluntary or involuntary dissolution, liquidation or winding-up of the Company;

then, in each of such cases, the Company shall give written notice to the registered Holder in accordance with Section 19 hereof, specifying, as the case may be, (i) in the case of a proposed dividend, distribution, subscription or other right, the date on which the books of the Company shall close or a record shall be taken for the purpose thereof, the amount, character and terms thereof, and the date on which it is proposed that the dividend, distribution, subscription or other right will be distributed, and (ii) in case of a proposed reorganization, reclassification, consolidation, merger, sale, dissolution, liquidation or winding-up, the date (if any) on which the books of the Company shall close or a record shall be taken for the purpose of the proposed event, the character and terms of the proposed event, the effective date on which such proposed event is to take place, and the date on which the holders of the applicable class of securities of the Company shall be entitled to exchange their shares for securities or other property deliverable upon such event. Such notice shall be given at least twenty (20) days prior to the record date or proposed effective date, whichever is earlier, for the event specified in the notice, and the registered Holder shall use its best efforts to respond to such notice as promptly as reasonably possible after the receipt thereof.

22. Certain Other Adjustment Events. If any change in the shares of the class of the Company's securities purchasable upon exercise of this Warrant or any other event occurs as to which the provisions of Section 7 hereof are not strictly applicable or, if strictly applicable, would not fairly protect the reasonable expectations of the registered Holder with respect to its purchase rights under this Warrant, then the Company shall make an adjustment in the number and class of shares purchasable under this Warrant, the Warrant Price and/or the other terms and provisions of this Warrant so as to protect such reasonable expectations of the registered Holder by giving such Holder, upon exercise of this Warrant for the same aggregate Warrant Price payable for full exercise of this Warrant prior to such event, the total number, class and kind of share (or the closest then available equivalent thereto) as such Holder would have owned had this Warrant been exercised prior to such event and had such Holder continued to hold such shares until after the event requiring such adjustment.

23. Attorneys' Fees. In any litigation, arbitration or other legal proceeding between the Company and the registered Holder relating to or arising out of this Warrant, the prevailing party shall be entitled to recover all its fees, costs and expenses incurred in connection with such proceeding, including (but not limited to) reasonable fees and expenses of attorneys and accountants and including (but not limited to) all such fees, costs and expenses incurred in connection with any appeals and/or in connection with the enforcement of any judgment or award rendered in such proceeding.

IN WITNESS WHEREOF, FibroGen, Inc. has caused this Warrant to be executed by its officers thereunto duly authorized.

Dated as of February 8, 2000.

FIBROGEN, INC.

By: /s/ Thomas B. Neff

Title: President and Chief Executive Officer

NOTICE OF EXERCISE

TO: FibroGen, Inc.

1. The undersigned Warrantholder ("Holder") elects to acquire shares of the Common Stock of FibroGen, Inc. (the "Company"), pursuant to the terms of the Warrant dated February 8, 2000 (the "Warrant").

2. The Holder exercises its rights under the Warrant as set forth below:

   ( ) The Holder elects to purchase _____ shares of Common Stock and tenders herewith a check in the amount of $____ as payment of the Warrant Price.

   ( ) The Holder elects to convert the purchase rights for _____ shares into shares of Common Stock as provided in Section 20 of the Warrant.

3. The Holder surrenders the Warrant with this Notice of Exercise.

4. The Holder represents that it is acquiring the aforesaid shares of Common Stock for investment and not with a view to, or for resale in connection with, distribution and that the Holder has no present intention of distributing or reselling the shares.

5. Please issue a certificate representing the shares of Common Stock in the name of the Holder or in such other name as is specified below and, if this is less than a full exercise of the Warrant, issue a replacement Warrant for the balance of the shares purchasable under the Warrant surrendered herewith:

   Name:

   Address:

   Taxpayer I.D.:

_____
(Holder)

By: _____
Title: _____
Date: _____

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

SHAREHOLDERS' AGREEMENT

DATED JULY 11, 2012

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SHAREHOLDERS' AGREEMENT

THIS SHAREHOLDERS' AGREEMENT is made as of the 11th day of July, 2012 (the "Effective Date"), by and among FibroGen China Anemia Holdings, Ltd., a Cayman Islands exempted company limited by shares (the "**Company**"), each of the holders of Series A Preference Shares listed on Schedule I hereto (each of which is referred to in this Agreement as a "**Holder**" and collectively as the "**Holders**") and any other Person that becomes a party to this Agreement in accordance with Section 8.8 hereof.

RECITALS

WHEREAS, the Company and the Holders are parties to the Share Purchase Agreement of even date herewith (the "**Purchase Agreement**"), pursuant to which the Company has agreed to issue and sell to each Holder, and each Holder has agreed to purchase from the Company Series A Preference Shares of the Company (the "**Shares**") on the terms and subject to the conditions set forth in the Purchase Agreement; and

WHEREAS, the parties hereto desire to enter into this Agreement to provide for certain matters regarding the Holders' ownership of the Shares.

NOW, THEREFORE, the parties hereby agree as follows:

1. Definitions. For purposes of this Agreement:

1.1. "**Affiliate**" means, with respect to any specified Person, any other Person who, directly or indirectly, controls, is controlled by, or is under common control with such Person, including without limitation any general partner, managing member, officer or director of such Person or any venture capital fund now or hereafter existing that is controlled by one or more general partners or managing members of, or shares the same management company with, such Person. As used in this definition, "control" (including, with correlative meanings, the terms "controlled by" and "under common control with") means the possession, directly or indirectly, of the power to direct the management and policies of a Person, whether through the ownership of voting securities, contract, or otherwise.

1.2. "**Capital Shares**" means (a) Common Shares and Series A Preference Shares, in each case, whether now outstanding or hereafter issued in any context (including, without limitation, in connection with any share division, sub-division, consolidation, dividend, recapitalization, reorganization, or the like), (b) Common Shares issued or issuable upon conversion of Series A Preference Shares and (c) Common Shares issued or issuable upon exercise or conversion, as applicable, of stock options, warrants or other convertible securities of the Company, in each case now owned or subsequently acquired by any Holder or their respective successors or permitted transferees or assigns. For purposes of the number of shares of Capital Shares held by a Holder (or any other calculation based thereon), all shares of Series A Preference Shares shall be deemed to have been converted into Common Shares at the then-applicable conversion ratio.

1.3. "**Closing**" shall have the meaning set forth in the Purchase Agreement.

1.4. "**Common Shares**" means the Company's common shares, par value $0.0001 per share.

1.5. "**Company Notice**" means written notice from the Company notifying the selling Holder(s) that the Company intends to exercise its Right of First Refusal as to a specific number of, or all of, the Transfer Shares with respect to any Proposed Holder Transfer.

1.6. "**Competitor**" means a Person engaged, directly or indirectly (including through any partnership, limited liability company, corporation, joint venture or similar arrangement (whether now existing or formed hereafter)), in the pharmaceutical industry in China for the treatment of anemia, hepatitis C treatment induced anemia, or Myelodysplastic Syndrome, but shall not include any financial investment firm or collective investment vehicle that, together with its Affiliates, holds less than 10% of the outstanding equity of any Competitor and does not, nor do any of its Affiliates, have a right to designate any members of the Board of Directors of any Competitor.

1.7. "**Exchange Act**" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

1.8. "**Excluded Registration**" means (i) a registration relating to the sale of securities to employees of the Company or a subsidiary pursuant to a share option, share purchase, or similar plan; (ii) a registration relating to an SEC Rule 145 transaction; (iii) a registration on any form that does not include substantially the same information as would be required to be included in a Registration Statement covering the sale of the Registrable Securities; or (iv) a registration in which the only Common Shares being registered are Common Shares issuable upon conversion of debt securities that are also being registered.

1.9. "**Immediate Family Member**" means a child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships, of a natural person referred to herein.

1.10. "**Initiating Holders**" means, collectively, Holders who properly initiate a registration request under this Agreement.

1.11. "**IPO**" means the Company's first underwritten public offering of its Common Shares pursuant to a Registration Statement.

1.12. "**Person**" means any individual, corporation, partnership, trust, limited liability company, association or other entity.

1.1. "**Proposed Holder Transfer**" means any assignment, sale, offer to sell, pledge, mortgage, hypothecation, encumbrance, disposition of or any other like transfer or encumbering of any Transfer Shares (or any interest therein) proposed by any of the Holders.

1.2. "**Proposed Transfer Notice**" means written notice from a Holder setting forth the terms and conditions of a Proposed Holder Transfer.

1.13. "**Prospective Transferee**" means any Person to whom a Holder proposes to make a Proposed Holder Transfer.

1.14. "**Registrable Securities**" means (i) the Common Shares issuable or issued upon conversion of the Shares and (ii) any Common Shares issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to the Shares; excluding in all cases, however, any such Common Shares issued or issuable, or any security issued as a dividend, in each case, with respect to Shares sold in a transaction in which the applicable rights under this Agreement are not assigned pursuant to Subsection 8.1, and excluding for purposes of Section 2 any shares for which registration rights have terminated pursuant to Subsection 2.9 of this Agreement.

1.15. "**Registrable Securities then outstanding**" means the number of shares of Registrable Securities determined by adding the number of outstanding Common Shares that are Registrable Securities and the number of Common Shares issuable (directly or indirectly) pursuant to then exercisable and/or convertible securities that are exercisable or convertible into Registrable Securities.

1.16. "**Registration Statement**" means a form S-1 under the Securities Act as in effect on the date hereof, or any successor registration form under the Securities Act subsequently adopted by the SEC, or any similar registration form on a U.S., Hong Kong, China or other exchange on which the Company decides to list.

1.17. "**Reorganization**" means a merger or consolidation of the Company with or into any other corporation or corporations (other than the merger of a wholly or majority owned subsidiary into the Company), or a sale, lease or other conveyance of all or substantially all of the assets, key technology or shares of capital stock of the Company in a transaction or series of transactions.

1.18. "**Restated Articles**" means the Amended and Restated Memorandum and Articles of Association of the Company.

1.19. "**Restricted Securities**" means the securities of the Company required to bear the legend set forth in Subsection 3.1(b) hereof.

1.20. "**Right of First Refusal**" means the right, but not an obligation, of the Company, or its permitted transferees or assigns, to purchase some or all of the Transfer Shares with respect to a Proposed Holder Transfer, on the terms and conditions specified in the Proposed Transfer Notice.

1.21. "**SEC**" means the Securities and Exchange Commission.

1.22. "**SEC Rule 144**" means Rule 144 promulgated by the SEC under the Securities Act.

1.23. "**SEC Rule 145**" means Rule 145 promulgated by the SEC under the Securities Act.

1.24. "**Securities Act**" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

1.25. "**Selling Expenses**" means all underwriting discounts, selling commissions, and stock transfer taxes applicable to the sale of Registrable Securities, and fees and disbursements of counsel for any Holder, except for the fees and disbursements of the Selling Holder Counsel borne and paid by the Company as provided in Subsection 2.6.

1.26. "**Series A Preference Shares**" means the Company's Series A Preference Shares, par value $0.0001 per share.

2. Registration Rights. The Company covenants and agrees as follows:

2.1. Demand Registration.

(a) Demand. If at any time after the earlier of (i) twelve (12) months after approval of the Company's anemia product in the People's Republic of China by the State Food and Drug Administration or (ii) one hundred eighty (180) days after the effective date of the Registration Statement for the IPO, the Company receives a request from Holders of fifty percent (50%) of the Registrable Securities then outstanding that the Company file a Registration Statement with respect to at least forty percent (40%) of the Registrable Securities then outstanding (or a lesser percent if the anticipated aggregate offering price, net of Selling Expenses, would exceed USD$10 million), then the Company shall (i) within thirty (30) days after the date such request is given, give notice thereof (the "**Demand Notice**") to all Holders other than the Initiating Holders; and (ii) as soon as practicable, file a Registration Statement under the Securities Act covering all Registrable Securities that the Initiating Holders requested to be registered and any additional Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Subsections 2.1(c) and 2.1(d) and Subsection 2.3.

(b) Form S-3 Demand. If at any time when it is eligible to use a Form S-3 Registration Statement in the United States, the Company receives a request from Holders of at least twenty percent (20%) of the Registrable Securities then outstanding that the Company file a Form S-3 Registration Statement with respect to outstanding Registrable Securities of such Holders having an anticipated aggregate offering price, net of Selling Expenses, of at least USD$5 million, then the Company shall (i) within ten (10) days after the date such request is given, give a Demand Notice to all Holders other than the Initiating Holders; and (ii) as soon as practicable after the date such request is given by the Initiating Holders, file a Form S-3 Registration Statement under the Securities Act covering all Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Subsection 2.1(d) and Subsection 2.3.

(c) Deferred Registration. Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration pursuant to Subsection 2.1, a certificate signed by the Company's chief executive officer stating that in the good faith

judgment of the Company, it would be materially detrimental to the Company and its shareholders for such Registration Statement to either become effective or remain effective for as long as such Registration Statement otherwise would be required to remain effective, then the Company shall have the right to defer taking action with respect to such filing, and any time periods with respect to filing or effectiveness thereof shall be tolled correspondingly, for a period of not more than one hundred eighty (180) days after the request of the Initiating Holders is given; provided, however, that the Company may not invoke this right more than once in any twelve (12) month period.

(d) Limitations on Registration; Effectiveness. The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Subsection 2.1(a): (i) during the period that is ninety (90) days before the Company's good faith estimate of the date of filing of, and ending on a date that is one hundred eighty (180) days after the effective date of, a Company-initiated registration; (ii) after the Company has effected one registration pursuant to Subsection 2.1(a); or (iii) if the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Subsection 2.1(b). The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Subsection 2.1(b) (i) during the period that is sixty (60) days before the Company's good faith estimate of the date of filing of, and ending on a date that is ninety (90) days after the effective date of, a Company-initiated registration; or (ii) if the Company has effected two registrations pursuant to Subsection 2.1(b) within the eighteen (18) month period immediately preceding the date of such request. A registration shall not be counted as "effected" for purposes of this Subsection 2.1(d) until such time as the applicable Registration Statement has been declared effective by the SEC, unless the Initiating Holders withdraw their request for such registration, elect not to pay the registration expenses therefor, and forfeit their right to one demand Registration Statement pursuant to Subsection 2.6, in which case such withdrawn Registration Statement shall be counted as "effected" for purposes of this Subsection 2.1(d).

2.2. Company Registration. If the Company proposes to register (including, for this purpose, a registration effected by the Company for shareholders other than the Holders) any of its Common Shares under the Securities Act (or other applicable securities laws outside the United States) in connection with the public offering of such securities solely for cash (other than in an Excluded Registration), the Company shall, at such time, promptly give each Holder notice of such registration. Upon the request of each Holder given within twenty (20) days after such notice is given by the Company, the Company shall, subject to the provisions of Subsection 2.3, cause to be registered all of the Registrable Securities that each such Holder has requested to be included in such registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this Subsection 2.2 before the effective date of such registration, whether or not any Holder has elected to include Registrable Securities in such registration. The expenses (other than Selling Expenses) of such withdrawn registration shall be borne by the Company in accordance with Subsection 2.6. The rights of the Holders set forth in this Subsection 2.2 shall not apply to an IPO.

2.3. Underwriting Requirements.

(a) If, pursuant to Subsection 2.1(a), the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to Subsection 2.1, and the Company shall include such information in the Demand Notice. The underwriter(s) will be selected by the Company and shall be reasonably acceptable to a majority in interest of the Initiating Holders. In such event, the right of any Holder to include such Holder's Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in Subsection 2.4(e)) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting. Notwithstanding any other provision of Subsection 2.3, if the managing underwriter(s) advise(s) the Initiating Holders in writing that marketing factors require a limitation on the number of shares to be underwritten, then the Company shall so advise all Holders of Registrable Securities that otherwise would be underwritten pursuant hereto, and the number of Registrable Securities that may be included in the underwriting shall be allocated among such Holders of Registrable Securities, including the Initiating Holders, in proportion (as nearly as practicable) to the number of Registrable Securities owned by each Holder; provided, however, that the number of Registrable Securities held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares.

(b) In connection with any offering involving an underwriting of shares of the Company's Capital Shares pursuant to Subsection 2.2, the Company shall not be required to include any of the Holders' Registrable Securities in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters determine will not jeopardize the success of the offering by the Company. If the total number of securities, including Registrable Securities, requested by Company shareholders to be included in such offering exceeds the number of securities to be sold (other than by the Company) that the underwriters in their reasonable discretion determine is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, which the underwriters and the Company in their sole discretion determine will not jeopardize the success of the offering. If the underwriters determine that less than all of the Registrable Securities requested to be registered can be included in such offering, then the Registrable Securities that are included in such offering shall be allocated among the selling Holders in proportion (as nearly as practicable to) the number of Registrable Securities owned by each selling Holder. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares. For purposes of the provision in this Subsection 2.3(b) concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and Immediate Family Members of any such partners, retired partners, members, and retired members and any trusts for the benefit of any of the foregoing Persons, shall be deemed to be a single "selling Holder," and any pro rata

reduction with respect to such "selling Holder" shall be based upon the aggregate number of Registrable Securities owned by all Persons included in such "selling Holder," as defined in this sentence.

2.4. Obligations of the Company. Whenever required under Section 2 to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

(a) prepare and file with the applicable governmental authority a Registration Statement with respect to such Registrable Securities and use its commercially reasonable efforts to cause such Registration Statement to become effective and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such Registration Statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the Registration Statement has been completed; provided, however, that (i) such one hundred twenty (120) day period shall be extended for a period of time equal to the period the Holder refrains, at the request of an underwriter of Common Shares (or other securities) of the Company, from selling any securities included in such registration, and (ii) in the case of any registration of Registrable Securities on Form S-3 that are intended to be offered on a continuous or delayed basis, subject to compliance with applicable SEC rules, such one hundred twenty (120) day period shall be extended for up to 180 days, if necessary, to keep the Registration Statement effective until all such Registrable Securities are sold;

(b) prepare and file with the applicable governmental authority such amendments and supplements to such Registration Statement, and the prospectus used in connection with such Registration Statement, as may be necessary to comply with the Securities Act (or other applicable securities laws outside the United States) in order to enable the disposition of all securities covered by such Registration Statement;

(c) furnish to the selling Holders such numbers of copies of a prospectus, including a preliminary prospectus, as required by the Securities Act (or other applicable securities laws outside the United States), and such other documents as the Holders may reasonably request in order to facilitate their disposition of their Registrable Securities;

(d) use its commercially reasonable efforts to register and qualify the securities covered by such Registration Statement under such other securities or blue-sky laws of such jurisdictions as shall be reasonably requested by the selling Holders; provided that the Company shall not be required to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act (or other applicable securities laws outside the United States);

(e) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the underwriter(s) of such offering;

(f) use its commercially reasonable efforts to cause all such Registrable Securities covered by such Registration Statement to be listed on a national securities exchange or trading system;

(g) provide a transfer agent and registrar for all Registrable Securities registered pursuant to this Agreement and provide a CUSIP (or equivalent) number for all such Registrable Securities, in each case not later than the effective date of such registration;

(h) notify each selling Holder, promptly after the Company receives notice thereof, of the time when such Registration Statement has been declared effective or a supplement to any prospectus forming a part of such Registration Statement has been filed; and

(i) after such Registration Statement becomes effective, notify each selling Holder of any request by the applicable governmental authority that the Company amend or supplement such Registration Statement or prospectus.

2.5. Furnish Information. It shall be a condition precedent to the obligations of the Company to take any action pursuant to Section 2 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as is reasonably required to effect the registration of such Holder's Registrable Securities.

2.6. Expenses of Registration. All expenses (other than Selling Expenses) incurred in connection with registrations, filings, or qualifications pursuant to Section 2, including all registration, filing, and qualification fees; printers' and accounting fees; fees and disbursements of counsel for the Company; and the reasonable fees and disbursements, not to exceed ten thousand dollars ($10,000), of one counsel for the selling Holders ("**Selling Holder Counsel**"), shall be borne and paid by the Company; provided, however, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Subsection 2.1 if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all selling Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Holders of a majority of the Registrable Securities agree to forfeit their right to one registration pursuant to Subsection 2.1(a). All Selling Expenses relating to Registrable Securities registered pursuant to Section 2 shall be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

2.7. Delay of Registration. No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of Section 2.

2.8. "Market Stand-off" Agreement. Each Holder hereby agrees that it will not, without the prior written consent of the managing underwriter, during the period commencing on the date of the final prospectus relating to the registration by the Company of

Common Shares or any other equity securities under a Registration Statement, and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days. in the case of the IPO, or such other period as may be requested by the Company or an underwriter to accommodate regulatory restrictions on (1) the publication or other distribution of research reports and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in FINRA Rule 2711(f)(4) or NYSE Rule 472(f)(4), or any successor provisions or amendments thereto), (i) lend; offer; pledge; sell; contract to sell; sell any option or contract to purchase; purchase any option or contract to sell; grant any option, right, or warrant to purchase; or otherwise transfer or dispose of, directly or indirectly, any Common Shares or any securities convertible into or exercisable or exchangeable (directly or indirectly) for Common Shares (whether such shares or any such securities are then owned by the Holder or are thereafter acquired) or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of such securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Shares or other securities, in cash, or otherwise. The foregoing provisions of this Subsection 2.8 shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement. The underwriters in connection with such registration are intended third-party beneficiaries of this Subsection 2.8 and shall have the right, power, and authority to enforce the provisions hereof as though they were a party hereto. Each Holder further agrees to execute such agreements as may be reasonably requested by the underwriters in connection with such registration that are consistent with this Subsection 2.8 or that are necessary to give further effect thereto.

2.9. Termination of Registration Rights. The right of any Holder to request registration or inclusion of Registrable Securities in any registration pursuant to Subsection 2.1 or Subsection 2.2 shall terminate upon the earliest to occur of:

(a) the closing of a Reorganization, as such term is defined in the Company's Restated Articles;

(b) such time as Rule 144 or another similar exemption under the Securities Act is available for the sale of all of such Holder's Capital Shares without limitation during a three-month period without registration; and

(c) the second anniversary of the IPO.

3. Restrictions on Transfer.

3.1. General.

(a) The Capital Shares held by any Holder shall not be sold, pledged, or otherwise transferred, and the Company shall not recognize and shall issue stop-transfer instructions to its transfer agent with respect to any such sale, pledge, or transfer, except upon the conditions specified in this Agreement. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of the Capital Shares held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement (any such Capital Shares transferred or proposed to be transferred, the "**Transfer Shares**"). Any

successor or permitted assignee of any Holder, including any Prospective Transferee who purchases Transfer Shares in accordance with the terms hereof, shall deliver to the Company, as a condition to any transfer or assignment, a counterpart signature page hereto pursuant to which such successor or permitted assignee shall confirm their agreement to be subject to and bound by all of the provisions set forth in this Agreement that were applicable to the predecessor or assignor of such successor or permitted assignee.

(b) Each certificate or instrument, if any, representing (i) Capital Shares and any other securities issued in respect thereof upon any share division, subdivision, share dividend, recapitalization, merger, consolidation, or similar event, shall (unless otherwise permitted by the provisions of Subsection 3.1(c)) be stamped or otherwise imprinted with a legend substantially in the following form:

> THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER ANY SECURITIES ACT, INCLUDING THE SECURITIES ACT OF 1933. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.
>
> THE SECURITIES REPRESENTED HEREBY MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN AGREEMENT BETWEEN THE COMPANY AND THE SHAREHOLDERS, A COPY OF WHICH IS AVAILABLE ON REQUEST FROM THE COMPANY, AND WHICH INCLUDES, AMONG OTHER PROVISIONS, A RIGHT OF FIRST REFUSAL IN FAVOR OF THE COMPANY ON ALL TRANSFERS OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE.

The Holders consent to the Company making a notation in its records and giving instructions to any transfer agent of the Restricted Securities in order to implement the restrictions on transfer set forth in Subsection 3.1.

(c) Each Holder of Restricted Securities, whether or not represented by a certificate or other instrument, by acceptance thereof, agrees to comply in all respects with the provisions of Section 3. Before any proposed sale, pledge, or transfer of any Restricted Securities, unless there is in effect a Registration Statement covering the proposed transaction, the Holder thereof shall give notice to the Company of such Holder's intention to effect such sale, pledge, or transfer in accordance with Subsection 3.2(b). Each such notice shall describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under applicable securities laws; (ii) a "no

action" letter from the SEC (or equivalent governmental authority) to the effect that the proposed sale, pledge, or transfer of such Restricted Securities without registration will not result in a recommendation by the staff of the SEC (or equivalent governmental authority) that action be taken with respect thereto; or (iii) any other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed sale, pledge, or transfer of the Restricted Securities may be effected without registration under applicable securities laws, whereupon, subject to compliance with the terms of Section 3, including, without limitation, Section 3.2, the Holder of such Restricted Securities shall be entitled to sell, pledge, or transfer such Restricted Securities in accordance with the terms of the notice given by the Holder to the Company. Each certificate or instrument evidencing the Restricted Securities transferred as above provided shall bear the appropriate restrictive legend set forth in Subsection 3.1(b), except that such certificate shall not bear such restrictive legend if, in the opinion of counsel for such Holder and the Company, such legend is not required in order to establish compliance with any provisions of applicable securities laws.

3.2. Right of First Refusal.

(a) Grant. Subject to the terms of Section 3.2(e) below, each Holder hereby unconditionally and irrevocably grants to the Company a Right of First Refusal to purchase all or any portion of any Transfer Shares that such Holder may propose to transfer in a Proposed Holder Transfer, at the same price and on the same terms and conditions as those offered to the Prospective Transferee. The Right of First Refusal herby granted to the Company shall be assignable, in whole or in party, by the Company to any Person, in the Company's sole discretion.

(b) Notice. Each Holder proposing to make a Proposed Holder Transfer must deliver a Proposed Transfer Notice to the Company not later than forty-five (45) days prior to the consummation of such Proposed Holder Transfer. Such Proposed Transfer Notice shall contain the material terms and conditions (including price and form of consideration) of the Proposed Holder Transfer and the identity of the Prospective Transferee. To exercise its Right of First Refusal under Section 3.2, the Company must deliver a Company Notice to the selling Holder within thirty (30) days after delivery of the Proposed Transfer Notice.

(c) Forfeiture of Rights. Notwithstanding the foregoing, if the total number of Transfer Shares that the Company has agreed to purchase in the Company Notice is less than the total number of Transfer Shares proposed to be transferred, then the Company shall be deemed to have forfeited any right to purchase such remaining Transfer Shares, and the selling Holder shall be free to sell such Transfer Shares not purchased by the Company to the Prospective Transferee on terms and conditions substantially similar to (and in no event more favorable to the Prospective Transferee than) the terms and conditions set forth in the Proposed Transfer Notice, it being understood and agreed that (i) any such sale or transfer shall be subject to the other terms and restrictions of this Agreement; (ii) any future Proposed Holder Transfer shall remain subject to the terms and conditions of this Agreement, including Section 3; and (iii) such sale shall be consummated within seventy-five (75) days after receipt of the Proposed Transfer Notice by the Company and, if such sale is not consummated within such seventy-five

(75) day period, such sale shall again become subject to the Right of First Refusal on the terms set forth herein.

(d) Consideration; Closing. If the consideration proposed to be paid for the Transfer Shares is in property, services or other non-cash consideration, the fair market value of the consideration shall be as determined in good faith by the Company and as set forth in the Company Notice. If the Company cannot for any reason pay for the Transfer Shares in the same form of non-cash consideration, the Company may pay the cash value equivalent thereof, as determined in good faith by the Company and as set forth in the Company Notice. The closing of the purchase of Transfer Shares by the Company shall take place, and all payments from the Company shall have been delivered to the selling Holder, by the later of (i) the date specified in the Proposed Transfer Notice as the intended date of the Proposed Holder Transfer and (ii) thirty (30) days after delivery of the Proposed Transfer Notice.

(e) Violation of First Refusal Right. If any Holder becomes obligated to sell any Transfer Shares to the Company under this Agreement and fails to deliver such Transfer Shares in accordance with the terms of this Agreement, the Company may, at its option, in addition to all other remedies it may have, send to such Holder the purchase price for such Transfer Shares as is herein specified and thereby purchase such Transfer Shares and cancel such shares in accordance with the Restated Articles.

(f) Exempted Transfers. Notwithstanding the foregoing or anything to the contrary herein, the provisions of this Subsection 3.2 shall not apply: (a) in the case of a Holder that is an entity, upon a transfer by such Holder to its stockholders, members, partners or other equity holders, or (b) in the case of a Holder that is a natural person, upon a transfer by such Holder, either during his or her lifetime or on death by will or intestacy to his or her Immediate Family Member or any other relative approved by the Company, or any custodian or trustee of any trust, partnership or limited liability company for the benefit of, or the ownership interests of which are owned wholly by, such Holder or any such Immediate Family Members; provided that in the case of clauses (a) or (b), the Holder shall deliver prior written notice to the Company of such pledge, gift or transfer and such shares of Transfer Shares shall at all times remain subject to the terms and restrictions set forth in this Agreement and such transferee shall, as a condition to such issuance, deliver a counterpart signature page to this Agreement as confirmation that such transferee shall be bound by all the terms and conditions of this Agreement as a Holder (but only with respect to the securities so transferred to the transferee).

(g) Termination of Right of First Refusal. The Right of First Refusal set forth in Section 3 shall terminate upon the earliest to occur of:

i. the effectiveness of a public offering by the Company; and

ii. the sale or other transfer in a transaction or series of transactions, other than to an Affiliate, of greater than fifty percent (50%) of the Capital Shares of the Company held by FibroGen International (Cayman) Limited as of the final Closing of the Series A Preference shares.

3.3. Prohibited Transferees. No Holder shall transfer any Transfer Shares to (a) any Person which, in the determination of the Company is a Competitor, or (b) any customer, distributor or supplier of the Company, if the Company should determine that such transfer would result in such customer, distributor or supplier receiving information that would place the Company at a competitive disadvantage with respect to such customer, distributor or supplier.

3.4. Transfer Void. Any Proposed Holder Transfer not made in compliance with the requirements of this Agreement shall be null and void ab initio, shall not be recorded on the books of the Company or its transfer agent and shall not be recognized by the Company.

3.5. Exempted Offerings. Notwithstanding the foregoing or anything to the contrary herein, the provisions of Section 3 shall not apply to any sale, pledge or other transfer of any Capital Shares (a) to the public in an offering pursuant to an effective Registration Statement, (b) pursuant to a Reorganization (as defined in the Company's Restated Articles), or (c) by FibroGen International (Cayman) Limited or its Affiliates.

4. Drag-Along Right.

4.1. Definitions. A "**Sale of the Company**" shall mean either: (a) a transaction or series of related transactions (excluding an IPO or other registered offering by the Company) in which a Person, or a group of related Persons, acquires from shareholders of the Company shares representing at least fifty percent (50%) of the outstanding voting power of the Company (a "**Share Sale**"); or (b) a transaction that qualifies as a "**Reorganizatio**n" as defined in the Restated Articles.

4.2. Actions to be Taken. In the event that (a) holders representing at least fifty percent (50%) of the Common Shares (i) then issued and outstanding and (ii) issuable upon conversion of the shares of Series A Preference Shares, voting together as a single class, and (b) holders representing at least fifty percent (50%) of the Series A Preference Shares then issued and outstanding voting as a separate class (collectively, the "**Selling Holders**"), approve a Sale of the Company in writing, specifying that Section 4 shall apply to such transaction, then each Holder and the Company hereby agrees:

(a) if such transaction requires shareholder approval, with respect to all Capital Shares that such Holder owns or over which such Holder otherwise exercises voting power, to vote (in person, by proxy or by action by written consent, as applicable) all Shares in favor of, and adopt, such Sale of the Company (together with any related amendment to the Restated Articles required in order to implement such Sale of the Company) and to vote in opposition to any and all other proposals that could delay or impair the ability of the Company to consummate such Sale of the Company;

(b) if such transaction is a Share Sale, to sell the same proportion of Capital Shares of the Company beneficially held by such Holder as is being sold by the Selling Holders to the Person to whom the Selling Holders propose to sell their Capital Shares, and, except as permitted in Subsection 4.3 below, on the same terms and conditions as the Selling Holders;

(c) to execute and deliver all related documentation and take such other action in support of the Sale of the Company as shall reasonably be requested by the Company or the Selling Holders in order to carry out the terms and provision of Section 4, including without limitation executing and delivering instruments of conveyance and transfer, and any purchase agreement, merger agreement, indemnity agreement, escrow agreement, consent, waiver, governmental filing, share certificates duly endorsed for transfer (free and clear of impermissible liens, claims and encumbrances) and any similar or related documents;

(d) not to deposit, and to cause their Affiliates not to deposit, except as provided in this Agreement, any Capital Shares of the Company owned by such party or Affiliate in a voting trust or subject any Capital Shares to any arrangement or agreement with respect to the voting of such Capital Shares, unless specifically requested to do so by the acquiror in connection with the Sale of the Company;

(e) to irrevocably waive any dissenters' rights or rights of appraisal under applicable law at any time with respect to such Sale of the Company;

(f) if the consideration to be paid in exchange for the Capital Shares pursuant to Section 4 includes any securities and due receipt thereof by any Holder would require under applicable law (x) the registration or qualification of such securities or of any person as a broker or dealer or agent with respect to such securities or (y) the provision to any Holder of any information other than such information as a prudent issuer would generally furnish in an offering made solely to "accredited investors" as defined in Regulation D promulgated under the Securities Act of 1933, as amended, the Company may cause to be paid to any such Holder in lieu thereof, against surrender of the Capital Shares which would have otherwise been sold by such Holder, an amount in cash equal to the fair value (as determined in good faith by the Company) of the securities which such Holder would otherwise receive as of the date of the issuance of such securities in exchange for the Capital Shares; and

(g) in the event that the Selling Holders, in connection with such Sale of the Company, appoint a shareholder representative (the "**Shareholder Representative**") with respect to matters affecting the under the applicable definitive transaction agreements following consummation of such Sale of the Company, (x) to consent to (i) the appointment of such Shareholder Representative, (ii) the establishment of any applicable escrow, expense or similar fund in connection with any indemnification or similar obligations, and (iii) the payment of such Holder's pro rata portion (from the applicable escrow or expense fund or otherwise) of any and all reasonable fees and expenses to such Shareholder Representative in connection with such Shareholder Representative's services and duties in connection with such Sale of the Company and its related service as the representative of the, and (y) not to assert any claim or commence any suit against the Shareholder Representative or any other Holder with respect to any action or inaction taken or failed to be taken by the Shareholder Representative in connection with its service as the Shareholder Representative, absent fraud or willful misconduct.

4.3. Exceptions. Notwithstanding the foregoing, a Holder will not be required to comply with Subsection 4.2 above in connection with any proposed sale of the Company unless, upon the consummation of the proposed sale, (i) each Holder, with respect to each class or series of Company securities held thereby, will receive the same form and amount of

consideration per share for its shares of such class or series as is received by the Selling Holders in respect of shares of such same class or series held by such Selling Holders, and (ii) unless Holders representing at least fifty percent (50%) of the Series A Preference Shares elect to receive a lesser amount by written notice given to the Company at least fifteen (15) .days prior to the effective date of any such proposed sale, the aggregate consideration receivable by all shareholders of the Company shall be allocated among the such shareholders on the basis of the relative liquidation preferences to which the holders of each such class or series of Company securities are entitled in a Reorganization (assuming for this purpose that the proposed sale is a Reorganization) in accordance with the Company's Restated Articles in effect immediately prior to the proposed sale.

5. Vote to Increase Authorized Common Shares. Each Holder agrees to vote or cause to be voted all Capital Shares owned by such Holder, or over which such Holder has voting control, from time to time and at all times, in whatever manner as shall be necessary to increase the number of authorized shares of Common Shares from time to time to ensure that there will be sufficient Common Shares available for conversion of all of the preference shares issued and outstanding by the Company at any given time.

6. Information Rights.

6.1. Delivery of Financial Statements. The Company shall deliver to each Holder (provided that the Company has not reasonably determined that such Holder is a Competitor), as soon as practicable following the end of each fiscal year, (a) a balance sheet as of the end of such fiscal year, (ii) statements of income and of cash flows for such fiscal year, and (iii) a statement of shareholders' equity as of the end of such fiscal year.

6.2. If, for any period, the Company has any subsidiary whose accounts are consolidated with those of the Company, then in respect of such period, the financial statements delivered pursuant to Subsection 6.1 shall be the consolidated and consolidating financial statements of the Company and all such consolidated subsidiaries.

6.3. Notwithstanding anything else in Section 6 to the contrary, the Company may cease providing the information described herein during the period starting with the date ninety (90) days before the Company's good-faith estimate of the date of filing of a Registration Statement if it reasonably concludes it must do so to comply with the applicable regulations or exchange rules; provided that the Company's covenants under Section 6 shall be reinstated at such time as the Company is no longer actively employing its commercially reasonable efforts to cause such Registration Statement to become effective.

6.4. Termination of Information. The covenants set forth in Subsections 6.1 and 6.2 shall terminate and be of no further force or effect: (i) immediately before the consummation of the IPO, or (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act (or substantially equivalent requirements in any non-U.S. jurisdiction), or (iii) upon a Reorganization, as such term is defined in the Restated Articles, whichever event occurs first.

6.5. Confidentiality. Each Holder agrees that such Holder will keep confidential and will not disclose, divulge, or use for any purpose (other than to monitor its investment in the Company) any confidential information obtained from the Company (pursuant to the terms of this Agreement or otherwise, and including notice of the Company's intention to file a Registration Statement), unless such confidential information (a) is known or becomes known to the public in general (other than as a result of a breach of this Subsection 6.5 by such Holder), (b) is or has been independently developed or conceived by the Holder without use of the Company's confidential information, or (c) is or has been made known or disclosed to the Holder by a third party without a breach of any obligation of confidentiality such third party may have to the Company; provided, however, that a Holder may disclose confidential information (i) to its attorneys, accountants, consultants, and other professionals to the extent necessary to obtain their services in connection with monitoring its investment in the Company; (ii) to any prospective purchaser of any Registrable Securities (other than to a Competitor), if such prospective purchaser agrees to be bound by the provisions of this Subsection 6.5; (iii) to any existing Affiliate, partner, member, stockholder, or wholly owned subsidiary of such Holder in the ordinary course of business, provided that such Holder informs such Person that such information is confidential and directs such Person to maintain the confidentiality of such information; or (iv) as may otherwise be required by law, provided that the Holder promptly notifies the Company of such disclosure and takes reasonable steps to minimize the extent of any such required disclosure.

7. Term. This Agreement shall be effective as of the Effective Date hereof and shall terminate upon the earliest to occur of (a) the consummation of the Company's IPO (other than pursuant to a Registration Statement relating either to the sale of securities to employees of the Company pursuant to its share option, share purchase or similar plan or an SEC Rule 145 transaction); (b) the consummation of a Sale of the Company and distribution of proceeds to or escrow for the benefit of the Holders in accordance with the Restated Articles, provided that the provisions of Section 4 hereof will continue after the closing of any Sale of the Company to the extent necessary to enforce the provisions of Section 4 with respect to such Sale of the Company; (c) termination of this Agreement in accordance with Subsection 8.6. Notwithstanding the foregoing, the terms and provisions of Section 2, all related definitions as set forth in Section 1, and the terms and provisions of Section 8, shall survive in accordance with the terms of Subsection 2.9.

8. Miscellaneous.

8.1. Successors and Assigns.

(a) The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and permitted assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

(b) Any successor or permitted assignee of any Holder, including any Prospective Transferee who purchases shares of Transfer Shares in accordance with the terms

hereof, shall deliver to the Company, as a condition to any transfer or assignment, a counterpart signature page hereto pursuant to which such successor or permitted assignee shall confirm their agreement to be subject to and bound by all of the provisions set forth in this Agreement that were applicable to the predecessor or assignor of such successor or permitted assignee.

(a) The rights of the Holders hereunder are not assignable without the Company's written consent (which shall not be unreasonably withheld, delayed or conditioned), except by a Holder to any Affiliate, it being acknowledged and agreed that any such assignment be subject to and conditioned upon any such assignee's delivery to the Company of a counterpart signature page hereto pursuant to which such assignee shall confirm their agreement to be subject to and bound by all of the provisions set forth in this Agreement that were applicable to the assignor of such assignee.

(b) Except in connection with a merger, acquisition or sale of assets, the rights and obligations of the Company hereunder may not be assigned under any circumstances.

8.2. Governing Law. This Agreement shall be governed by the internal law of the State of Delaware without giving effect to any choice of law or conflict of law rules or provisions (of the State of Delaware or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Delaware.

8.3. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

8.4. Titles and Subtitles. The titles and subtitles used in this Agreement are for convenience only and are not to be considered in construing or interpreting this Agreement.

8.5. Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt or: (i) personal delivery to the party to be notified; (ii) when sent, if sent by electronic mail or facsimile during the recipient's normal business hours, and if not sent during normal business hours, then on the recipient's next business day; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one (1) business day after the business day of deposit with a nationally recognized overnight courier, freight prepaid, specifying next-day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their addresses as set forth on Schedule I hereto, or to the principal office of the Company, and to the attention of the Chief Executive Officer, in the case of the Company, or to such email address, facsimile number, or address as subsequently modified by written notice given in accordance with this Subsection 8.5. If notice is given to the Company, a copy shall also be sent to FibroGen, Inc., Corporate Legal Department, 409 Illinois St., San Francisco, CA 94158, USA.

8.6. Amendments and Waivers. This Agreement may be amended or terminated, and the observance of any term hereof may be waived (either generally or in a particular instance and either retroactively or prospectively) only by a written instrument executed by the Company and Holders representing not less than fifty percent (50%) of Registrable Securities held by the Holders (voting as a single class and on an as-converted basis). Notwithstanding the foregoing:

(a) this Agreement may not be amended or terminated and the observance of any term of this Agreement may not be waived with respect to any Holder without the written consent of such Holder unless such amendment, termination or waiver applies to all Holders in the same fashion;

(b) the consent of the Holder shall not be required for any amendment or waiver if such amendment or waiver either (i) is not directly applicable to the rights of the Holder hereunder or (ii) does not adversely affect the rights of the Holder in a manner that is different than the effect on the rights of the other Holders party hereto;

(c) Schedule I hereto may be amended by the Company from time to time in accordance with Subsection 8.8 of this Agreement to add information regarding additional Holders without the consent of the other parties hereto; and

(d) any provision hereof may be waived by the waiving party on such party's own behalf, without the consent of any other party.

The Company shall give prompt written notice of any amendment, termination or waiver hereunder to any party that did not consent in writing thereto. Any amendment, termination or waiver effected in accordance with this Subsection 8.6 shall be binding on each party and all of such party's successors and permitted assigns, whether or not any such party, successor or assignee entered into or approved such amendment or waiver. For purposes of this Subsection 8.6, the requirement of a written instrument may be satisfied in the form of an action by written consent circulated by the Company and executed by the Investor parties specified, whether or not such action by written consent makes explicit reference to the terms of this Agreement.

8.7. Severability. In case any one or more of the provisions contained in this Agreement is for any reason held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision of this Agreement, and such invalid, illegal, or unenforceable provision shall be reformed and construed so that it will be valid, legal, and enforceable to the maximum extent permitted by law.

8.8. Additional Holders. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Series A Preference Shares after the date hereof, whether pursuant to the Purchase Agreement or otherwise, any purchaser of such shares of Series A Preference Shares shall become a party to this Agreement by executing and delivering a Joinder to this Agreement substantially in the form of Exhibit A, and thereafter shall be deemed a "Holder" for all purposes hereunder. No action or consent by the Holders shall be required for such Joinder to this Agreement by such additional Holder, so long as such additional Holder has agreed in writing to be bound by all of the obligations as an "Holder" hereunder.

8.9. Entire Agreement. This Agreement (including any Schedules and Exhibits hereto) constitutes the full and entire understanding and agreement among the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties is expressly canceled.

8.10. Dispute Resolution.

(a) Any unresolved controversy or claim arising out of or relating to this Agreement, except as otherwise provided in this Agreement, shall be submitted to arbitration by one arbitrator mutually agreed upon by the parties, and if no agreement can be reached within thirty (30) days after names of potential arbitrators have been proposed by JAMS, Inc. ("**JAMS**"), then by one arbitrator having reasonable experience in transactions of the type provided for in this Agreement and who is chosen by JAMS. The arbitration shall take place in San Francisco, California, in accordance with JAMS' Comprehensive Arbitration Rules and Procedures rules then in effect, and judgment upon any award rendered in such arbitration will be binding and may be entered in any court having jurisdiction thereof. There shall be limited discovery prior to the arbitration hearing as follows: (a) exchange of witness lists and copies of documentary evidence and documents relating to or arising out of the issues to be arbitrated, (b) depositions of all party witnesses and (c) such other depositions as may be allowed by the arbitrators upon a showing of good cause. Depositions shall be conducted in accordance with the California Code of Civil Procedure, the arbitrator shall be required to provide in writing to the parties the basis for the award or order of such arbitrator and a court reporter shall record all hearings, with such record constituting the official transcript of such proceedings.

(b) Each party will bear its own costs in respect of any disputes arising under this Agreement, provided that the prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such party may be entitled. Each of the parties to this Agreement consents to personal jurisdiction for any equitable action sought in the U.S. District Court for the District of Northern California or any court of the State of California having subject matter jurisdiction.

8.11. Delays or Omissions. No delay or omission to exercise any right, power, or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power, or remedy of such nonbreaching or nondefaulting party, nor shall it be construed to be a waiver of or acquiescence to any such breach or default, or to any similar breach or default thereafter occurring, nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. All remedies, whether under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

8.12. Share Splits, Share Dividends, etc. In the event of any issuance of Shares of the Company's voting securities hereafter to any of the Holders (including, without limitation, in connection with any share split, share dividend, recapitalization, reorganization, or the like), such Shares shall become subject to this Agreement and shall be endorsed with the legend set forth in Subsection 3.1(b).

8.13. Manner of Voting. The voting of Shares pursuant to this Agreement may be effected in person, by proxy, by written consent or in any other manner permitted by applicable law. For the avoidance of doubt, voting of the Shares pursuant to the Agreement need not make explicit reference to the terms of this Agreement.

8.14. Aggregation of Shares. All Capital Shares held or acquired by a Holder and/or its Affiliates shall be aggregated together for the purpose of determining the availability of any rights under this Agreement, and such Affiliated persons may apportion such rights as among themselves in any manner they deem appropriate.

8.15. Further Assurances. At any time or from time to time after the date hereof, the parties agree to cooperate with each other, and at the request of any other party, to execute and deliver any further instruments or documents and to take all such further action as the other party may reasonably request in order to evidence or effectuate the consummation of the transactions contemplated hereby and to otherwise carry out the intent of the parties hereunder.

8.16. Specific Enforcement; Remedies Cumulative. Each party hereto acknowledges and agrees that each party hereto will be irreparably damaged in the event any of the provisions of this Agreement are not performed by the parties in accordance with their specific terms or are otherwise breached. Accordingly, it is agreed that each of the Company and each Holder shall be entitled, without the posting of a bond, to an injunction to prevent breaches of this Agreement, and to specific enforcement of this Agreement and its terms and provisions in any action instituted in any court of the United States or any state having subject matter jurisdiction. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative

8.17. Consent of Spouse. If any Holder is married on the date of this Agreement and such Holder or his or her spouse resides in any of the States of Arizona, California, Idaho, Louisiana, Nevada, New Mexico, Texas, Washington, or Wisconsin, or the Commonwealth of Puerto Rico, such Holder's spouse shall execute and deliver to the Company a consent of spouse in the form of Exhibit B hereto ("**Consent of Spouse**"), effective on the date hereof. Notwithstanding the execution and delivery thereof, such consent shall not be deemed to confer or convey to the spouse any rights in such Holder's Shares that do not otherwise exist by operation of law or the agreement of the parties. If any Holder should marry or remarry subsequent to the date of this Agreement, and such Holder or his or her spouse resides in any of the foregoing jurisdictions, such Holder shall within thirty (30) days thereafter obtain his/her new spouse's acknowledgement of and consent to the existence and binding effect of all restrictions contained in this Agreement by causing such spouse to execute and deliver a Consent of Spouse acknowledging the restrictions and obligations contained in this Agreement and agreeing and consenting to the same.

8.18. Conversion. The Company may, with the consent of the holders of a majority of (a) the issued and outstanding shares of Common Shares and (b) the Common Shares issuable upon the conversion of the issued and outstanding Series A Preference Shares, voting together as a single class, cause the Company to convert into a corporation by incorporating the Company, by forming a wholly-owned corporate subsidiary and placing the Company's assets

into such subsidiary and (as a liquidating distribution) distributing the Common Shares of such subsidiary to the equityholders of the Company, or by taking such other actions as the Company may deem advisable that would have a substantially similar effect. In connection with any such incorporation of the Company, the Holders (and the other equityholders of the Company) shall receive, in exchange for their respective equity interests, capital shares of such corporation or its subsidiaries having the same relative economic interest as is set forth in this Agreement and in the Restated Articles, subject in each case to (1) any modifications required solely as a result of the conversion to corporate form and (ii) any modifications to conform to the provisions relating to actions of shareholders and a board of directors set forth in the jurisdiction of incorporation. Each Holder hereby agrees to cooperate in whatever way reasonably requested by the Company to facilitate the conversion of the Company as provided in this Subsection 8.18.

8.19. Taxation as a Partnership. To the extent permitted by applicable law, and except as provided in Subsection 8.18, the Company intends to be treated as partnership for United States federal, state and local tax purposes and the Holders and the Company will make any necessary elections to achieve this result and refrain from making any elections that would have a contrary result. In furtherance of the foregoing, no Holder shall knowingly take (or shall knowingly cause any of its affiliates to take) any action that is inconsistent with the classification of the Company as a partnership for United States federal, state and local tax purposes.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

COMPANY: FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: /s/ Thomas B. Neff
Name: Thomas B. Neff
Title: Chief Executive Officer

HOLDER:

By: _____
Name: _____
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Gary Harmon Anderson
Name: Gary Harmon Anderson
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Charles Antell
Name: Charles Antell
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Maria Teresa Arnal
Name: Maria Teresa Arnal
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Bradford T. Beeson
Name: Bradford T. Beeson
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Bruce H. Beeson
Name: Bruce H. Beeson
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Matthew S. Beeson
Name: Matthew S. Beeson
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ William H. Beeson
Name: William H. Beeson
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Dan Brecher
Name: Dan Brecher
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Sabin Wyatt Carr, Jr.
Name: Sabin Wyatt Carr, Jr.
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Winston Cutshall
Name: Winston Cutshall
Title: Sole Member, Curious Gems, LLC

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Robert E. Howard
Name: Robert E. Howard
Title: Sole Member

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER: Eli Investments Inc.

By: /s/ Steven Gold
Name: Steven Gold
Title: President

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Robert J. Finegan
Name: Robert J. Finegan
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Frederick C. Goggans
Name: Frederick C. Goggans
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER: Mark & Janice Gold

By: /s/ Mark Gold /s/ Janice Gold
Name: Mark + Janice Gold
Title: _____

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:
Grama Ventures LLC

By: /s/ Roberto Rosenkranz
Name: Roberto Rosenkranz
Title: President

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Jaime Kalb Gout
Name: Jaime Kalb Gout
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Dahlia W. Grant
Name: Dahlia W. Grant
Title: Custodian

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Harvey A. Herman
Name: Harvey A. Herman Living Trust
Title: Trustee

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Winton A. Jackson, Jr.
Name: Winton A. Jackson, Jr.
Title: _____

* Please issue a stock certificate

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Joe O. Neuhoff Jr.
Name: Joscar Investments Ltd.
Title: General Partner

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:
Fred C. Kennedy

By: /s/ Fred C. Kennedy
Name: Fred C. Kennedy
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:
Kesef Investments, LLC – Class V

By: /s/ Michael F. Solomon
Name: Michael F. Solomon
Title: Managing Member

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Cordelia Y. Lai
Name: Cordelia Y. Lai
Title: Trustee

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Schuyler B. Marshall
Name: Schuyler B. Marshall
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Dennis Mensch
Name: Dennis Mensch
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Adam C. Wagner
Name: Adam C. Wagner
Title: Sole Member

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ André F. and Suellen S. Perold
Name: André F. and Suellen S. Perold
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER: Peter A. Wish Rev. Tr. Dtd. 11/21/94

By: /s/ Dr. Peter A. Wish
Name: Dr. Peter A. Wish
Title: Trustee

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: /s/ Salinda Nowell
Name: Salinda Nowell
Title: Client Service Associate

HOLDER:

/s/ Matthew Pickett
By: /s/ Julia R. Pickett
Name: Matthew Pickett / Julia Pickett
Title:

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:
Primrose Partners, Ltd.

By: /s/ Bruce H. Beeson
Name: Bruce H. Beeson
Title: General Partner

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ James Silverman RRC Biofund, LP
Name: James Silverman
Title: President

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Michael Salinaro
Name: Michael Salinaro
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ R. Randolph Scott
Name: _____
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ David J. Shorms
Name: David J. Shorms
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: /s/ Anthony F. Sinclair
Name:
Title:

HOLDER:

By: Anthony F. Sinclair
Name: /s/ Anthony F. Sinclair
Title:

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Richard A. Smith
Name: Richard A. Smith
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:
Stern Family Trust

By: /s/ Julian N. Stern
Name: Julian N. Stern
Title: Trustee

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Peter Suzman
Name: Peter Suzman
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:
THE NINETY-SIX CORPORATION

By: /s/ Fred C. Kennedy
Name: Fred C. Kennedy
Title: Vice President

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

/s/ C. Thomas Tull

By: /s/ Carole L. Tull
Name: C. Thomas Tull & Carole L. Tull
Title: —

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Dominik E. Zehnder
Name: Dominik E. Zehnder
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ James Silverman
Name: James Silverman
Title: Partner RJS Virginia

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Patricio Miguel Madero Blasquez
Name: Patricio Miguel Madero Blasquez
Title: _____

14 Dec., 2012

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ David Merrylees
Name: David Merrylees
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Mauricio Reynaud de la Lama
Name: Mauricio Reynaud de la Lama
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

By: _____
Name: _____
Title: _____

HOLDER:

By: /s/ Gabriela Kalb Gout
Name: Gabriela Kalb Gout
Title: _____

SIGNATURE PAGE TO SHAREHOLDERS' AGREEMENT

SHARE PURCHASE AGREEMENT

BY AND AMONG

FIBROGEN CHINA ANEMIA HOLDINGS, LTD.

AND

THE PURCHASERS PARTY HERETO

DATED JULY 11, 2012

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SERIES A PREFERENCE SHARE PURCHASE AGREEMENT

THIS SERIES A PREFERENCE SHARE PURCHASE AGREEMENT is made as of the 11th day of July, 2012 by and among FibroGen China Anemia Holdings, Ltd., a Cayman Islands exempted company limited by shares (the "**Company**"), and the investors listed on Exhibit A attached to this Agreement (each a "**Purchaser**" and together the "**Purchasers**").

The parties hereby agree as follows:

1. Purchase and Sale of Series A Preference Shares.

1.1. Sale and Issuance of Series A Preference Shares. Subject to the terms and conditions of this Agreement, each Purchaser agrees to purchase at the Closing and the Company agrees to sell and issue to each Purchaser at the Closing that number of Series A Preference Shares, $0.0001 par value per share (the "**Series A Preference Shares**"), set forth opposite each Purchaser's name on Exhibit A, at a purchase price of $1.00 per share, for the aggregate consideration set forth opposite each such Purchaser's name on Exhibit A, which shall be paid to the Company in accordance with Section 1.2 below. The Series A Preference Shares issued to the Purchasers pursuant to this Agreement shall be referred to in this Agreement as the "Shares."

1.2. Closing; Delivery.

(a) Subject to the provisions of Section 1.2(b), the closing of the transactions contemplated hereby shall take place at 12:00 p.m., on July 11, 2012 or at such other time and place or at such additional times as the Company determines appropriate (each such time and place are designated as the "**Closing**" and the "**Closing Date**"). At the Closing, each Purchaser shall deliver by check, or by wire transfer of immediately available funds to the address or to the bank account designated in writing by the Company, the aggregate purchase price amount set forth opposite such Purchaser's name on Exhibit A, and, upon receipt of such funds, the Company shall issue to such Purchaser, and record in the register of members of the Company such Purchaser's ownership of, that number of Shares set forth opposite such Purchaser's name on Exhibit A.

(b) Notwithstanding the foregoing, if the Company determines, in its sole discretion, that the proceeds to the Company resulting from the issuance of Shares pursuant to this Agreement will be less than USD$2,500,000, the Company may determine a later date on which the Closing shall take place, which such later date shall be the "Closing Date" for all purposes hereunder and under any other Transaction Document; provided, however, that if the Closing shall not have occurred within 60 days following the date specified in Section 1.2(a) above, this Agreement may be terminated by the Company upon the delivery of written notice to the Purchasers, or by any Purchaser (with respect to such Purchaser) by delivery of written notice to the Company.

(c) The Company shall adopt and file with the Registrar of Companies in the Cayman Islands on or before the Closing Date the Amended and Restated Memorandum of Association (the "**Restated Memorandum**") and the Amended and Restated Articles of

Association of the Company in the form of Exhibit B attached to this Agreement (the "**Restated Articles**").

1.3. Defined Terms Used in this Agreement. In addition to the terms defined elsewhere in this Agreement, the following terms used in this Agreement shall be construed to have the meanings set forth or referenced below.

(a) "**Affiliate**" means, with respect to any specified Person, any other Person who, directly or indirectly, controls, is controlled by, or is under common control with such Person, including, without limitation, any general partner, managing member, officer or director of such Person or any venture capital fund now or hereafter existing that is controlled by one or more general partners or managing members of, or shares the same management company with, such Person. As used in this definition, "control" means the possession, directly or indirectly, of the power to direct the management and policies of a Person, whether through the ownership of voting securities, contract, or otherwise.

(b) "**Business Day**" shall mean any day other than a Saturday, Sunday or other day on which commercial banks in San Francisco, California, or the office of the Registrar of Companies in the Cayman Islands, are authorized or required by law to close.

(c) "**Code**" means the Internal Revenue Code of 1986, as amended.

(d) "**Company Intellectual Property**" means all patents and patent applications, trademarks and trademark applications, service marks and service mark applications, trade names, copyrights, trade secrets, domain names, and any other proprietary rights, information, and processes, and any tangible embodiments of any of the foregoing, owned or used by the Company in the conduct of the Company's business as now conducted. "**Shareholders Agreement**" means the agreement among the Company and the Purchasers, dated as of the Closing Date, in the form of Exhibit D attached to this Agreement.

(e) "**Knowledge**," with respect to the Company, including the phrase "**to the Company's knowledge**," shall mean the actual knowledge of the Chief Executive Officer of the Company.

(f) "**Material Adverse Effect**" means a material adverse effect on the business, assets, financial condition, or results of operations of the Company, except for any such effects resulting from or relating to (i) the negotiation, execution, announcement or performance of this Agreement or the consummation of the transactions contemplated by this Agreement; (ii) any matter set forth in the Disclosure Schedule; (iii) changes in general business, economic or financial market conditions; (iv) changes in national or international political or social conditions; (v) the failure of the Company to achieve any periodic earnings, revenue, expense or other estimated projections or budget; (vi) changes to financial, banking or securities markets; (vii) changes in laws, regulations, or other requirements of any governmental authority; and (viii) changes in U.S. GAAP or its application.

(g) "**Person**" means any individual, corporation, partnership, trust, limited liability company, association or other entity.

(h) "**Purchaser**" has the meaning set forth in the Preamble.

(i) "**Securities Act**" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

(j) "**Shares**" means the shares of Series A Preference Shares issued at the Closing.

(k) "**Transaction Agreements**" means this Agreement and the Shareholders' Agreement.

2. Representations and Warranties of the Company. The Company hereby represents and warrants to each Purchaser that, except as set forth on the Disclosure Schedule attached as Exhibit C to this Agreement, which exceptions shall be deemed to be part of the representations and warranties made hereunder, the following representations are true and correct as of the date hereof and as of the Closing Date, except for such representations and warranties made as of a specific date, which shall be true and correct as of such date. The Disclosure Schedule shall be arranged in sections corresponding to the numbered and lettered sections and subsections contained in this Section 2, and the disclosures in any section or subsection of the Disclosure Schedule shall qualify other sections and subsections in this Section 2 to the extent it is reasonably apparent from a reading of the disclosure that such disclosure is applicable to such other sections and subsections.

2.1. Organization, Good Standing, Corporate Power and Qualification. The Company is an exempted company limited by shares duly organized, validly existing and in good standing under the laws of the Cayman Islands and has all requisite corporate power and authority to carry on its business as presently conducted and as proposed to be conducted.

2.2. Capitalization.

(a) As of the date hereof the authorized capital of the Company consists of, and immediately prior to the Closing on the Closing Date, the authorized capital of the Company shall be $35,000 divided into:

(i) 250,000,000 common shares, $0.0001 par value per share (the "Common Shares"), 78,000,000 shares of which are issued and outstanding. The Company holds no Common Shares in its treasury.

(ii) 100,000,000 Preference Shares, $0.0001 par value per share of which 50,000,000 shares have been designated a separate class of shares called Series A Preference Shares, $0.0001 par value per share, none of which are issued and outstanding. The rights, privileges and preferences of the Preference Shares and the Series A Preference Shares are as stated in the Restated Articles and as provided by the Cayman Islands Companies Law (Revised).

(b) Except for (i) the conversion privileges of the Shares (as set forth in the Restated Articles), (ii) as set forth in the Shareholders' Agreement, and (iii) the securities and rights described in Subsection 2.2(b)(iii) of the Disclosure Schedule, there are no

outstanding options, warrants, rights (including conversion or preemptive rights and rights of first refusal or similar rights) or agreements, orally or in writing, relating to the issuance, purchase, voting, or transfer the Shares or any securities convertible into or exchangeable for shares of Common Shares or Series A Preference Shares.

2.3. Authorization. All action required to be taken by the Company's Board of Directors and members in order to authorize the Company to enter into the Transaction Agreements, and to issue the Shares at the Closing and the Common Shares issuable upon conversion of the. Shares, has been taken or will be taken prior to the Closing. The Transaction Agreements, when executed and delivered by the Company, shall constitute valid and legally binding obligations of the Company, enforceable against the Company in accordance with their respective terms except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, or other laws of general application relating to or affecting the enforcement of creditors' rights generally, or (ii) as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

2.4. Valid Issuance of Shares. The Shares, when issued, sold and delivered in accordance with the terms and for the consideration set forth in this Agreement, will be validly issued, fully paid and nonassessable and free of restrictions on transfer other than restrictions on transfer under the Transaction Agreements and the Restated Articles, applicable United States state and federal securities laws and liens or encumbrances created by or imposed by a Purchaser. Assuming the accuracy of the representations of the Purchasers in Section 3 of this Agreement and subject to the filings described in Subsection 2.5(ii) below, the Shares will be issued in compliance with all applicable United States federal and state securities laws. The Common Shares issuable upon conversion of the Shares as of the Closing Date have been duly reserved for issuance, and upon issuance in accordance with the terms of the Restated Articles, will be validly issued, fully paid and nonassessable and free of restrictions on transfer other than restrictions on transfer under the Transaction Agreements and the Restated Articles, applicable United States federal and state securities laws and liens or encumbrances created by or imposed by a Purchaser. Based in part upon the representations of the Purchasers in Section 3 of this Agreement, and subject to Subsection 2.5 below, the Common Shares issuable upon conversion of the Shares will be issued in compliance with all applicable United States federal and state securities laws.

2.5. Governmental Consents and Filings. Assuming the accuracy of the representations made by the Purchasers in Section 3 of this Agreement, no consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority is required on the part of the Company in connection with the consummation of the transactions contemplated by this Agreement, except for (i) the filing of the Restated Articles, which will be filed on or prior to the Closing Date, and (ii) filings required under applicable United States state securities laws, if any, which have been made or will be made following the Closing in accordance with applicable law or regulation.

2.6. Intellectual Property. To the best of the Company's knowledge, the Company owns or possesses or believes it can acquire on commercially reasonable terms sufficient legal rights to all Company Intellectual Property without any known infringement of, the rights of others.

2.7. Compliance with Other Instruments. The Company is not, to its knowledge, in violation of or default under (i) as of the Closing Date, of any provisions of its Restated Memorandum, (ii) as of the Closing Date, of any provisions of the Restated Articles, (iii) any instrument, judgment, order, writ or decree, (iv) any note, indenture or mortgage, (v) any lease, agreement, contract or purchase order to which it is a party or by which it is bound that is required to be listed on the Disclosure Schedule, or (vi) of any provision of law, rule or regulation of any governmental authority applicable to the Company, in the case of each of clauses (iii) – (vi) except as would not have a Material Adverse Effect.

2.8. Certain Transactions.

(a) Other than (i) standard employee benefits generally made available to all employees, and (ii) any director and officer indemnification and share purchase agreements approved by the Board of Directors, there are no material agreements, understandings or proposed transactions between the Company and any of its officers, directors, consultants or key employees.

2.9. Rights of Registration and Voting Rights. Except as may be provided in the Shareholders' Agreement, the Company is not under any obligation to register under the Securities Act or similar foreign statute, rule or regulation, any of its currently outstanding securities or any securities issuable upon exercise or conversion of its currently outstanding securities. To the Company's knowledge, except as contemplated in the Shareholders' Agreement, no shareholder of the Company has entered into any agreements with respect to the voting of capital shares of the Company.

2.10. Tax Returns and Payments. There are no taxes due and payable by the Company which have not been timely paid. There are no accrued and unpaid taxes of the Company which are due, whether or not assessed or disputed. There have been no examinations or audits of any tax returns or reports by any applicable governmental agency. The Company has duly and timely filed all tax returns required to have been filed by it and there are in effect no waivers of applicable statutes of limitations with respect to taxes for any year.

3. Representations and Warranties of the Purchasers. Each Purchaser hereby represents and warrants to the Company, severally and not jointly, that:

3.1. Authorization. The Purchaser has, as applicable, full legal capacity, power and authority to enter into the Transaction Agreements. The Transaction Agreements to which the Purchaser is a party, when executed and delivered by the Purchaser, will constitute valid and legally binding obligations of the Purchaser, enforceable in accordance with their terms, except (a) as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and any other laws of general application affecting enforcement of creditors' rights generally, and (b) as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

3.2. Purchase Entirely for Own Account. This Agreement is made with the Purchaser in reliance upon the Purchaser's representation to the Company, which by the Purchaser's execution of this Agreement, the Purchaser hereby confirms, that the Shares to be

acquired by the Purchaser will be acquired for investment for the Purchaser's own account, not as a nominee or agent, and not with a view to the resale or distribution of any part thereof, and that the Purchaser has no present intention of selling, granting any participation in, or otherwise distributing the same. By executing this Agreement, the Purchaser further represents that the Purchaser does not presently have any contract, undertaking, agreement or arrangement with any Person to sell, transfer or grant participations to such Person or to any third Person, with respect to any of the Shares. The Purchaser has not been formed for the specific purpose of acquiring the Shares.

3.3. Disclosure of Information. The Purchaser has had an opportunity to discuss the Company's business, management, financial affairs and the terms and conditions of the offering of the Shares with the Company's management and has had an opportunity to review the financing memorandum previously distributed by the Company to the Purchaser.

3.4. Restricted Securities. The Purchaser understands that the Shares have not been, and will not be, registered under the Securities Act, by reason of a specific exemption from the registration provisions of the Securities Act which depends upon, among other things, the bona fide nature of the investment intent and the accuracy of the Purchaser's representations as expressed herein. The Purchaser understands that the Shares are "restricted securities" under applicable U.S. federal and state securities laws and that, pursuant to these laws, the Purchaser must hold the Shares indefinitely unless they are registered with the Securities and Exchange Commission and qualified by state authorities, or an exemption from such registration and qualification requirements is available. The Purchaser acknowledges that the Company has no obligation to register or qualify the Shares, or the Common Shares into which the Shares may be converted, for resale except as set forth in the Shareholders' Agreement. The Purchaser further acknowledges that if an exemption from registration or qualification is available, it may be conditioned on various requirements including, but not limited to, the time and manner of sale, the holding period for the Shares, and on requirements relating to the Company which are outside of the Purchaser's control, and which the Company is under no obligation and may not be able to satisfy.

3.5. No Public Market. The Purchaser understands that no public market now exists for the Shares, and that the Company has made no assurances that a public market will ever exist for the Shares.

3.6. Legends. The Purchaser understands that the Shares and any securities issued in respect of or exchange for the Shares, may bear one or all of the following legends:

> "THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER ANY SECURITIES ACT, INCLUDING THE SECURITIES ACT OF 1933. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.
>
> THE SECURITIES REPRESENTED HEREBY MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN AGREEMENT BETWEEN THE COMPANY AND THE SHAREHOLDERS, A COPY OF WHICH IS AVAILABLE ON REQUEST FROM THE COMPANY, AND WHICH INCLUDES, AMONG OTHER PROVISIONS, A RIGHT OF FIRST REFUSAL IN FAVOR OF THE COMPANY ON ALL TRANSFERS OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE."

(a) Any legend set forth in, or required by, the other Transaction Agreements.

(b) Any legend required by the securities laws of any state or other jurisdiction to the extent such laws are applicable to the Shares represented by the certificate so legended.

3.7. Accredited Investor. The Purchaser is an accredited investor as defined in Rule 501(a) of Regulation D promulgated under the Securities Act.

3.8. Foreign Investors. If the Purchaser is not a United States person (as defined by Section 7701(a)(30) of the Code), the Purchaser hereby represents that it has satisfied itself as to the full observance of the laws of its jurisdiction in connection with any invitation to subscribe for the Shares or any use of this Agreement, including (i) the legal requirements within its jurisdiction for the purchase of the Shares, (ii) any foreign exchange restrictions applicable to such purchase, (iii) any governmental or other consents that may need to be obtained, and (iv) the income tax and other tax consequences, if any, that may be relevant to the purchase, holding, redemption, sale, or transfer of the Shares. The Purchaser's subscription and payment for and continued beneficial ownership of the Shares will not violate any applicable securities or other laws of the Purchaser's jurisdiction, and the Purchaser's subscription will not affect the status of the Company or its subsidiaries to do business in China using a wholly foreign owned entity (WFOE).

3.9. No General Solicitation. Neither the Purchaser, nor any of its officers, directors, employees, agents, stockholders or partners has either directly or indirectly, including through a broker or finder (a) engaged in any general solicitation, or (b) published any advertisement in connection with the offer and sale of the Shares.

3.10. Exculpation. The Purchaser acknowledges that it is not relying upon any Person in making its investment or decision to invest in the Company and the Company makes no representations or warranties as to the accuracy or completeness of the information contained in the information provided to Purchaser, other than as set forth in Section 2 of this Agreement. The Purchaser agrees that neither any Purchaser nor the respective controlling Persons, officers, directors, partners, agents, or employees of any Purchaser shall be liable to any other Purchaser for any action heretofore taken or omitted to be taken by any of them in connection with the purchase of the Shares.

3.11. Residence. If the Purchaser is an individual, then the Purchaser resides in the state or province identified in the address of the Purchaser set forth on Exhibit A; if the Purchaser is a partnership, corporation, limited liability company or other entity, then the office or offices of the Purchaser in which its principal place of business is identified in the address or addresses of the Purchaser set forth on Exhibit A.

4. Miscellaneous.

4.1. Survival of Warranties. Unless otherwise set forth in this Agreement, the representations and warranties of the Company and the Purchasers contained in this Agreement shall survive for one (1) year after the execution and delivery of this Agreement and shall in no way be affected by any investigation or knowledge of the subject matter thereof made by or on behalf of the Purchasers or the Company.

4.2. Successors and Assigns. The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

4.3. Governing Law. This Agreement shall be governed by the internal law of the State of Delaware without giving effect to any choice of law or conflict of law rules or provisions (of the State of Delaware or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Delaware.

4.4. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

4.5. Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

4.6. Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt or: (a) personal delivery to the party to be notified, (b) when sent, if sent by electronic mail or facsimile during normal business hours of the recipient, and if not sent during normal business hours, then on the recipient's next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) business day after deposit with a nationally recognized overnight courier, freight prepaid, specifying next business day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their address as set forth on the signature page or Exhibit A, or to such e-mail address, facsimile number or address as subsequently modified by written notice given in accordance with this Subsection 4.6. If notice is given to the Company, a copy

shall also be sent to FibroGen, Inc., Corporate Legal Department, 409 Illinois St., San Francisco, CA 94158, USA.

4.7. No Finder's Fees. Each party represents that it neither is nor will be obligated for any finder's fee or commission in connection with this transaction. Each Purchaser agrees to indemnify and to hold harmless the Company from any liability for any commission or compensation in the nature of a finder's or broker's fee arising out of this transaction (and the costs and expenses of defending against such liability or asserted liability) for which each Purchaser or any of its officers, employees, or representatives is responsible.

4.8. Amendments and Waivers. Any term of this Agreement may be amended, terminated or waived (a) prior to the Closing, only with the written consent of the Company and each Purchaser then party hereto, and (b) following the Closing, only with the written consent of the Company and holders of at least fifty (50%) of the then-outstanding Shares. Any amendment or waiver effected in accordance with this Subsection 4.8 shall be binding upon the Purchasers and each transferee of the Shares (or the Common Stock issuable upon conversion thereof), each future holder of all such securities, and the Company.

4.9. Severability. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision.

4.10. Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power or remedy of such non-breaching or non-defaulting party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

4.11. Entire Agreement. This Agreement (including the Exhibits hereto), the Restated Articles and the other Transaction Agreements constitute the full and entire understanding and agreement between the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties are expressly canceled.

4.12. Corporate Securities Law. THE SALE OF THE SECURITIES WHICH ARE THE SUBJECT OF THIS AGREEMENT HAS NOT BEEN QUALIFIED WITH THE COMMISSIONER OF CORPORATIONS OF THE STATE OF CALIFORNIA AND THE ISSUANCE OF THE SECURITIES OR THE PAYMENT OR RECEIPT OF ANY PART OF THE CONSIDERATION THEREFOR PRIOR TO THE QUALIFICATION IS UNLAWFUL, UNLESS THE SALE OF SECURITIES IS EXEMPT FROM THE QUALIFICATION BY SECTION 25100, 25102 OR 25105 OF THE CALIFORNIA CORPORATIONS CODE. THE RIGHTS OF ALL PARTIES TO THIS AGREEMENT ARE EXPRESSLY CONDITIONED UPON THE QUALIFICATION BEING OBTAINED UNLESS THE SALE IS SO EXEMPT.

4.13. Dispute Resolution.

(a) Any unresolved controversy or claim arising out of or relating to this Agreement, except as otherwise provided in this Agreement, shall be submitted to arbitration by one arbitrator mutually agreed upon by the parties, and if no agreement can be reached within thirty (30) days after names of potential arbitrators have been proposed by JAMS, Inc. ("**JAMS**"), then by one arbitrator having reasonable experience in transactions of the type provided for in this Agreement and who is chosen by JAMS. The arbitration shall take place in San Francisco, California, in accordance with JAMS' Comprehensive Arbitration Rules and Procedures rules then in effect, and judgment upon any award rendered in such arbitration will be binding and may be entered in any court having jurisdiction thereof. There shall be limited discovery prior to the arbitration hearing as follows: (a) exchange of witness lists and copies of documentary evidence and documents relating to or arising out of the issues to be arbitrated, (b) depositions of all party witnesses and (c) such other depositions as may be allowed by the arbitrators upon a showing of good cause. Depositions shall be conducted in accordance with the California Code of Civil Procedure, the arbitrator shall be required to provide in writing to the parties the basis for the award or order of such arbitrator, and a court reporter shall record all hearings, with such record constituting the official transcript of such proceedings.

(b) Each party will bear its own costs in respect of any disputes arising under this Agreement, provided that the prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such party may be entitled. Each of the parties to this Agreement consents to personal jurisdiction for any equitable action sought in the U.S. District Court for the District of Northern California or any court of the State of California having subject matter jurisdiction.

[Signature pages follow.]

IN WITNESS WHEREOF, the parties have executed this Share Purchase Agreement as of the date first written above.

COMPANY:	FIBROGEN CHINA ANEMIA HOLDINGS, LTD.
By:	/s/ Thomas B. Neff
Name:	Thomas B. Neff
Title:	Chief Executive Officer
Address:	c/o FibroGen, Inc. 409 Illinois Street San Francisco, CA 94158

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

GARY HARMON ANDERSON
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Gary Harmon Anderson
(Signature)

Name: _____
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 10,000

Aggregate Purchase Price (@$1.00 per share): $10,000.00

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Charles Antell
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Charles Antell
(Signature)

Name: _____
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 1,000,000

Aggregate Purchase Price (@$1.00 per share): $1,000,000

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

MARIA TERESA ARNAL
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Maria Teresa Arnal
(Signature)

Name: MARIA TERESA ARNAL
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 100,000

Aggregate Purchase Price (@$1.00 per share): 100,000

Method of Payment: Check _____

Wire transfer X

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Bradford T. Beeson
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Bradford T. Beeson
(Signature)

Name: _____
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 20,000

Aggregate Purchase Price (@$1.00 per share): $20,000

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Bruce H. Beeson
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Bruce H. Beeson
(Signature)

Name: Bruce H. Beeson
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 14,800

Aggregate Purchase Price (@$1.00 per share): $14,800.00

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Matthew S. Beeson
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Matthew S. Beeson
(Signature)

Name: Matthew S. Beeson
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 10,000

Aggregate Purchase Price (@$1.00 per share): $10,000.00

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

William H. Beeson
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ William H. Beeson
(Signature)

Name: William H. Beeson
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 8,000

Aggregate Purchase Price (@$1.00 per share): $8,000.00

Method of Payment: Check X

Wire transfer

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Dan Brecher
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Dan Brecher
(Signature)

Name: Dan Brecher
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 65,000

Aggregate Purchase Price (@$1.00 per share): $65,000.00

Method of Payment: Check ü

Wire transfer

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

SABIN WYATT CARR JR
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Sabin Wyatt Carr Jr
(Signature)

Name: SABIN WYATT CARR JR.
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 28,000

Aggregate Purchase Price (@$1.00 per share): $28,000.00

Method of Payment: Check ü

Wire transfer

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Curious Gems, LLC
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Winston Cutshall
(Signature)

Name: Winston Cutshall
(print)

Title: Sole member.

Address: 4501 Highland Dr
Dallas, TX 75205
USA

Number of Shares of Series A Preferred Stock Purchased: 7500

Aggregate Purchase Price (@$1.00 per share): 7500.00

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Dallas Mineral Partners, LLC
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Robert E. Howard
(Signature)

Name: Robert E. Howard
(print)

Title: Sole Member.

Address: 8214 Westchester Dr.
Suite 740
Dallas, TX 75225

Number of Shares of Series A Preferred Stock Purchased: 100,000

Aggregate Purchase Price (@$1.00 per share): $100,000

#2125 $50,000
#2122 $50,000

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Eli Investments Inc.

Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Steven Gold

(Signature)

Name: Steven Gold

(print)

Title: President

Address: 421 Ponte Vedra Blvd.
Ponte Vedra Beach FL 32082

Number of Shares of Series A Preferred Stock Purchased: 7,500

Aggregate Purchase Price (@$1.00 per share): 7,500

Method of Payment: Check X

Wire transfer _____

PURCHASERS:

ROBERT J. FINEGAN
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Robert J. Finegan
(Signature)

Name: Robert J. Finegan
(print)

Title: Sr. Vice Pres
Stifel Nicolaus & Company Incorporated

Address: 5956 Sherry Lane
Suite 875
Dallas, TX 75225

Number of Shares of Series A Preferred Stock Purchased: 100,000

Aggregate Purchase Price (@$1.00 per share): $100,000.00

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

FREDERICK CRAWFORD GROGANS
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Frederick Crawford Grogans
(Signature)

Name: FREDERICK CRAWFORD GROGANS
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 100,000

Aggregate Purchase Price (@$1.00 per share): $100,000

Method of Payment: Check X

Wire transfer

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Mark & Janice Gold

Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Mark Gold
/s/ Janice Gold

(Signature)

Name:

(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 7500

Aggregate Purchase Price (@$1.00 per share): 7500

Method of Payment: Check X

Wire transfer _____

PURCHASERS:

Grama Ventures LLC
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Roberto Rosenkranz
(Signature)

Name: Roberto Rosenkranz
(print)

Title: President

Address: P.O. Box 8
Menlo Park, CA 94026

Number of Shares of Series A Preferred Stock Purchased: 350,000

Aggregate Purchase Price (@$1.00 per share): $350,000

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Jaime Kalb Gout
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Jaime Kalb Gout
(Signature)

Name: Jaime Kalb Gout
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 150,000

Aggregate Purchase Price (@$1.00 per share): $150,000.00

Method of Payment: Check ____

Wire transfer X

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

DAHLIA W. GRANT IRA.
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Dahlia W. Grant
(Signature)

Name: DAHLIA W. GRANT
(print)

Title: CUSTODIAN

Address:

Number of Shares of Series A Preferred Stock Purchased: 30,000

Aggregate Purchase Price (@$1.00 per share): $30,000

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

HARVEY A. HERMAN LIVING TRUST
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Harvey A. Herman
(Signature)

Name: HARVEY A. HERMAN
(print)

Title: Trustee

Address:

Number of Shares of Series A Preferred Stock Purchased: 175,000

Aggregate Purchase Price (@$1.00 per share): $175,000 $\frac{xx}{100}$

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Winton A. Jackson, Jr
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Winton A. Jackson, Jr
(Signature)

Name: _____
(print)

Title: _____

Address:

* please issue a stock certificate

Number of Shares of Series A Preferred Stock Purchased: 50,000

Aggregate Purchase Price (@$1.00 per share): $50,000

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

JOSCAR INVESTMENT, LTD
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Joe O. Neuhoff Jr
(Signature)

Name: JOE O. NEUHOFF JR
(print)

Title: GEN PARTNER

Address: 4023 SINGLETON BLVD
DALLAS TX 75212

Number of Shares of Series A Preferred Stock Purchased: 50,000

Aggregate Purchase Price (@$1.00 per share): 50,000.00

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

FRED C. KENNEDY
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Fred C. Kennedy
(Signature)

Name: FRED C. KENNEDY
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 100,000

Aggregate Purchase Price (@$1.00 per share): $100,000.00

Method of Payment: Check ü (ENCLOSED)

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Kesef Investments, LLC – Class V

Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Michael F. Solomon
(Signature)

Name: Michael F. Solomon
(print)

Title: Managing Member

Address: 555 California St., 12th Floor
San Francisco, CA 94104

Number of Shares of Series A Preferred Stock Purchased: 60,000

Aggregate Purchase Price (@$1.00 per share): $60,000

Method of Payment: Check _____

Wire transfer ü

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Lai Family Trust
Dated December 14, 1993
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Cordelia Y Lai
(Signature)

Name: Cordelia Y Lai
(print)

Title: Trustee

Address:

Number of Shares of Series A Preferred Stock Purchased: 300,000

Aggregate Purchase Price (@$1.00 per share): $300,000

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Schuyler B. Marshall
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Schuyler B. Marshall
(Signature)

Name: _____
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 30,000

Aggregate Purchase Price (@$1.00 per share): $30,000

Method of Payment: Check _____

Wire transfer ü

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Dennis Mensch

Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Dennis Mensch
(Signature)

Name: _____
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 75,000

Aggregate Purchase Price (@$1.00 per share): $75,000

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

NEO VENTURES, LLC
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Adam C. Wagner
(Signature)

Name: Adam C. Wagner
Title Sole Member

Address:

2630 Exposition Blvd., Ste 120
Austin, TX 78703
(512) 477-0041 (w)
(512) 477-0676 (f)

Number of Shares of Series A Preferred Stock Purchased: 250,000

Aggregate Purchase Price (@$1.00 per share): $250,000

Method of Payment: Check _____

Wire transfer XX

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

André F. and Suellen S. Perold
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ André F. Perold & /s/ Suellen S. Perold
(Signature)

Name: André F. and Suellen S. Perold
(print)

Title

Address:

Number of Shares of Series A Preferred Stock Purchased: 200,000

Aggregate Purchase Price (@$1.00 per share): $200,000

Method of Payment: Check X

Wire transfer

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Peter A. Wish Revocable Trust dtd 12/23/92
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Peter A. Wish
(Signature)

Name: Dr. Peter A. Wish
(print)

Title: Trustee

Address:

Number of Shares of Series A Preferred Stock Purchased: 10,000

Aggregate Purchase Price (@$1.00 per share): 10,000

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Matthew J. Pickett
Julia R. Pickett

Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Matthew J. Pickett
/s/ Julia R. Pickett

(Signature)

Name: Matthew J. Pickett
Julia R. Pickett

(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 25,000

Aggregate Purchase Price (@$1.00 per share): $25,000

Method of Payment: Check ü

Wire transfer

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Primrose Partners, Ltd.
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Bruce H. Beeson
(Signature)

Name: Bruce H. Beeson
(print)

Title: General Partner

Address: P.O. Box 101752
Fort Worth, TX 76185

3737 South Hills Ave
Ft. Worth, TX 76109

Number of Shares of Series A Preferred Stock Purchased: 2,200

Aggregate Purchase Price (@$1.00 per share): $2,200

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

RRC BioFund, LP.
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ James Silverman
(Signature)

Name: James Silverman
(print)

Title: President

Address: 217R Concorn Ave
Cambridge, MA 02138

Number of Shares of Series A Preferred Stock Purchased: 1,000,000

Aggregate Purchase Price (@$1.00 per share): $1,000,000

Method of Payment: Check _____

Wire transfer ü

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Michael Salinaro
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Michael Salinaro
(Signature)

Name: _____
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 150000

Aggregate Purchase Price (@$1.00 per share): 150000

Method of Payment: Check _____

Wire transfer ü

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

R. Randolph Scott
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ R. Randolph Scott
(Signature)

Name: _____
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 100,000

Aggregate Purchase Price (@$1.00 per share): $100,000

Method of Payment: Check #111

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

David J. Shorms
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ David J. Shorms
(Signature)

Name: _____
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 200,000

Aggregate Purchase Price (@$1.00 per share): $200,000

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Anthony F. Sinclair
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Anthony F. Sinclair
(Signature)

Name: Anthony F. Sinclair
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: $7,500.00

Aggregate Purchase Price (@$1.00 per share): $7,500.00

Method of Payment: Check X #5216

Wire transfer

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Richard A. Smith
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Richard A. Smith
(Signature)

Name: _____
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 30,000

Aggregate Purchase Price (@$1.00 per share): $30,000

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Stern Family Trust
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Julian N. Stern, Trustee
(Signature)

Name: Julian N. Stern
(print)

Title: Trustee

Address:

Number of Shares of Series A Preferred Stock Purchased: 500,000

Aggregate Purchase Price (@$1.00 per share): $500,000

Method of Payment: Check _____

Wire transfer ü

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Peter & Mary Jane Suzman, JTWRS
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Peter Suzman
(Signature)

Name: Julian N. Stern
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 70,000

Aggregate Purchase Price (@$1.00 per share): $70,000

Method of Payment: Check ____

Wire transfer X

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

THE NINETY-SIX CORPORATION
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Fred C. Kennedy
(Signature)

Name: Fred C. Kennedy
(print)

Title: Vice-President

Address: 500 W Texas Ave #655
Midland, TX 79701

Number of Shares of Series A Preferred Stock Purchased: 250,000

Aggregate Purchase Price (@$1.00 per share): $250,000

Method of Payment: Check ü (enclosed)

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

C. Thomas Tull & Carole L. Tull JT TEN
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ C. Thomas Tull /s/ Carole L. Tull
(Signature)

Name: C. Thomas Tull & Carole L. Tull
(print)

Title: —

Address:

Number of Shares of Series A Preferred Stock Purchased: 300,000

Aggregate Purchase Price (@$1.00 per share): $300,000

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Dominik E. Zehnder
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Dominik E. Zehnder
(Signature)

Name: Dominik E. Zehnder
(print)

Title: —

Address:

Number of Shares of Series A Preferred Stock Purchased: 100,000

Aggregate Purchase Price (@$1.00 per share): $100,000

Method of Payment: Check _____

Wire transfer ü

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

RJS Virginia LLC
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ James Silverman
(Signature)

Name: James Silverman
(print)

Title: Partner

Address: 29 Colonial Way
Weston, MA 02493

Number of Shares of Series A Preferred Stock Purchased: 150,000

Aggregate Purchase Price (@$1.00 per share): $150,000

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Eric Zwisler
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Eric Zwisler
(Signature)

Name: Eric Zwisler
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 200,000

Aggregate Purchase Price (@$1.00 per share): $200,000

Method of Payment: Check _____

Wire transfer X

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Laurie Sands Harrison
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Laurie Sands Harrison
(Signature)

Name: Laurie Sands Harrison
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 30,000

Aggregate Purchase Price (@$1.00 per share): $30,000.00

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Patrick B. Sands

Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Patrick B. Sands
(Signature)

Name: Patrick B. Sands
(print)

Title: Separate Property

Address:

Number of Shares of Series A Preferred Stock Purchased: 30,000

Aggregate Purchase Price (@$1.00 per share): $30,000.00

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Toni A. Evans
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Toni A. Evans
(Signature)

Name: Toni A. Evans
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 25,000

Aggregate Purchase Price (@$1.00 per share): $25,000.00

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Ken D. Mindell
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Ken D. Mindell
(Signature)

Name: Ken D. Mindell
(print)

Title: _____

Address:

Number of Shares of Series A Preferred Stock Purchased: 50,000

Aggregate Purchase Price (@$1.00 per share): $50,000.00

Method of Payment: Check X

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

The Lai Family Trust
Dated December 14, 1993
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Cordelia Y Lai
(Signature)

Name: Cordelia Y Lai
(print)

Title: Trustee

Address:

Number of Shares of Series A Preferred Stock Purchased: 100,000

Aggregate Purchase Price (@$1.00 per share): $100,000.00

Method of Payment: Check ü

Wire transfer _____

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Grama Ventures LLC
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Roberto Rosenkranz
(Signature)

Name: Roberto Rosenkranz
(print)

Title: President

Address:

Number of Shares of Series A Preferred Stock Purchased:

Aggregate Purchase Price (@$1.00 per share): $100,000

Method of Payment: Check X

Wire transfer

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

Lyda Hunt-Herbert Trusts -
Lyda Bunker Hunt
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Walter P. Roach, Trustee
(Signature) Walter P. Roach, Trustee

By: /s/ James Parker, Trustee
James L. Parker, Trustee

Address:

Number of Shares of Series A Preferred Stock Purchased: 25,000

Aggregate Purchase Price (@$1.00 per share): $25,000.00

Method of Payment: Check _____

Wire transfer X

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

BALBIR SINGH BINDRA

Exact name of Purchaser
(as it should appear in the Register of Members):

By:
(Signature)

/s/ Balbir Singh Bindra

Name: Balbir Singh Bindra
(print)

Title: Mr

Address:

Number of Shares of Series A Preferred Stock Purchased: 25,000

Aggregate Purchase Price (@$1.00 per share): USD25,000

Method of Payment: Check _____

Wire transfer Yes

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

David Merrylees
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ David Merrylees
(Signature)

Name: David Merrylees
(print)

Title: MR

Address:

Number of Shares of Series A Preferred Stock Purchased: 100,000 (one hundred thousand)

Aggregate Purchase Price (@$1.00 per share): US$100,000.00

Method of Payment: Check _____

Wire transfer X

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

GABRIELA KALB GOUT
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Gabriela Kalb Gout
(Signature)

Name: GABRIELA KALB GOUT
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 25,000

Aggregate Purchase Price (@$1.00 per share): $25,000.—

Method of Payment: Check _____

Wire transfer X

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

PURCHASERS:

MAURICIO REYNAUD DE LA LAMA
Exact name of Purchaser
(as it should appear in the Register of Members):

By: /s/ Mauricio Reynaud De La Lama
(Signature)

Name: MAURICIO REYNAUD DE LA LAMA
(print)

Title:

Address:

Number of Shares of Series A Preferred Stock Purchased: 25,000

Aggregate Purchase Price (@$1.00 per share): $25,000.—

Method of Payment: Check _____

Wire transfer X

SIGNATURE PAGE TO SHARE PURCHASE AGREEMENT

AMENDED AND RESTATED
STOCK PLAN
OF

FIBROGEN, INC.

TABLE OF CONTENTS

Amended and Restated

STOCK OPTION PLAN

OF

FIBROGEN, INC.

1. PURPOSES OF THE PLAN.

The purposes of the 1994 Stock Plan, as amended and restated (the "Plan") of FibroGen, Inc., a Delaware corporation (the "Company"), are to:

(a) Encourage selected employees, directors and consultants to improve operations and increase profits of the Company;

(b) Encourage selected employees, directors and consultants to accept or continue employment or association with the Company or its Affiliates; and

(c) Increase the interest of selected employees, directors and consultants in the Company's welfare through participation in the growth in value of the common stock of the Company (the "Common Stock").

Options granted under this Plan ("Options") may be "incentive stock options" ("ISOs") intended to satisfy the requirements of Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), or "nonstatutory options" ("NSOs").

2. ELIGIBLE PERSONS.

Every person who at the date of grant of an Option is a full-time employee of the Company or of any Affiliate (as defined below) of the Company is eligible to receive NSOs or ISOs under this Plan. Every person who at the date of grant is a consultant to, or nonemployee director of, the Company or any Affiliate (as defined below) of the Company is eligible to receive NSOs under this Plan. The term "Affiliate" as used in the Plan means a parent or subsidiary corporation as defined in the applicable provisions (currently Sections 424(e) and (f), respectively) of the Code. The term "employee" includes an officer or director who is an employee, of the Company. The term "consultant" includes persons employed by, or otherwise affiliated with, a consultant.

3. STOCK SUBJECT TO THIS PLAN.

Subject to the provisions of Section 6.1.1 of the Plan, the total number of shares of stock which may be issued under options granted pursuant to this Plan shall not exceed 11,000,000 shares of Common Stock. The shares covered by the portion of any grant under the Plan which expires unexercised shall become available again for grants under the Plan.

4. ADMINISTRATION.

(a) This Plan shall be administered by the Board of Directors of the Company (the "Board") or, either in its entirety or only insofar as required pursuant to Section 4(b) hereof, by a committee (the "Committee") of at least two Board members to which administration of the Plan, or of part of the Plan, is delegated (in either case, the "Administrator"); provided, however, that the Board may also designate the Chief Executive Officer of the Company as an Administrator on such terms and conditions as may be established from time to time by the Board.

(b) From and after such time as the Company registers a class of equity securities under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), it is intended that this Plan shall be administered in accordance with the disinterested administration requirements of Rule 16b-3 promulgated by the Securities and Exchange Commission ("Rule 16b-3"), or any successor rule thereto.

(c) Subject to the other provisions of this Plan, the Administrator shall have the authority, in its discretion: (i) to grant Options; (ii) to determine the fair market value of the Common Stock subject to Options; (iii) to determine the exercise price of Options granted; (iv) to determine the persons to whom, and the time or times at which, Options shall be granted, and the number of shares subject to each Option; (v) to interpret this Plan; (vi) to prescribe, amend, and rescind rules and regulations relating to this Plan; (vii) to determine the terms and provisions of each Option granted (which need not be identical), including but not limited to, the time or times at which Options shall be exercisable; (viii) with the consent of the optionee, to modify or amend any Option; (ix) to defer (with the consent of the optionee) or accelerate the exercise date of any Option; (x) to authorize any person to execute on behalf of the Company any instrument evidencing the grant of an Option; and (xi) to make all other determinations deemed necessary or advisable for the administration of this Plan. The Administrator may delegate nondiscretionary administrative duties to such employees of the Company as it deems proper.

(d) All questions of interpretation, implementation, and application of this Plan shall be determined by the Administrator. Such determinations shall be final and binding on all persons.

(e) With respect to persons subject to Section 16 of the Exchange Act, if any, transactions under this Plan are intended to comply with the applicable conditions of Rule 16b-3, or any successor rule thereto. To the extent any provision of this Plan or action by the Administrator fails to so comply, it shall be deemed null and void, to the extent permitted by law and deemed advisable by the Administrator. Notwithstanding the above, it shall be the responsibility of such persons, not of the Company or the Administrator, to comply with the requirements of Section 16 of the Exchange Act; and neither the Company nor the Administrator shall be liable if this Plan or any transaction under this Plan fails to comply with the applicable conditions of Rule 16b-3 or any successor rule thereto, or if any such person incurs any liability under Section 16 of the Exchange Act.

5. GRANTING OF OPTIONS; OPTION AGREEMENT.

(a) No Options shall be granted under this Plan after ten years from the date of adoption of this Plan by the Board.

(b) Each Option shall be evidenced by a written stock option agreement, in form satisfactory to the Company, executed by the Company and the person to whom such Option is granted; provided, however, that the failure by the Company, the optionee, or both to execute such an agreement shall not invalidate the granting of an Option, although the exercise of each option shall be subject to Section 6.1.3.

(c) The stock option agreement shall specify whether each Option it evidences is a NSO or an ISO.

(d) Subject to Section 6.3.3 with respect to ISOs, the Administrator may approve the grant of Options under this Plan to persons who are expected to become employees, directors or consultants of the Company, but are not employees, directors or consultants at the date of approval.

6. TERMS AND CONDITIONS OF OPTIONS.

Each Option granted under this Plan shall be subject to the terms and conditions set forth in Section 6.1. NSOs shall be also subject to the terms and conditions set forth in Section 6.2, but not those set forth in Section 6.3. ISOs shall also be subject to the terms and conditions set forth in Section 6.3, but not those set forth in Section 6.2.

6.1 Terms and Conditions to Which All Options Are Subject. All Options granted under this Plan shall be subject to the following terms and conditions:

6.1.1 Changes in Capital Structure. Subject to Section 6.1.2, if the stock of the Company is changed by reason of a stock split, reverse stock split, stock dividend, or

recapitalization, combination or reclassification, appropriate adjustments shall be made by the Board in (a) the number and class of shares of stock subject to this Plan and each Option outstanding under this Plan, and (b) the exercise price of each outstanding Option; provided, however, that the Company shall not be required to issue fractional shares as a result of any such adjustments. Each such adjustment shall be subject to approval by the Board in its sole discretion.

6.1.2 Corporate Transactions. In the event of the proposed dissolution or liquidation of the Company, the Administrator shall notify each optionee at least 30 days prior to such proposed action. To the extent not previously exercised, all Options will terminate immediately prior to the consummation of such proposed action. In the event of a merger or consolidation of the Company with or into another corporation or entity in which the Company does not survive, or in the event of a sale of all or substantially all of the assets of the Company in which the shareholders of the Company receive securities of the acquiring entity or an affiliate thereof, all Options shall be assumed or equivalent options shall be substituted by the successor corporation (or other entity) or a parent or subsidiary of such successor corporation (or other entity). If such successor does not agree to assume the Options or to substitute equivalent options therefor, unless the Administrator shall determine otherwise, the Options will expire upon such event.

6.1.3 Time of Option Exercise. Subject to Section 5 and Section 6.3.4, Options granted under this Plan shall be exercisable (a) immediately as of the effective date of the stock option agreement granting the Option, or (b) in accordance with a schedule related to the date of the grant of the Option, the date of first employment, or such other date as may be set by the Administrator (in any case, the "Vesting Base Date") and specified in the written stock option agreement relating to such Option; provided, however, that with respect to time vesting options, the right to exercise an Option must vest at the rate of at least 20% per year over five years from the date the option was granted. In any case, no Option shall be exercisable until a written stock option agreement in form satisfactory to the Company is executed by the Company and the optionee.

6.1.4 Option Grant Date. Except in the case of advance approvals described in Section 5(d), the date of grant of an Option under this Plan shall be the date as of which the Administrator approves the grant.

6.1.5 Nonassignability of Option Rights. No Option granted under this Plan shall be assignable or otherwise transferable by the optionee except by will or by the laws of descent and distribution. During the life of the optionee, an Option shall be exercisable only by the optionee.

6.1.6 Payment. Except as provided below, payment in full, in cash, shall be made for all stock purchased at the time written notice of exercise of an Option is given to the Company, and proceeds of any payment shall constitute general funds of the Company. At the time an Option is granted or exercised, the Administrator, in the exercise of its absolute discretion after considering any tax or accounting consequences, may authorize any one or more of the following additional methods of payment:

(a) Acceptance of the optionee's full recourse promissory note for all or part of the Option price, payable on such terms and bearing such interest rate as determined by the Administrator (but in no event less than the minimum interest rate specified under the Code at which no additional interest would be imputed), which promissory note may be either secured or unsecured in such manner as the Administrator shall approve (including, without limitation, by a security interest in the shares of the Company);

(b) Delivery by the optionee of Common Stock already owned by the optionee for all or part of the Option price, provided the value (determined as set forth in Section 6.1.11) of such Common Stock is equal on the date of exercise to the Option price, or such portion thereof as the optionee is authorized to pay by delivery of such stock; provided, however, that if an optionee has exercised any portion of any Option granted by the Company by delivery of Common Stock, the optionee may not, within six months following such exercise, exercise any Option granted under this Plan by delivery of Common Stock without the consent of the Administrator; and

(c) Any other consideration and method of payment to the extent permitted under Sections 408 and 409 of the Delaware General Corporation Law.

6.1.7 Termination of Employment. If for any reason other than death or permanent and total disability, an optionee ceases to be employed by the Company or any of its Affiliates (such event being called a "Termination"), Options held at the date of Termination (to the extent then exercisable) may be exercised in whole or in part at any time within three months of the date of such Termination, or such other period of not less than thirty days after the date of such Termination as is specified in the Option Agreement (but in no event after the Expiration Date); provided, that if such exercise of the Option would result in liability for the optionee under Section 16(b) of the Exchange Act, then such three-month period automatically shall be extended until the tenth day following the last date upon which optionee has any liability under Section 16(b) (but in no event after the Expiration Date). If an optionee dies or becomes permanently and totally disabled (within the meaning of Section 22(e)(3) of the Code) while employed by the Company or an Affiliate or within the period that the Option remains exercisable after Termination, Options then held (to the extent

then exercisable) may be exercised, in whole or in part, by the optionee, by the optionee's personal representative or by the person to whom the Option is transferred by devise or the laws of descent and distribution, at any time one year after the death or the permanent and total disability of the optionee or any other period of more than six months from the date of Termination as is specified in the Option Agreement (but in no event after the Expiration Date). For purposes of this Section 6.1.7, "employment" includes service as a director or as a consultant. For purposes of this Section 6.1.7, an optionee's employment shall not be deemed to terminate by reason of sick leave, military leave or other leave of absence approved by the Administrator, if the period of any such leave does not exceed 90 days or, if longer, if the optionee's right to reemployment by the Company or any Affiliate is guaranteed either contractually or by statute.

6.1.8 Repurchase of Stock. At the option of the Administrator, the stock to be delivered pursuant to the exercise of any Option granted to an employee, director or consultant under this Plan may be subject to a right of repurchase in favor of the Company with respect to any employee, or director or consultant whose employment, or director or consulting relationship with the Company is terminated. Such right of repurchase either:

(a) shall be at the Option exercise price and (i) shall lapse at the rate of at least 20% per year over five years from the date the Option is granted (without regard to the date it becomes exercisable), and must be exercised for cash or cancellation of purchase money indebtedness within 90 days of such termination and (ii) if the right is assignable by the Company, the assignee must pay the Company upon assignment of the right (unless the assignee is a 100% owned subsidiary of the Company or is an Affiliate) cash equal to the difference between the Option exercise price and the value (determined as set forth in Section 6.1.11) of the stock to be purchased if the Option exercise price is less than such value; or

(b) shall be at the higher of the Option exercise price or the value (determined as set forth in Section 6.1.11) of the stock being purchased on the date of termination, and must be exercised for cash or cancellation of purchase money indebtedness within 90 days of termination of employment, and such right shall terminate when the Company's securities become publicly traded.

Determination of the number of shares subject to any such right of repurchase shall be made as of the date the employee's employment by, director's director relationship with, or consultant's consulting relationship with, the Company terminates, not as of the date that any Option granted to such employee, director or consultant is thereafter exercised.

6.1.9 Withholding and Employment Taxes. At the time of exercise of an Option or at such other time as the amount of such obligations becomes determinable (the "Tax Date"), the optionee shall remit to the Company in cash all applicable federal and state withholding and employment taxes. If authorized by the Administrator in its sole discretion after considering any tax or accounting consequences, an optionee may elect to (i) deliver a promissory note on such terms as the Administrator deems appropriate, (ii) tender to the Company previously owned shares of Stock or other securities of the Company, or (iii) have shares of Common Stock which are acquired upon exercise of the Option withheld by the Company to pay some or all of the amount of tax that is required by law to be withheld by the Company as a result of the exercise of such Option, subject to the following limitations:

(a) Any election pursuant to clause (iii) above by an optionee subject to Section 16 of the Exchange Act shall either (x) be made at least six months before the Tax Date and shall be irrevocable; or (y) shall be made in (or made earlier to take effect in) any ten-day period beginning on the third business day following the date of release for publication of the Company's quarterly or annual summary statements of earnings and shall be subject to approval by the Administrator, which approval may be given at any time after such election has been made. In addition, in the case of (y), the Option shall be held at least six months prior to the Tax Date.

(b) Any election pursuant to clause (ii) above, where the optionee is tendering Common Stock issued pursuant to the exercise of an Option, shall require that such shares be held at least six months prior to the Tax Date.

Any of the foregoing limitations may be waived (or additional limitations may be imposed) by the Administrator, in its sole discretion, if the Administrator determines that such foregoing limitations are not required (or that such additional limitations are required) in order that the transaction shall be exempt from Section 16(b) of the Exchange Act pursuant to Rule 16b-3, or any successor rule thereto. In addition, any of the foregoing limitations may be waived by the Administrator, in its sole discretion, if the Administrator determines that Rule 16b-3, or any successor rule thereto, is not applicable to the exercise of the Option by the optionee or for any other reason.

Any securities tendered or withheld in accordance with this Section 6.1.9 shall be valued by the Company as of the Tax Date.

6.1.10 Other Provisions. Each Option granted under this Plan may contain such other terms, provisions, and conditions not inconsistent with this Plan as may be determined by the Administrator, and each ISO granted under this Plan shall include such provisions and conditions as are necessary to qualify the Option as an "incentive stock option" within the

meaning of Section 422 of the Code. If Options provide for a right of first refusal in favor of the Company with respect to stock acquired by employees, directors or consultants, such Options shall provide that the right of first refusal shall terminate upon the earlier of (i) the closing of the Company's initial registered public offering to the public generally, or (ii) the date ten years after the grant date as set forth in Section 6.1.4.

6.1.11 Determination of Value. For purposes of the Plan, the value of Common Stock or other securities of the Company shall be determined as follows:

(a) If the stock of the Company is listed on any established stock exchange or a national market system, including without limitation the National Market System of the National Association of Securities Dealers, Inc. Automated Quotation System, its fair market value shall be the closing sales price for such stock or the closing bid if no sales were reported, as quoted on such system or exchange (or the largest such exchange) for the date the value is to be determined (or if there are no sales for such date, then for the last preceding business day on which there were sales), as reported in the Wall Street Journal or similar publication.

(b) If the stock of the Company is regularly quoted by a recognized securities dealer but selling prices are not reported, its fair market value shall be the mean between the high bid and low asked prices for the stock on the date the value is to be determined (or if there are no quoted prices for the date of grant, then for the last preceding business day on which there were quoted prices).

(c) In the absence of an established market for the stock, the fair market value thereof shall be determined in good faith by the Administrator, with reference to the Company's net worth, prospective earning power, dividend-paying capacity, and other relevant factors, including the goodwill of the Company, the economic outlook in the Company's industry, the Company's position in the industry and its management, and the values of stock of other corporations in the same or a similar line of business.

6.1.12 Option Term. Subject to Section 6.3.5, no Option shall be exercisable more than ten years after the date of grant, or such lesser period of time as is set forth in the stock option agreement (the end of the maximum exercise period stated in the stock option agreement is referred to in this Plan as the "Expiration Date").

6.1.13 Exercise Price. The exercise price of any Option granted to any person who owns, directly or by attribution under the Code currently Section 424(d), stock possessing more than ten percent of the total combined voting power of all classes of stock of the Company or of any Affiliate

(a “Ten Percent Stockholder”) shall in no event be less than 110% of the fair market value (determined in accordance with Section 6.1.11) of the stock covered by the Option at the time the Option is granted.

6.2 Terms and Conditions to Which Only NSOs Are Subject. Options granted under this Plan which are designated as NSOs shall be subject to the following terms and conditions:

6.2.1 Exercise Price. Except as set forth in Section 6.1.13, the exercise price of a NSO shall be not less than 85% of the fair market value (determined in accordance with Section 6.1.11) of the stock subject to the Option on the date of grant.

6.3 Terms and Conditions to Which Only ISOs Are Subject. Options granted under this Plan which are designated as ISOs shall be subject to the following terms and conditions:

6.3.1 Exercise Price. Except as set forth in Section 6.1.13, the exercise price of an ISO shall be determined in accordance with the applicable provisions of the Code and shall in no event be less than the fair market value (determined in accordance with Section 6.1.11) of the stock covered by the Option at the time the Option is granted.

6.3.2 Disqualifying Dispositions. If stock acquired by exercise of an ISO granted pursuant to this Plan is disposed of in a “disqualifying disposition” within the meaning of Section 422 of the Code, the holder of the stock immediately before the disposition shall promptly notify the Company in writing of the date and terms of the disposition and shall provide such other information regarding the Option as the Company may reasonably require.

6.3.3 Grant Date. If an ISO is granted in anticipation of employment as provided in Section 5(d), the Option shall be deemed granted, without further approval, on the date the grantee assumes the employment relationship forming the basis for such grant, and, in addition, satisfies all requirements of this Plan for Options granted on that date.

6.3.4 Vesting. Notwithstanding any other provision of this Plan, ISOs granted to any optionee under all incentive stock option plans of the Company and its subsidiaries may not “vest” for more than $100,000 in fair market value of stock (measured on the grant dates(s)) in any calendar year. For purposes of the preceding sentence, an option “vests” when it first becomes exercisable. If, by their terms, such ISOs taken together would vest to a greater extent in a calendar year, and unless otherwise provided by the Administrator, the vesting limitation described above shall be applied by deferring the exercisability of those ISOs or portions of ISOs which have the highest per share exercise prices; but in no event shall more than $100,000 in fair market value of stock (measured on the

grant date(s)) vest in any calendar year. The ISOs or portions of ISOs whose exercisability is so deferred shall become exercisable on the first day of the first subsequent calendar year during which they may be exercised, as determined by applying these same principles and all other provisions of this Plan including those relating to the expiration and termination of ISOs. In no event, however, will the operation of this Section 6.3.4 cause an ISO to vest before its terms or, having vested, cease to be vested.

6.3.5 Term. Notwithstanding Section 6.1.12, no ISO granted to any Ten Percent Stockholder shall be exercisable more than five years after the date of grant.

7. MANNER OF EXERCISE.

(a) An optionee wishing to exercise an Option shall give written notice to the Company at its principal executive office, to the attention of the officer of the Company designated by the Administrator, accompanied by payment of the exercise price as provided in Section 6.1.6. The date the Company receives written notice of an exercise hereunder accompanied by payment of the exercise price will be considered as the date such Option was exercised.

(b) Promptly after receipt of written notice of exercise of an Option, the Company shall, without stock issue or transfer taxes to the optionee or other person entitled to exercise the Option, deliver to the optionee or such other person a certificate or certificates for the requisite number of shares of stock. An optionee or permitted transferee of an optionee shall not have any privileges as a shareholder with respect to any shares of stock covered by the Option until the date of issuance (as evidenced by the appropriate entry on the books of the Company or a duly authorized transfer agent) of such shares.

8. EMPLOYMENT OR CONSULTING RELATIONSHIP.

Nothing in this Plan or any Option granted thereunder shall interfere with or limit in any way the right of the Company or of any of its Affiliates to terminate any optionee’s employment or consulting at any time, nor confer upon any optionee any right to continue in the employ of, or consult with, the Company or any of its Affiliates.

9. FINANCIAL INFORMATION.

The Company shall provide to each optionee during the period such optionee holds an outstanding Option, and to each holder of Common Stock acquired upon exercise of Options granted under the Plan for so long as such person is a holder of such Common Stock, annual financial statements of the Company as prepared either by the Company or independent certified public accountants of the Company. Such financial statements shall include, at a minimum, a balance sheet and an income statement, and shall be delivered as soon as practicable following the end of the Company's fiscal year.

10. CONDITIONS UPON ISSUANCE OF SHARES.

Shares of Common Stock shall not be issued pursuant to the exercise of an Option unless the exercise of such Option and the issuance and delivery of such shares pursuant thereto shall comply with all relevant provisions of law, including, without limitation, the Securities Act of 1933, as amended (the "Securities Act").

11. NONEXCLUSIVITY OF THE PLAN.

The adoption of the Plan shall not be construed as creating any limitations on the power of the Company to adopt such other incentive arrangements as it may deem desirable, including, without limitation, the granting of stock options other than under the Plan.

12. MARKET STANDOFF.

Each Optionee, if so requested by the Company or any representative of the underwriters in connection with any registration of the offering of any securities of the company under the Securities Act shall not sell or otherwise transfer any shares of Common Stock acquired upon exercise of Options during the 90-day period following the effective date of a registration statement of the company filed under the Securities Act; provided, however, that such restriction shall apply only to the first two registration statements of the Company to become effective under the Securities Act which include securities to be sold on behalf of the Company to the public in an underwritten public offering under the Securities Act. The Company may impose stop-transfer instructions with respect to securities subject to the foregoing restriction until the end of such 90-day period.

13. AMENDMENTS TO PLAN.

The Board may at any time amend, alter, suspend or discontinue this Plan. Without the consent of an optionee, no amendment, alteration, suspension or discontinuance may adversely affect outstanding Options except to conform this Plan and ISOs granted under this Plan to the requirements of federal or other tax laws relating to incentive stock options. No amendment,

alteration, suspension or discontinuance shall require shareholder approval unless (a) shareholder approval is required to preserve incentive stock option treatment for federal income tax purposes, or (b) the Board otherwise concludes that shareholder approval is advisable.

14. EFFECTIVE DATE OF PLAN.

This Plan shall become effective upon adoption by the Board provided, however, that no Option shall be exercisable unless and until written consent of the shareholders of the Company, or approval of shareholders of the Company voting at a validly called shareholders' meeting, is obtained within 12 months after adoption by the Board. If such shareholder approval is not obtained within such time, Options granted hereunder shall terminate and be of no force and effect from and after expiration of such 12-month period. Options may be granted and exercised under this Plan only after there has been compliance with all applicable federal and state securities laws.

1994 COMMON STOCK PLAN
INCENTIVE STOCK OPTION AGREEMENT

(A) Name of Optionee:

(B) Grant Date:

(C) Number of Shares:

(D) Exercise Price:

(E) Vesting Base Date:

(F) Effective Date:

(G) Option Number:

THIS INCENTIVE STOCK OPTION AGREEMENT (the "Agreement"), is made and entered into as of the date set forth in Item F above (the "Effective Date") between FibroGen, Inc., a Delaware corporation (the "Company") and the person named in Item A above ("Optionee").

THE PARTIES AGREE AS FOLLOWS:

1. Grant of Option; Vesting Base Date.

1.1 Grant. The Company hereby grants to Optionee pursuant to the Company's 1994 Common Stock Plan (the "Plan"), a copy of which is attached to this Agreement as Exhibit 1, an incentive stock option (the "ISO") to purchase all or any part of an aggregate of the number of shares (the "ISO Shares") of the Company's Common Stock (as defined in the Plan) listed in Item C above on the terms and conditions set forth herein and in the Plan, the terms and conditions of the Plan being hereby incorporated into this Agreement by reference.

1.2 Vesting Base Date. The parties hereby establish the date set forth in Item E above as the Vesting Base Date (as defined in Section 5.1 below).

2. Exercise Price. The exercise price for purchase of each share of Common Stock covered by this ISO shall be the price set forth in Item D above.

3. Term. Unless otherwise specified on Exhibit 3 attached hereto, if any (the absence of such exhibit indicating that no such exhibit was intended), this ISO shall expire as provided in Section 6.1.12 of the Plan.

4. Adjustment of ISOs. The Company shall adjust the number and kind of shares and the exercise price thereof in certain circumstances in accordance with the provisions of Section 6.1.1 of the Plan.

5. Exercise of Options.

5.1 Vesting; Time of Exercise. This ISO shall be exercisable according to the schedule set forth on Exhibit 5.1 attached hereto. Such schedule shall commence as of the date set forth in Item (E) above (the "Vesting Base Date").

5.2 Exercise After Termination of Status as an Employee, Director or Consultant. In the event of termination of Optionee's continuous status as an employee, director or consultant, this ISO may be exercised only in accordance with the provisions of Section 6.1.7 of the Plan.

5.3 Manner of Exercise. Optionee may exercise this ISO, or any portion of this ISO, by giving written notice to the Company at its principal executive office, to the attention of the officer of the Company designated by the Plan Administrator, accompanied by a copy of a Notice of Exercise in substantially the form attached hereto as Exhibit 5.3 executed by Optionee (or at the option of the Company such other form of stock purchase agreement as shall then be acceptable to the Company), payment of the exercise price and payment of any applicable withholding or employment taxes. The date the Company receives written notice of an exercise hereunder accompanied by payment will be considered as the date this ISO was exercised.

5.4 Payment. Payment may be made for ISO Shares purchased at the time written notice of exercise of the ISO is given to the Company, by delivery of cash, check, or previously owned shares of Common Stock (provided that delivery of previously owned shares may not be made more than once in any six-month period. The proceeds of any payment shall constitute general funds of the Company.

5.5 Delivery of Certificate. Promptly after receipt of written notice of exercise of the ISO, the Company shall, without stock issue or transfer taxes to the Optionee or other person entitled to exercise, deliver to the Optionee or other person a certificate or certificates for the requisite number of ISO Shares. An Optionee or transferee of an Optionee shall not have any privileges as a shareholder with respect to any ISO Shares covered by the option until the date of issuance of a stock certificate.

6. Nonassignability of ISO. This ISO is not assignable or transferable by Optionee except by will or by the laws of descent and distribution. During the life of Optionee, the ISO is exercisable only by the Optionee. Any attempt to assign, pledge, transfer, hypothecate or otherwise dispose of this ISO in a manner not herein permitted, and any levy of execution, attachment, or similar process on this ISO, shall be null and void.

7. Company's Repurchase Rights. The ISO Shares arising from exercise of this ISO shall be subject to a right of repurchase in favor of the Company (the "Right of Repurchase") to the extent set forth on Exhibit 7 attached hereto (the absence of such exhibit indicating that no such exhibit was intended and that the ISO shall be subject to the limitations set forth on Exhibit 5.1). If the Optionee's employment with the Company terminates before the Right of Repurchase lapses in accordance with Exhibit 7, the Company may purchase ISO Shares subject to the Right of Repurchase (either by payment of cash or by cancellation of purchase money indebtedness) for an amount equal to the price the Optionee paid for such ISO Shares (exclusive of any taxes paid upon acquisition of the stock) by giving notice at any time within the later of (a) 30 days after the acquisition of the ISO Shares upon option exercise, or (b) 90 days after such termination of employment that the Company is exercising its right of repurchase. The Company shall include with such notice payment in full in cash or by evidence of cancellation of purchase money indebtedness. The Optionee may not dispose of or transfer ISO Shares while such shares are subject to the Right of Repurchase and any such attempted transfer shall be null and void.

8. Company's Right of First Refusal.

8.1 Right of First Refusal. In the event that the Optionee proposes to sell, pledge, or otherwise transfer any ISO Shares or any interest in such shares to any person or entity, the Company shall have a right of first refusal (the "Right of First Refusal") with respect to such ISO Shares. If Optionee desires to transfer ISO Shares, Optionee shall give a written notice (the "Transfer Notice") to the Company describing fully the proposed transfer, including the number of ISO Shares proposed to be transferred, the proposed transfer price, and the name and address of the proposed transferee. The Transfer Notice shall be signed both by Optionee and by the proposed transferee and must constitute a binding commitment of both such parties for the transfer of such ISO Shares. The Company may elect to |purchase all, but not less than all, of the ISO Shares subject to the Transfer Notice by delivery of a notice of exercise of the Company's Right of First Refusal within 30 days after the date the Transfer Notice is delivered to the Company. The purchase price paid by the Company shall be the price per share equal to the proposed per share transfer price, and shall be paid to the Optionee within 60 days after the date the Transfer Notice is received by the Company, unless a longer period for payment was offered by the proposed transferee, in which case the Company shall pay the purchase price within such longer period. The Company's rights under this Section 8.1 shall be freely assignable, in whole or in part. Notwithstanding the foregoing, the Right of First Refusal does not apply to a transfer of shares by gift or devise to the Optionee's immediate family (i.e., parents, spouse or children or to a trust for the benefit of the

Optionee or any of the Optionee's immediate family members), but does apply to any subsequent transfer of such shares by such immediate family members.

8.2 Transfer of ISO Shares. If the Company fails to exercise the Right of First Refusal within 30 days after the date the Transfer Notice is delivered to the Company, the Optionee may, not later than 75 days following delivery to the Company of the Transfer Notice, conclude a transfer of the ISO Shares subject to the Transfer Notice on the terms and conditions described in the Transfer Notice. Any proposed transfer on terms and conditions different from those described in the Transfer Notice, as well as any subsequent proposed transfer by the Optionee, shall again be subject to the Right of First Refusal and shall require compliance by the Optionee with the procedure described in Section 8.1 of this Agreement. If the Company exercises the Right of First Refusal, the parties shall consummate the sale of ISO Shares on the terms, other than price, as applicable under Section 8.1, set forth in the Transfer Notice; provided, however, in the event the Transfer Notice provides for payment for the ISO Shares other than in cash, the Company shall have the option of paying for the ISO Shares by paying in cash the present value of the consideration described in the Transfer Notice; and further provided that if the value of noncash consideration is to be paid, the Optionee disagrees with the value determined by the Company, the Optionee may request an independent appraisal by an appraiser acceptable to the Optionee and the Company, the costs of such appraisal to be borne equally by the Optionee and the Company.

8.3 Binding Effect. The Right of First Refusal shall inure to the benefit of the successors and assigns of the Company and shall be binding upon any transferee of ISO Shares other than a transferee acquiring ISO Shares in a transaction where the Company failed to exercise the Right of First Refusal (a ''Free Transferee") or a transferee of a Free Transferee.

8.4 Termination of Company's Right of First Refusal. Notwithstanding anything in this Section 8, the Company shall have no Right of First Refusal, and Optionee shall have no obligation to comply with the procedures in Sections 8.1 through 8.3 after the earlier of (i) the closing of the Company's initial public offering to the public generally, or (ii) the date ten (10) years after the Effective Date.

9. Market Standoff. Optionee hereby agrees that if so requested by the Company or any representative of the underwriters in connection with any registration of the offering of the securities of the Company under the Securities Act of 1933, as amended (the ''Securities Act"), Optionee shall not sell or otherwise transfer the ISO Shares for a period of 90 days following the effective date of a Registration Statement filed the Securities Act; provided that such restrictions shall only apply to the first two registration statements of the Company to

become effective under the Securities Act which include securities to be sold on behalf of the Company in an underwritten public offering under the Securities Act. The Company may impose stop-transfer instructions with respect to the ISO Shares subject to the foregoing restrictions until the end of each such 90-day period.

10. Restriction on Issuance of Shares.

10.1 Legality of Issuance. The Company shall not be obligated to sell or issue any ISO Shares pursuant to this Agreement if such sale or issuance, in the opinion of the Company and the Company's counsel, might constitute a violation by the Company of any provision of law, including without limitation the provisions of the Securities Act.

10.2 Registration or Qualification of Securities. The Company may, but shall not be required to, register or qualify the sale of this ISO or any ISO Shares under the Securities Act or any other applicable law. The Company shall not be obligated to take any affirmative action in order to cause the grant or exercise of this option or the issuance or sale of any ISO Shares pursuant thereto to comply with any law.

11. Restriction on Transfer. Regardless whether the sale of the ISO Shares has been registered under the Securities Act or has been registered or qualified under the securities laws of any state, the Company may impose restrictions upon the sale, pledge or other transfer of ISO Shares (including the placement of appropriate legends on stock certificates) if, in the judgment of the Company and the Company's counsel, such restrictions are necessary or desirable in order to achieve compliance with the provisions of the Securities Act, the securities laws of any state, or any other law, or if the Company does not desire to have a trading market develop for its securities.

12. Stock Certificate. Stock certificates evidencing ISO Shares may bear such restrictive legends as the Company and the Company's counsel deem necessary or advisable under applicable law or pursuant to this Agreement.

13. Disqualifying Dispositions. If stock acquired by exercise of this ISO is disposed of within two years after the Effective Date or within one year after date of such exercise (as determined under Section 5.3 of this Agreement), the Optionee immediately prior to the disposition shall promptly notify the Company in writing of the date and terms of the disposition and shall provide such other information regarding the disposition as the Company may reasonably require.

14. Representations, Warranties, Covenants, and Acknowledgments of Optionee Upon Exercise of ISO. Optionee hereby agrees that in the event that the Company and the Company's counsel deem it necessary or advisable in the exercise

of their discretion, the issuance of ISO Shares may be conditioned upon certain representations, warranties, and acknowledgments by the person exercising the ISO (the "Purchaser"), including, without limitation, those set forth in Sections 14.1 through 14.8 inclusive:

14.1 Investment. Purchaser is acquiring the ISO Shares for Purchaser's own account, and not for the account of any other person. Purchaser is acquiring the ISO Shares for investment and not with a view to distribution or resale thereof except in compliance with applicable laws regulating securities.

14.2 Business Experience. Purchaser is capable of evaluating the merits and risks of Purchaser's investment in the Company evidenced by purchase of the ISO Shares.

14.3 Relation to Company. Purchaser is presently an officer, director, or other employee of, or consultant to the Company, and in such capacity has become personally familiar with the business, affairs, financial condition, and results of operations of the Company.

14.4 Access to Information. Purchaser has had the opportunity to ask questions of, and to receive answers from, appropriate executive officers of the Company with respect to the terms and conditions of the transaction contemplated hereby and with respect to the business, affairs, financial condition, and results of operations of the Company. Purchaser has had access to such financial and other information as is necessary in order for Purchaser to make a fully-informed decision as to investment in the Company by way of purchase of the ISO Shares, and has had the opportunity to obtain any additional information necessary to verify any of such information to which Purchaser has had access.

14.5 Speculative Investment. Purchaser's investment in the Company represented by the ISO Shares is highly speculative in nature and is subject to a high degree of risk of loss in whole or in part. The amount of such investment is within Purchaser's risk capital means and is not so great in relation to Purchaser's total financial resources as would jeopardize the personal financial needs of Purchaser or Purchaser's family in the event such investment were lost in whole or in part.

14.6 Registration. Purchaser must bear the economic risk of investment for an indefinite period of time because the sale to Purchaser of the ISO Shares has not been registered under the Securities Act and the ISO Shares cannot be transferred by Purchaser unless such transfer is registered under the Securities Act or an exemption from such registration is available. The Company has made no agreements, covenants, or undertakings whatsoever to register the transfer of any of the ISO Shares under the Securities Act. The Company has made no representations, warranties, or covenants whatsoever as to

whether any exemption from the Securities Act, including without limitation any exemption for limited sales in routine brokers' transactions pursuant to Rule 144, will be available; if the exemption under Rule 144 is available at all, it may not be available until at least **one** year after payment of cash for the ISO Shares and not then unless: (i) a public trading market then exists in the Company's common stock; (ii) adequate information as to the Company's financial and other affairs and operations is then available to the public; and (iii) all other terms and conditions of Rule 144 have been satisfied. Purchaser understands that the resale provisions of Rule 701 will not apply until 90 days after the Company becomes subject to the reporting obligations of the Securities Exchange Act of 1934 (typically 90 days after the effective date of an initial public offering).

14.7 Public Trading. None of the Company's securities is presently publicly traded, and the Company has made no representation, covenant, or agreement as to whether there will be a public market for any of its securities.

14.8 Tax Advice. The Company has made no warranties or representations to Purchaser with respect to the income tax consequences of the transactions contemplated by the agreement pursuant to which the ISO Shares will be purchased and Purchaser is in no manner relying on the Company or its representatives for an assessment of such tax consequences.

15. Assignment; Binding Effect. Subject to the limitations set forth in this Agreement, this Agreement shall be binding upon and inure to the benefit of the executors, administrators, heirs, legal representatives, and successors of the parties hereto; provided, however, that Optionee may not assign any of Optionee's rights under this Agreement.

16. Damages. Optionee shall be liable to the Company for all costs and damages, including incidental and consequential damages, resulting from a disposition of ISO Shares which is not in conformity with the provisions of this Agreement.

17. Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware excluding those laws that direct the application of the laws of another jurisdiction.

18. Notices. All notices and other communications under this Agreement shall be in writing. Unless and until the Optionee is notified in writing to the contrary, all notices, communications, and documents directed to the Company and related to the Agreement, if not delivered by hand, shall be mailed, addressed as follows:

FibroGen, Inc.
225 Gateway Boulevard
South San Francisco, California 94080
Attention: Laurene Garchow

Unless and until the Company is notified in writing to the contrary, all notices, communications, and documents intended for the Optionee and related to this Agreement, if not delivered by hand, shall be mailed to Optionee's last known address as shown on the Company's books. Notices and communications shall be mailed by first class mail, postage prepaid; documents shall be mailed by registered mail, return receipt requested, postage prepaid. All mailings and deliveries related to this Agreement shall be deemed received when actually received, if by hand delivery, and two business days after mailing, if by mail.

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IN WITNESS WHEREOF, the parties have executed this Incentive Stock Option Agreement as of the Effective Date.

FibroGen, Inc.

By: _____
Tom Neff, CEO

The Optionee hereby accepts and agrees to be bound by all of the terms and conditions of this Agreement and the Plan.

_____

Dated: _____

Optionee's spouse indicates by the execution of this Incentive Stock Option Agreement his or her consent to be bound by the terms thereof as to his or her interests, whether as community property or otherwise, if any, in the option granted hereunder, and in any ISO Shares purchased pursuant to this Agreement.

_____
(Optionee's Spouse)

Dated: _____

EXHIBITS

Exhibit 1	1994 Common Stock Plan
Exhibit 3 (if applicable)	Expiration of Incentive Stock Options
Exhibit 5.1	Time of Exercise
Exhibit 5.3	Notice of Exercise
Exhibit 7 (if applicable)	Right of Repurchase

Exhibit 5.3

NOTICE OF EXERCISE

Date of Exercise: _____

Ladies and Gentlemen
FibroGen, Inc. (the "Company"):

This constitutes notice under my stock option agreement, a copy of which is attached hereto (the "Stock Option") that I elect to purchase the number of shares for the price set forth below.

Type of option (check one)	Incentive ☐	Nonstatutory ☐
Grant date:	_____	
Number of shares as to which option is exercised:	_____	
Certificates to be issued in name of:	_____	
Total exercise price:	$ _____	
Cash payment delivered herewith:	$ _____	
Promissory note delivered herewith (if permitted by Stock Option):	$ _____	
Value of _____ shares of Common Stock delivered Herewith (if permitted by Stock Option):	$ _____	

By this exercise, I agree (i) to provide such additional documents as you may require pursuant to the terms of the 1994 Stock Plan and the Stock Option, (ii) to provide for the payment by me to you (in the manner designated by you) of your withholding obligation, if any, relating to the exercise of this Stock Option, and (iii) if this exercise relates to an incentive stock option, to notify you in writing promptly after the date of any

disposition of any of the shares of Common Stock issued upon exercise of this option that occurs within two (2) years after the date of grant of this option or within one (1) year after such shares of Common Stock are issued upon exercise of this option.

I hereby make the following certifications and representations with respect to the number of shares of Common Stock of the Company listed above (the "Shares"), which are being acquired by me for my own account upon exercise of the Stock Option as set forth above:

I acknowledge that the Shares have not been registered under the Securities Act of 1933, as amended (the "Act"), and are deemed to constitute "restricted securities" under Rule 701 and "control securities" under Rule 144 promulgated under the Act. I warrant and represent to the Company that I have no present intention of distributing or selling said Shares, except as permitted under the Act and any applicable state securities laws. I further confirm the accuracy of the representations and warranties set forth in Section 14 of the Stock Option.

I acknowledge the continuing obligations and covenants imposed by the Stock Option, including, but not limited to the Company's Repurchase Rights set forth in Section 7 (if applicable), the Company's Right of First Refusal set forth in Section 8, and market standoff for a period of 90 days set forth in Section 9. I further acknowledge that I will not be able to resell the Shares for at least ninety (90) days after the stock of the Company becomes publicly traded (i.e., subject to the reporting requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934) under Rule 701 and that more restrictive conditions apply to affiliates of the Company under Rule 144.

Very truly yours,

Purchaser

_____

(print name) _____

Purchaser's spouse indicates by the execution of this Notice of Exercise his or her consent to be bound by the terms herein as to his or her interests, whether as community property or otherwise, if any in the Shares hereby purchased

Purchaser's Spouse

_____

(print name) _____

Amended and Restated

1999 STOCK PLAN

OF

FIBROGEN, INC.

1. PURPOSES OF THE PLAN.

The purposes of the Amended and Restated 1999 Stock Plan, (the "Plan") of FibroGen, Inc., a Delaware corporation (the "Company"), are to:

(a) Encourage selected employees, directors and consultants to improve operations and increase profits of the Company;

(b) Encourage selected employees, directors and consultants to accept or continue employment or association with the Company or its Affiliates; and

(c) Increase the interest of selected employees, directors and consultants in the Company's welfare through participation in the growth in value of the common stock of the Company (the "Common Stock").

Options granted under this Plan ("Options") may be "incentive stock options" ("ISOs") intended to satisfy the requirements of Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), or "nonstatutory options" ("NSOs"). "Stock Awards" means any right granted under this Plan, including an Option and a right to acquire restricted stock.

2. ELIGIBLE PERSONS.

Every person who at the date of grant of a Stock Award is a full-time employee of the Company or of any Affiliate (as defined below) of the Company is eligible to receive Stock Awards, including NSOs or ISOs under this Plan. Every person who at the date of grant is a consultant to, or nonemployee director of, the Company or any Affiliate (as defined below) of the Company is eligible to receive Stock Awards other than ISOs under this Plan. The term "Affiliate" as used in the Plan means a parent or subsidiary corporation as defined in the applicable provisions (currently Sections 424(e) and (f), respectively) of the Code. The term "employee" includes an officer or director who is an employee, of the Company. The term "consultant" includes persons employed by, or otherwise affiliated with, a consultant. The term "participant" means a person to whom a Stock Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Stock Award.

3. STOCK SUBJECT TO THIS PLAN.

Subject to the provisions of Section 6.1.1 of the Plan, the total number of shares of stock which may be issued under Stock Awards granted pursuant to this Plan shall not exceed 24,850,000 shares of Common Stock. This number shall be reduced by the number of shares issued under the 1994 Stock Plan of FibroGen, Inc. (the "1994 Plan"). The shares covered by the portion of any grant under the Plan or the 1994 Plan which expires unexercised or unpurchased shall become available again for grants under the Plan. The shares purchased upon exercise of Stock Awards granted under the 1994 Plan and this Plan, which are subsequently repurchased by the Company shall become available again for grants under the Plan.

4. ADMINISTRATION.

(a) This Plan shall be administered by the Board of Directors of the Company (the "Board") or, either in its entirety or only insofar as required pursuant to Section 4(b) hereof, by a committee (the "Committee") of at least two Board members to which administration of the Plan, or of part of the Plan, is delegated (in either case, the "Administrator"); provided, however, that the Board may also designate the Chief Executive Officer of the Company as an Administrator on such terms and conditions as may be established from time to time by the Board.

(b) From and after such time as the Company registers a class of equity securities under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), it is intended that this Plan shall be administered in accordance with the disinterested administration requirements of Rule 16b-3 promulgated by the Securities and Exchange Commission ("Rule 16b-3"), or any successor rule thereto.

(c) Subject to the other provisions of this Plan, the Administrator shall have the authority, in its discretion: (i) to grant Stock Awards; (ii) to determine the fair market value of the Common Stock subject to Stock Awards; (iii) to determine the exercise or purchase price of Stock Awards granted; (iv) to determine the persons to whom, and the time or times at which, Stock Awards shall be granted, and the number of shares subject to each Stock Award; (v) to interpret this Plan; (vi) to prescribe, amend, and rescind rules and regulations relating to this Plan; (vii) to determine the terms and provisions of each Stock Award granted (which need not be identical), including but not limited to, the time or times at which Stock Awards shall be exercisable; (viii) with the consent of the participant, to modify or amend his or her Stock Award; (ix) to defer (with the consent of the participant) or accelerate the exercise date of any Stock Award; (x) to authorize any person to execute on behalf of the Company any instrument evidencing the grant of a Stock Award; and (xi) to make all other determinations deemed necessary or advisable for the administration of this Plan. The Administrator may delegate nondiscretionary administrative duties to such employees of the Company as it deems proper.

(d) All questions of interpretation, implementation, and application of this Plan shall be determined by the Administrator. Such determinations shall be final and binding on all persons.

(e) With respect to persons subject to Section 16 of the Exchange Act, if any, transactions under this Plan are intended to comply with the applicable conditions of Rule 16b-3, or any successor rule thereto. To the extent any provision of this Plan or action by the Administrator fails to so comply, it shall be deemed null and void, to the extent permitted by law and deemed advisable by the Administrator. Notwithstanding the above, it shall be the responsibility of such persons, not of the Company or the Administrator, to comply with the requirements of Section 16 of the Exchange Act; and neither the Company nor the Administrator shall be liable if this Plan or any transaction under this Plan fails to comply with the applicable conditions of Rule 16b-3 or any successor rule thereto, or if any such person incurs any liability under Section 16 of the Exchange Act.

5. GRANTING OF STOCK AWARDS.

(a) No Stock Awards shall be granted under this Plan after ten years from the date of adoption of this Plan by the Board.

(b) Each Option shall be evidenced by a written stock option agreement and each restricted stock purchase shall be evidenced by a written restricted stock purchase agreement, in form satisfactory to the Company, executed by the Company and the person to whom such Stock Award is granted; provided, however, that the failure by the Company, the participant, or both to execute such an agreement shall not invalidate the granting of an Option, although the exercise of each option shall be subject to Section 6.1.3.

(c) The stock option agreement shall specify whether each Option it evidences is a NSO or an ISO.

6. TERMS AND CONDITIONS OF STOCK AWARDS.

Each Stock Award granted under this Plan shall be subject to the terms and conditions set forth in Section 6.1. unless otherwise indicated therein. NSOs and restricted stock purchases shall be also subject to the terms and conditions set forth in Section 6.2, but not those set forth in Section 6.3. ISOs shall also be subject to the terms and conditions set forth in Section 6.3, but not those set forth in Section 6.2.

6.1 Terms and Conditions to Which All Stock Awards Are Subject. All Stock Awards granted under this Plan shall be subject to the following terms and conditions:

6.1.1 Changes in Capital Structure. Subject to Section 6.1.2, if the stock of the Company is changed by reason of a stock split, reverse stock split, stock dividend, or recapitalization, combination or reclassification, appropriate adjustments shall be made by the Board in (a) the number and class of shares of stock subject to this Plan and each Stock Award outstanding under this Plan, and (b) the exercise price of each outstanding Stock Award; provided, however, that the Company shall not be required to issue fractional shares as a result of any such adjustments. Each such adjustment shall be subject to approval by the Board in its sole discretion.

6.1.2 Corporate Transactions. In the event of the proposed dissolution or liquidation of the Company, the Administrator shall notify each holder of a Stock Award at least 30 days prior to such proposed action. To the extent not previously exercised, all Stock Awards will terminate immediately prior to the consummation of such proposed action. In the event of a merger or consolidation of the Company with or into another corporation or entity in which the Company does not survive, or in the event of a sale of all or substantially all of the assets of the Company in which the stockholders of the Company receive securities of the acquiring entity or an affiliate thereof, all Stock Awards shall be assumed or equivalent stock awards shall be substituted by the successor corporation (or other entity) or a parent or subsidiary of such successor corporation (or other entity). If such successor does not agree to assume the Stock Awards or to substitute equivalent rights therefor, unless the Administrator shall determine otherwise, the Stock Awards will expire upon such event.

6.1.3 Time of Option Exercise or Restricted Stock Purchase. Subject to Section 5 and Section 6.3.4, Options granted under this Plan shall be exercisable (a) immediately as of the effective date of the stock option agreement granting the Option, or b) in accordance with a schedule related to the date of the grant of the Option, the date of first employment, or such other date as may be set by the Administrator (in any case, the "Vesting Base Date") and specified in the written stock option agreement relating to such Option; provided, however, that the right to exercise an Option must vest at the rate of at least 20% per year over five years from the date the option was granted, unless otherwise permitted by the California Securities Laws of 1968, as amended, and the regulations relating thereto. In any case, no Option shall be exercisable until a written stock option agreement in form satisfactory to the Company is executed by the Company and the optionee. Any restricted stock purchase shall be subject to a written restricted stock purchase agreement in form satisfactory to the Company and executed by the Company and the participant.

6.1.4 Stock Award Grant Date. Subject to Section 6.3.3 with respect to ISOs, the Administrator may approve the grant of Stock Awards under this Plan to persons who are expected to become employees, directors or consultants of the Company, but are not employees, directors or consultants at the date of approval. Otherwise, the date of grant of a Stock Award under this Plan shall be the date as of which the Administrator approves the grant.

6.1.5 Nonassignability of Stock Awards Rights. No Stock Award granted under this Plan shall be assignable or otherwise transferable by the holder of a Stock Award except by will or by the laws of descent and distribution. During the life of the holder of a Stock Award, a Stock Award shall be exercisable only by the participant.

6.1.6 Payment. Except as provided below, payment in full, in cash, shall be made for all stock purchased at the time written notice of exercise of a Stock Award is given to the Company, and proceeds of any payment shall constitute general funds of the Company. At the time a Stock Award is granted or exercised, the Administrator, in the exercise of its absolute discretion after considering any tax or accounting consequences, may authorize any one or more of the following additional methods of payment:

(a) Acceptance of the participant's full recourse promissory note for all or part of the Stock Award price, payable on such terms and bearing such interest rate as determined by the Administrator (but in no event less than the minimum interest rate specified under the Code at which no additional interest would be imputed), which promissory note may be either secured or unsecured in such manner as the Administrator shall approve (including, without limitation, by a security interest in the shares of the Company);

(b) Delivery by the participant of Common Stock already owned by the participant for all or part of the Stock Award price, provided the value (determined as set forth in Section 6.1.11) of such Common Stock is equal on the date of exercise to the Stock Award price, or such portion thereof as the terms of the Stock Award authorizes to pay by delivery of such stock; provided, however, that if a participant has exercised any portion of any Stock Award granted by the Company by delivery of Common Stock, the participant may not, within six months following such exercise, exercise any Stock Award granted under this Plan by delivery of Common Stock without the consent of the Administrator; and

(c) Any other consideration and method of payment to the extent permitted under Sections 408 and 409 of the Delaware General Corporation Law.

6.1.7 Termination of Employment. If for any reason other than death or permanent and total disability, a participant ceases to be employed by the Company or any of its Affiliates (such event being called a "Termination"), Stock Awards held at the date of Termination (to the extent then exercisable) may be exercised in whole or in part at any time within three months of the date of such Termination, or such other period of not less than thirty days after the date of such Termination as is specified in the terms of the Stock Award(but in no event after the Expiration Date); provided, that if such exercise of the Stock Award would result in liability for the participant under Section 16(b) of the Exchange Act, then such three-month period automatically shall be extended until the tenth day following the last date upon which the participant has any liability under Section 16(b) (but in no event after the Expiration Date). If a participant dies or becomes permanently and totally disabled (within the meaning of Section 22(e)(3) of the Code) while employed by the Company or an Affiliate or within the period that the Stock Award remains exercisable after Termination, the Stock Awards then held (to the extent then exercisable) may be exercised, in whole or in part, by the participant, by his or her personal representative or by the person to whom the Stock Award is transferred by devise or the laws of descent and distribution, at any time one year after the death or the permanent and total disability of the participant or any other period of more than six months from the date of Termination as is specified in the terms of the Stock Award(but in no event after the Expiration Date). For purposes of this Section 6.1.7, "employment" includes service as a director or as a consultant. For purposes of this Section 6.1.7, a participant's employment shall not be deemed to terminate by reason of sick leave, military leave or other leave of absence approved by the Administrator, if the period of any such leave does not exceed 90 days or, if longer, if the participant's right to reemployment by the Company or any Affiliate is guaranteed either contractually or by statute.

6.1.8 Repurchase of Stock. At the option of the Administrator, the stock to be delivered pursuant to the exercise of any Option or shares of Common Stock acquired under a restricted stock purchase agreement by an employee, director or consultant under this Plan may be subject to a right of repurchase in favor of the Company with respect to any employee, or director or consultant whose employment, or director or consulting relationship with the Company is terminated. Such right of repurchase either:

(a) shall be at the Stock Award exercise price or purchase price and (i) shall lapse at the rate of at least 20% per year over five years from the date the Stock Award is granted (without regard to the date it becomes exercisable), and must be exercised for cash or cancellation of purchase money indebtedness within 90 days of such termination and (ii) if the right is assignable by the Company, the assignee must pay the Company upon assignment of the right (unless the assignee is a 100% owned subsidiary of the Company or is an Affiliate) cash equal to the difference between the Stock Award exercise price and the value (determined as set forth in Section 6.1.11) of the stock to be purchased if the Stock Awards exercise price is less than such value; or

(b) shall be at the higher of the Stock Award exercise price or the value (determined as set forth in Section 6.1.11) of the stock being purchased on the date of termination, and must be exercised for cash or cancellation of purchase money indebtedness within 90 days of termination of employment, and such right shall terminate when the Company's securities become publicly traded.

Determination of the number of shares subject to any such right of repurchase shall be made as of the date the employee's employment by, director's director relationship with, or consultant's consulting relationship with, the Company terminates, not as of the date that any Stock Award granted to such employee, director or consultant is thereafter exercised.

6.1.9 Withholding and Employment Taxes. At the time of exercise of a Stock Award or at such other time as the amount of such obligations becomes determinable (the "Tax Date"), the optionee shall remit to the Company in cash all applicable federal and state withholding and employment taxes. If authorized by the Administrator in its sole discretion after considering any tax or accounting consequences, a participant may elect to (i) deliver a promissory note on such terms as the Administrator deems appropriate, (ii) tender to the Company previously owned shares of Stock or other securities of the Company, or (iii) have shares of Common Stock which are acquired upon exercise of the Stock Award withheld by the Company to pay some or all of the amount of tax that is required by law to be withheld by the Company as a result of the exercise of such Stock Award, subject to the following limitations:

(a) Any election pursuant to clause (iii) above by a participant subject to Section 16 of the Exchange Act shall either (x) be made at least six months before the Tax Date and shall be irrevocable; or (y) shall be made in (or made earlier to take effect in) any ten-day period beginning on the third business day following the date of release for publication of the Company's quarterly or annual summary statements of earnings and shall be subject to approval by the Administrator, which approval may be given at any time after such election has been made. In addition, in the case of (y), the Stock Award shall be held at least six months prior to the Tax Date.

(b) Any election pursuant to clause (ii) above, where the participant is tendering Common Stock issued pursuant to the exercise of a Stock Award, shall require that such shares be held at least six months prior to the Tax Date.

Any of the foregoing limitations may be waived (or additional limitations may be imposed) by the Administrator, in its sole discretion, if the Administrator determines that such foregoing limitations are not required (or that such additional limitations are required) in order that the transaction shall be exempt from Section 16(b) of the Exchange Act pursuant to Rule 16b-3, or any successor rule thereto. In addition, any of the foregoing limitations may be waived by the Administrator, in its sole discretion, if the Administrator determines that Rule 16b-3, or any successor rule thereto, is not applicable to the exercise of the Stock Award by the participant or for any other reason.

Any securities tendered or withheld in accordance with this Section 6.1.9 shall be valued by the Company as of the Tax Date.

6.1.10 Other Provisions. Each Stock Award granted under this Plan may contain such other terms, provisions, and conditions not inconsistent with this Plan as may be determined by the Administrator, and each ISO granted under this Plan shall include such provisions and conditions as are necessary to qualify the Option as an "incentive stock option" within the meaning of Section 422 of the Code. If Stock Awards provide for a right of first refusal in favor of the Company with respect to stock acquired by employees, directors or consultants, such Stock Awards shall provide that the right of first refusal shall terminate upon the earlier of (i) the closing of the Company's initial registered public offering to the public generally, or (ii) the date ten years after the grant date as set forth in Section 6.1.4.

6.1.11 Determination of Value. For purposes of the Plan, the value of Common Stock or other securities of the Company shall be determined as follows:

(a) If the stock of the Company is listed on any established stock exchange or a national market system, including without limitation the National Market System of the National Association of Securities Dealers, Inc. Automated Quotation System, its fair market value shall be the closing sales price for such stock or the closing bid if no sales were reported, as quoted on such system or exchange (or the largest such exchange) for the date the value is to be determined (or if there are no sales for such date, then for the last preceding business day on which there were sales), as reported in the Wall Street Journal or similar publication.

(b) If the stock of the Company is regularly quoted by a recognized securities dealer but selling prices are not reported, its fair market value shall be the mean between the high bid and low asked prices for the stock on the date the value is to be determined (or if there are no quoted prices for the date of grant, then for the last preceding business day on which there were quoted prices).

(c) In the absence of an established market for the stock, the fair market value thereof shall be determined in good faith by the Administrator, with

reference to the Company's net worth, prospective earning power, dividend-paying capacity, and other relevant factors, including the goodwill of the Company, the economic outlook in the Company's industry, the Company's position in the industry and its management, and the values of stock of other corporations in the same or a similar line of business.

6.1.12 Stock Award Term. Subject to Section 6.3.5, no Stock Award shall be exercisable more than ten years after the date of grant, or such lesser period of time as is set forth in the Stock Award agreement (the end of the maximum exercise period stated in the Stock Award agreement is referred to in this Plan as the "Expiration Date").

6.1.13 Ten Percent Stockholder. The exercise of any Option and the purchase price of any restricted stock for any Stock Award granted to any person who owns, directly or by attribution under the Code currently Section 424(d), stock possessing more than ten percent of the total combined voting power of all classes of stock of the Company or of any Affiliate (a "Ten Percent Stockholder") shall in no event be less than 110% (in the case of restricted stock purchases, 100%) of the fair market value (determined in accordance with Section 6.1.11) of the stock covered by the Option at the time the Stock Award is granted.

6.2 Terms and Conditions to Which Only NSOs and restricted stock Are Subject. Options granted under this Plan which are designated as NSOs and restricted stock shall be subject to the following terms and conditions:

6.2.1 Exercise Price. Except as set forth in Section 6.1.13, the exercise price of a NSO or purchase price of restricted stock shall be not less than 85% of the fair market value (determined in accordance with Section 6.1.11) of the stock subject to the Stock Award on the date of grant (and on the date of purchase of the Common Stock in the case of restricted stock purchases).

6.3 Terms and Conditions to Which Only ISOs Are Subject. Options granted under this Plan which are designated as ISOs shall be subject to the following terms and conditions:

6.3.1 Exercise Price. Except as set forth in Section 6.1.13, the exercise price of an ISO shall be determined in accordance with the applicable provisions of the Code and shall in no event be less than the fair market value (determined in accordance with Section 6.1.11) of the stock covered by the Option at the time the Option is granted.

6.3.2 Disqualifying Dispositions. If stock acquired by exercise of an ISO granted pursuant to this Plan is disposed of in a "disqualifying disposition" within the meaning of Section 422 of the Code, the holder of the stock immediately before the disposition shall promptly notify the Company in writing of the date and terms of the disposition and shall provide such other information regarding the Option as the Company may reasonably require.

6.3.3 Grant Date. If an ISO is granted in anticipation of employment as provided in Section 5(d), the Option shall be deemed granted, without further approval, on the date the grantee assumes the employment relationship forming the basis for such grant, and, in addition, satisfies all requirements of this Plan for Options granted on that date.

6.3.4 Vesting. Notwithstanding any other provision of this Plan, ISOs granted to any optionee under all incentive stock option plans of the Company and its subsidiaries may not "vest" for more than $100,000 in fair market value of stock (measured on the grant dates(s)) in any calendar year. For purposes of the preceding sentence, an option "vests" when it first becomes exercisable. If, by their terms, such ISOs taken together would vest to a greater extent in a calendar year, and unless otherwise provided by the Administrator, the vesting limitation described above shall be applied by deferring the exercisability of those ISOs or portions of ISOs which have the highest per share exercise prices; but in no event shall more than $100,000 in fair market value of stock (measured on the grant date(s)) vest in any calendar year. The ISOs or portions of ISOs whose exercisability is so deferred shall become exercisable on the first day of the first subsequent calendar year during which they may be exercised, as determined by applying these same principles and all other provisions of this Plan including those relating to the expiration and termination of ISOs. In no event, however, will the operation of this Section 6.3.4 cause an ISO to vest before its terms or, having vested, cease to be vested.

6.3.5 Term. Notwithstanding Section 6.1.12, no ISO granted to any Ten Percent Stockholder shall be exercisable more than five years after the date of grant.

7. MANNER OF EXERCISE.

(a) A participant wishing to exercise a Stock Award Option shall give written notice to the Company at its principal executive office, to the attention of the officer of the Company designated by the Administrator, accompanied by payment of the exercise price as provided in Section 6.1.6. The date the Company receives written notice of an exercise hereunder accompanied by payment of the exercise price will be considered as the date such Stock Award was exercised.

(b) Promptly after receipt of written notice of exercise of a Stock Award, the Company shall, without stock issue or transfer taxes to the participant or other person entitled to exercise the Stock Award, deliver to the participant or such other person a certificate or certificates for the requisite number of shares of stock. A participant or permitted transferee of a participant shall not have any privileges as a stockholder with respect to any shares of stock covered by the Stock Award until the date of issuance (as evidenced by the appropriate entry on the books of the Company or a duly authorized transfer agent) of such shares.

8. EMPLOYMENT OR CONSULTING RELATIONSHIP.

Nothing in this Plan or any Stock Award granted thereunder shall interfere with or limit in any way the right of the Company or of any of its Affiliates to terminate any participant's employment or consulting at any time, nor confer upon any participant any right to continue in the employ of, or consult with, the Company or any of its Affiliates.

9. FINANCIAL INFORMATION.

The Company shall provide to each participant during the period such optionee holds an outstanding Stock Award, and to each holder of Common Stock acquired upon exercise of Stock Awards granted under the Plan for so long as such person is a holder of such Common Stock, annual financial statements of the Company as prepared either by the Company or independent certified public accountants of the Company. Such financial statements shall include, at a minimum, a balance sheet and an income statement, and shall be delivered as soon as practicable following the end of the Company's fiscal year.

10. CONDITIONS UPON ISSUANCE OF SHARES. Shares of Common Stock shall not be issued pursuant to the exercise of a Stock Award unless the exercise of such Stock Award and the issuance and delivery of such shares pursuant thereto shall comply with all relevant provisions of law, including, without limitation, the Securities Act of 1933, as amended (the "Securities Act").

11. NONEXCLUSIVITY OF THE PLAN. The adoption of the Plan shall not be construed as creating any limitations on the power of the Company to adopt such other incentive arrangements as it may deem desirable, including, without limitation, the granting of stock options or other rights with respect to its stock other than under the Plan.

12. MARKET STANDOFF. Each participant, if so requested by the Company or any representative of the underwriters in connection with any registration of the offering of any securities of the company under the Securities Act shall not sell or otherwise transfer any shares of Common Stock acquired upon exercise of Stock Awards during the 90-day period following the effective date of a registration statement of the Company filed under the Securities Act; provided, however, that such restriction shall apply only to the first two registration statements of the Company to become effective under the Securities Act which include securities to be sold on behalf of the Company to the public in an underwritten public offering under the Securities Act. The Company may impose stop-transfer instructions with respect to securities subject to the foregoing restriction until the end of such 90-day period.

13. AMENDMENTS TO PLAN.

The Board may at any time amend, alter, suspend or discontinue this Plan. Without the consent of a participant, no amendment, alteration, suspension or discontinuance may adversely affect outstanding Stock Awards except to conform this Plan and ISOs granted under this Plan to the requirements of federal or other tax laws relating to incentive stock options. No amendment, alteration, suspension or discontinuance shall require stockholder approval unless (a) stockholder approval is required to preserve incentive stock option treatment for federal income tax purposes, or (b) the Board otherwise concludes that stockholder approval is advisable.

14. EFFECTIVE DATE OF PLAN.

This Plan shall become effective upon adoption by the Board provided, however, that no Stock Award shall be exercisable unless and until written consent of the stockholders of the Company, or approval of stockholders of the Company voting at a validly

called stockholders' meeting, is obtained within 12 months after adoption by the Board. If such stockholder approval is not obtained within such time, Options granted hereunder shall terminate and restricted stock purchased hereunder shall be rescinded and be of no force and effect from and after expiration of such 12-month period. Stock Awards may be granted and exercised under this Plan only after there has been compliance with all applicable federal and state securities laws.

AMENDED AND RESTATED

1999 STOCK PLAN

OF

FIBROGEN, INC.

12

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FIBROGEN, INC.
1999 STOCK PLAN
INCENTIVE STOCK OPTION AGREEMENT

(A) Name of Optionee:
(B) Grant Date:
(C) Number of Shares:
(D) Exercise Price:
(E) Vesting Base Date:
(F) Effective Date:
(G) Option Number:

THIS INCENTIVE STOCK OPTION AGREEMENT (the "Agreement"), is made and entered into as of the date set forth in Item F above (the "Effective Date") between FibroGen, Inc., a Delaware corporation (the "Company") and the person named in Item A above ("Optionee").

THE PARTIES AGREE AS FOLLOWS:

1. Grant of Option; Vesting Base Date.

1.1 Grant. The Company hereby grants to Optionee pursuant to the Company's 1999 Stock Plan (the "Plan"), a copy of which is attached to this Agreement as Exhibit 1, an incentive stock option (the "ISO") to purchase all or any part of an aggregate of the number of shares (the "ISO Shares") of the Company's Common Stock (as defined in the Plan) listed in Item C above on the terms and conditions set forth herein and in the Plan, the terms and conditions of the Plan being hereby incorporated into this Agreement by reference. Pursuant to Section 6.3.4. of the Plan, in the event that ISOs granted to Optionee under all incentive stock option plans of the Company and its subsidiaries and this ISO in the aggregate would "vest" (or become exercisable for the first time by any Optionee for purposes of this calculation) in excess of the $100,000 fair market value limit in a calendar year, this ISO or such other ISO (according to the order of the most recent grant in conformity with Section 422(d) of the Internal Revenue Code and to the extent permitted under the terms of such other ISOs) to the extent or portions thereof that exceed such limit shall be treated as nonstatutory stock options.

1.2 Vesting Base Date. The parties hereby establish the date set forth in Item E above as the Vesting Base Date (as defined in Section 5.1 below).

2. Exercise Price. The exercise price for purchase of each share of Common Stock covered by this ISO shall be the price set forth in Item D above.

3. Term. Unless otherwise specified on Exhibit 3 attached hereto, if any (the absence of such exhibit indicating that no such exhibit was intended), this ISO shall expire as provided in Section 6.1.12 of the Plan.

4. Adjustment of ISOs. The Company shall adjust the number and kind of shares and the exercise price thereof in certain circumstances in accordance with the provisions of Section 6.1.1 of the Plan.

5. Exercise of Options.

5.1 Vesting Time of Exercise. This ISO shall be exercisable according to the schedule set forth on Exhibit 5.1 attached hereto. Such schedule shall commence as of the date set forth in Item (E) above (the "Vesting Base Date"). Notwithstanding the foregoing, at the sole discretion of the Administrator of the Plan (as defined in Section 4 thereof), prior to the vesting of the ISO, the Administrator may allow Optionee on a case by case basis to exercise any unvested portion of the ISO subject to the Company's right of repurchase that shall lapse in accordance with the same schedule as set forth on Exhibit 5.1.

5.2 Exercise After Termination of Status as an Employee, Director or Consultant. In the event of termination of Optionee's continuous status as an employee, director or consultant, this ISO may be exercised only in accordance with the provisions of Section 6.1.7 of the Plan.

5.3 Manner of Exercise. Optionee may exercise this ISO, or any portion of this ISO, by giving written notice to the Company at its principal executive office, to the attention of the officer of the Company designated by the Plan Administrator, accompanied by a copy of **a Notice of Exercise 1999** in substantially the form attached hereto as Exhibit 5.3 executed by Optionee (or at the option of the Company such other form of stock purchase agreement as shall then be acceptable to the Company), payment of the exercise price and payment of any applicable withholding or employment taxes. The date the Company receives written notice of an exercise hereunder accompanied by payment will be considered as the date this ISO was exercised.

5.4 Payment. Payment may be made for ISO Shares purchased at the time written notice of exercise of the ISO is given to the Company, by delivery of cash, check, or previously owned shares of Common Stock (provided that delivery of previously owned shares may not be made more than once in any six-month period. In addition, at the sole discretion of the Administrator of the Plan, on a case by case basis, payment for a portion of the exercise price may be permitted with delivery of a full recourse promissory note on such terms as may be deemed appropriate by the Administrator. The proceeds of any payment shall constitute general funds of the Company.

5.5 Delivery of Certificate. Promptly after receipt of written notice of exercise of the ISO, the Company shall, without stock issue or transfer taxes to the Optionee or other person entitled to exercise, deliver to the Optionee or other person a certificate or certificates for the requisite number of ISO Shares. An Optionee or transferee of an Optionee shall not have any privileges as a shareholder with respect to any ISO Shares covered by the option until the date of issuance of a stock certificate.

6. Nonassignability of ISO. This ISO is not assignable or transferable by Optionee except by will or by the laws of descent and distribution. During the life of Optionee, the ISO is exercisable only by the Optionee. Any attempt to assign, pledge, transfer, hypothecate or otherwise dispose of this ISO in a manner not herein permitted, and any levy of execution, attachment, or similar process on this ISO, shall be null and void.

7. Company' s Repurchase Rights. The ISO Shares arising from exercise of this ISO shall be subject to a right of repurchase in favor of the Company (the "Right of Repurchase") to the extent set forth on Exhibit 7 attached hereto (the absence of such exhibit indicating that no such exhibit was intended and that the ISO shall be subject to the limitations set forth on Exhibit 5.1). If the Optionee's employment with the Company terminates before the Right of Repurchase lapses in accordance with Exhibit 7, the Company may purchase ISO Shares subject to the Right of Repurchase (either by payment of cash or by cancellation of purchase money indebtedness) for an amount equal to the price the Optionee paid for such ISO Shares (exclusive of any taxes paid upon acquisition of the stock) by giving notice at any time within the later of (a) 30 days after the acquisition of the ISO Shares upon option exercise, or (b) 90 days after such termination of employment that the Company is exercising its right of repurchase. The Company shall include with such notice payment in full in cash or by evidence of cancellation of purchase money indebtedness. The Optionee may not dispose of or transfer ISO Shares while such shares are subject to the Right of Repurchase and any such attempted transfer shall be null and void.

8. Company's Right of First Refusal.

8.1 Right of First Refusal. In the event that the Optionee proposes to sell, pledge, or otherwise transfer any ISO Shares or any interest in such shares to any person or entity, the Company shall have a right of first refusal (the "Right of First Refusal") with respect to such ISO Shares. If Optionee desires to transfer ISO Shares, Optionee shall give a written notice (the "Transfer Notice") to the Company describing fully the proposed transfer, including the number of ISO Shares proposed to be transferred, the proposed transfer price, and the name and address of the proposed transferee. The Transfer Notice shall be signed both by Optionee and by the proposed transferee and must constitute a binding commitment of both such parties for the transfer of such ISO Shares. The Company may elect to purchase all, but not less than all, of the ISO Shares subject to the Transfer Notice by delivery of a notice of exercise of the Company's Right of First Refusal within 30 days after the date the Transfer Notice is delivered to the Company. The purchase price paid by the Company shall be the price per share equal to the

proposed per share transfer price, and shall be paid to the Optionee within 60 days after the date the Transfer Notice is received by the Company, unless a longer period for payment was offered by the proposed transferee, in which case the Company shall pay the purchase price within such longer period. The Company's rights under this Section 8.1 shall be freely assignable, in whole or in part. Notwithstanding the foregoing, the Right of First Refusal does not apply to a transfer of shares by gift or devise to the Optionee's immediate family (i.e., parents, spouse or children or to a trust for the benefit of the Optionee or any of the Optionee's immediate family members), but does apply to any subsequent transfer of such shares by such immediate family members.

8.2 Transfer of ISO Shares. If the Company fails to exercise the Right of First Refusal within 30 days after the date the Transfer Notice is delivered to the Company, the Optionee may, not later than 75 days following delivery to the Company of the Transfer Notice, conclude a transfer of the ISO Shares subject to the Transfer Notice on the terms and conditions described in the Transfer Notice. Any proposed transfer on terms and conditions different from those described in the Transfer Notice, as well as any subsequent proposed transfer by the Optionee, shall again be subject to the Right of First Refusal and shall require compliance by the Optionee with the procedure described in Section 8.1 of this Agreement. If the Company exercises the Right of First Refusal, the parties shall consummate the sale of ISO shares on the terms, other than price, as applicable under Section 8.1, set forth in the Transfer Notice; provided, however, in the event the Transfer Notice provides for payment for the ISO Shares other than in cash, the Company shall have the option of paying for the ISO Shares by paying in cash the present value of the consideration described in the Transfer Notice; and further provided that if the value of noncash consideration is to be paid, the Optionee disagrees with the value determined by the Company, the Optionee may request an independent appraisal by an appraiser acceptable to the Optionee and the Company, the costs of such appraisal to be borne equally by the Optionee and the Company.

8.3 Binding Effect. The Right of First Refusal shall inure to the benefit of the successors and assigns of the Company and shall be binding upon any transferee of ISO Shares other than a transferee acquiring ISO Shares in a transaction where the Company failed to exercise the Right of First Refusal (a "Free Transferee") or a transferee of a Free Transferee.

8.4 Termination of Company's Right of First Refusal. Notwithstanding anything in this Section 8, the Company shall have no Right of First Refusal, and Optionee shall have no obligation to comply with the procedures in Sections 8.1 through 8.3 after the earlier of (i) the closing of the Company's initial public offering to the public generally, or (ii) the date ten (10) years after the Effective Date.

9. Market Standoff. Optionee hereby agrees that if so requested by the Company or any representative of the underwriters in connection with any registration of the offering of the securities of the Company under the Securities Act of 1933, as amended (the "Securities Act"), Optionee shall not sell or otherwise transfer the ISO Shares for a period of 90 days following the effective date of a Registration Statement filed the Securities Act; provided that such restrictions shall only apply to the first two registration statements of the Company to become effective under the Securities Act which include securities to be sold on behalf of the

Company in an underwritten public offering under the Securities Act. The Company may impose stop-transfer instructions with respect to the ISO Shares subject to the foregoing restrictions until the end of each such 90-day period.

10. Restriction on Issuance of Shares.

10.1 Legality of Issuance. The Company shall not be obligated to sell or issue any ISO Shares pursuant to this Agreement if such sale or issuance, in the opinion of the Company and the Company's counsel, might constitute a violation by the Company of any provision of law, including without limitation the provisions of the Securities Act.

10.2 Registration or Qualification of Securities. The Company may, but shall not be required to, register or qualify the sale of this ISO or any ISO Shares under the Securities Act or any other applicable law. The Company shall not be obligated to take any affirmative action in order to cause the grant or exercise of this option or the issuance or sale of any ISO Shares pursuant thereto to comply with any law.

11. Restriction on Transfer. Regardless whether the sale of the ISO Shares has been registered under the Securities Act or has been registered or qualified under the securities laws of any state, the Company may impose restrictions upon the sale, pledge or other transfer of ISO Shares (including the placement of appropriate legends on stock certificates) if, in the judgment of the Company and the Company's counsel, such restrictions are necessary or desirable in order to achieve compliance with the provisions of the Securities Act, the securities laws of any state, or any other law, or if the Company does not desire to have a trading market develop for its securities.

12. Stock Certificate. Stock certificates evidencing ISO Shares may bear such restrictive legends as the Company and the Company's counsel deem necessary or advisable under applicable law or pursuant to this Agreement.

13. Disqualifying Dispositions. If stock acquired by exercise of this ISO is disposed of within two years after the Effective Date or within one year after date of such exercise (as determined under Section 5.3 of this Agreement), the Optionee immediately prior to the disposition shall promptly notify the Company in writing of the date and terms of the disposition and shall provide such other information regarding the disposition as the Company may reasonably require.

14. Representations, Warranties, Covenants, and Acknowledgments of Optionee Upon Exercise of ISO. Optionee hereby agrees that in the event that the Company and the Company's counsel deem it necessary or advisable in the exercise of their discretion, the issuance of ISO Shares may be conditioned upon certain representations, warranties, and acknowledgments by the person exercising the ISO (the "Purchaser"), including, without limitation, those set forth in Sections 14.1 through 14.8 inclusive:

14.1 Investment. Purchaser is acquiring the NQ Shares for Purchaser's own account, and not for the account of any other person. Purchaser is acquiring the ISO Shares for investment arid not with a view to distribution or resale thereof except in compliance with applicable laws regulating securities.

14.2 Business Experience. Purchaser is capable of evaluating the merits and risks of Purchaser's investment in the Company evidenced by purchase of the ISO Shares.

14.3 Relation to Company. Purchaser is presently an officer, director, or other employee of, or consultant to the Company, and in such capacity has become personally familiar with the business, affairs, financial condition, and results of operations of the Company.

14.4 Access to Information. Purchaser has had the opportunity to ask questions of, and to receive answers from, appropriate executive officers of the Company with respect to the terms and conditions of the transaction contemplated hereby and with respect to the business, affairs, financial condition, and results of operations of the Company. Purchaser has had access to such financial and other information as is necessary in order for Purchaser to make a fully-informed decision as to investment in the Company by way of purchase of the ISO Shares, and has had the opportunity to obtain any additional information necessary to verify any of such information to which Purchaser has had access.

14.5 Speculative Investment. Purchaser's investment in the Company represented by the ISO Shares is highly speculative in nature and is subject to a high degree of risk of loss in whole or in part. The amount of such investment is within Purchaser's risk capital means and is not so great in relation to Purchaser's total financial resources as would jeopardize the personal financial needs of Purchaser or Purchaser's family in the event such investment were lost in whole or in part.

14.6 Registration. Purchaser must bear the economic risk of investment for an indefinite period of time because the sale to Purchaser of the ISO Shares has not been registered under the Securities Act and the ISO Shares cannot be transferred by Purchaser unless such transfer is registered under the Securities Act or an exemption from such registration is available. The Company has made no agreements, covenants, or undertakings whatsoever to register the transfer of any of the NQ Shares under the Securities Act. The Company has made no representations, warranties, or covenants whatsoever as to whether any exemption from the Securities Act, including without limitation any exemption for limited sales in routine brokers' transactions pursuant to Rule 144, will be available; if the exemption under Rule 144 is available at all, it may not be available until at least one year after payment of cash for the ISO Shares and not then unless: (i) a public trading market then exists in the Company's common stock; (ii) adequate information as to the Company's financial and other affairs and operations is then available to the public; and (iii) all other terms and conditions of Rule 144 have been satisfied. Purchaser understands that the resale provisions of Rule 701 will not apply until 90 days after the Company becomes subject to the reporting obligations of the Securities Exchange Act of 1934 (typically 90 days after the effective date of an initial public offering).

14.7 Public Trading. None of the Company's securities is presently publicly traded, and the Company has made no representation, covenant, or agreement as to whether there will be a public market for any of its securities.

14.8 Tax Advice. The Company has made no warranties or representations to Purchaser with respect to the income tax consequences of the transactions contemplated by the agreement pursuant to which the ISO Shares will be purchased and Purchaser is in no manner relying on the Company or its representatives for an assessment of such tax consequences.

15. Assignment; Binding Effect. Subject to the limitations set forth in this Agreement, this Agreement shall be binding upon and inure to the benefit of the executors, administrators, heirs, legal representatives, and successors of the parties hereto; provided, however, that Optionee may not assign any of Optionee's rights under this Agreement.

16. Damages. Optionee shall be liable to the Company for all costs and damages, including incidental and consequential damages, resulting from disposition of ISO Shares which is not in conformity with the provisions of this Agreement.

17. Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware excluding those laws that direct the application of the laws of another jurisdiction.

18. Notices. All notices and other communications under this Agreement shall be in writing. Unless and until the Optionee is notified in writing to the contrary, all notices, communications, and documents directed to the Company and related to the Agreement, if not delivered by hand, shall be mailed, addressed as follows:

FibroGen, Inc.
225 Gateway Boulevard
South San Francisco, California 94080
Attention: Dorothy Pacini

Unless and until the Company is notified in writing to the contrary, all notices, communications, and documents intended for the Optionee and related to this Agreement, if not delivered by hand, shall be mailed to Optionee's last known address as shown on the Company's books. Notices and communications shall be mailed by first class mail, postage prepaid; documents shall be mailed by registered mail, return receipt requested, postage prepaid. All mailings and deliveries related to this Agreement shall be deemed received when actually received, if by hand delivery, and two business days after mailing, if by mail.

IN WITNESS WHEREOF, the parties have executed this Incentive Stock Option Agreement as of the Effective Date.

FibroGen, Inc.

By: _____

Title _____

The Optionee hereby accepts and agrees to be bound by all of the terms and conditions of this Agreement and the Plan.

_____

Optionee

Dated: _____

Optionee's spouse indicates by the execution of this Incentive Stock Option Agreement his or her consent to be bound by the terms thereof as to his or her interests, whether as community property or otherwise, if any, in the option granted hereunder, and in any ISO Shares purchased pursuant to this Agreement.

_____

Optionee's Spouse

EXHIBITS

Exhibit 1	1999 Stock Plan
Exhibit 3	Expiration of Incentive Stock Option (if applicable)
Exhibit 5.1	Time of Exercise
Exhibit 5.3	Notice of Exercise 1999
Exhibit 7	Right of Repurchase (if applicable)

AMENDED AND RESTATED

1999 STOCK PLAN

OF

FIBROGEN, INC.

EXHIBIT 5.1
Of
INCENTIVE STOCK OPTION AGREEMENT

The ISO for _____ shares shall be exercisable with respect to twenty-five percent (25%) of the total number of ISO shares vest one year after the Vesting Base Date and, thereafter, with respect to an additional six and one quarter percent (6.25%) of such shares at the end of each three-month period after the first anniversary of the Vesting Base Date, so that all of the ISO shares may be purchased on and after the fourth anniversary of the Vesting Base Date.

Initialed by: FIBROGEN, INC.

By: _____
Thomas Neff

Title: CEO

Optionee: _____

Print Name: _____

FIBROGEN, INC.

AMENDMENT
TO STOCK OPTION AGREEMENT
GRANTED UNDER 1999 STOCK PLAN

Pursuant to your Election to Participate in FibroGen's Amendment and Exchange Offer ending on June 24, 2010 (your "Election"), this Amendment (the "Amendment") is entered into and made effective on June 24, 2010 (the "Amendment Effective Date") by and between you, **[ ]** ("Optionee") and FibroGen, Inc. and its subsidiaries ("Company"). This Amendment amends the Stock Option Agreement that governs the option with Option Grant Number **[ ]** (now referred to as MA**[ ]**) granted on **[ ]** for **[ ]** shares of FibroGen Common Stock, for which you have agreed to amend pursuant to your executed Election (the "Option Agreement"). Optionee and Company shall be referred to individually herein as a "Party", and collectively as, the "Parties". The Option Agreement, together with its corresponding Option Grant Notice and this Amendment are collectively referred to as the "Agreement".

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Amendment shall have the meaning ascribed to them in their respective Option Agreement.

(2) For the purpose of the Agreement, a "***Change of Control Event***" shall mean the occurrence of a single transaction or series of related transactions of any one or more of the following events:

(i) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving entity in such merger, consolidation or similar transaction or (B) more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(ii) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur; or

(iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are owned by stockholders of the Company in substantially the same proportions as their ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; *provided, however*, that for purposes of the foregoing, in no event shall "substantially all" mean less than fifty percent (50%) of the consolidated assets of the Company and its Subsidiaries, as determined by the Board in its sole discretion.

The term Change of Control Event shall not include a merger or other transaction effected exclusively for the purpose of changing the domicile of the Company.

(3) Section 3 of the Option Agreement is hereby deleted in its entirety and replaced with the following:

"The Term of your option commences on the Grant Date and expires on the day before the tenth (10th) anniversary of the Grant Date regardless of your employment status."

(4) Section 5.3 of the Option Agreement is hereby deleted in its entirety and replaced with the following:

"Manner of Exercise. Optionee may exercise this option, or any portion of this option, within sixty (60) days of the expiration of its Term, as set forth in Section 3 hereof, or at any time during your Term provided that a Liquidity Event (as defined below) has occurred, by delivering a notice of exercise in a form acceptable to the Company and executed by Optionee together with payment of the exercise price and payment of any mandatory withholding or employment taxes, as requested by the Company, to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, together with such additional documents as the Company may then require. For the purpose of this Agreement, a "Liquidity Event" shall be defined to have occurred on either (a) the effective date of a registration statement for an initial public offering, filed by the Company under the Securities Act; or (b) the execution of an agreement, or approval of a plan or other similar document providing for a transaction or series of transactions that, if completed, would constitute a Change of Control Event (as defined below), *provided that*, in the event you deliver a Notice of Exercise prior to the completion of such Change of Control Event in satisfaction of the above requirements, the exercise shall only be effective, if at all, upon or immediately prior to, as applicable, the completion of the transaction or

series of transactions constituting the Change of Control Event, as necessary for you to participate therein. The Company will provide you with notice (at the last address it has on file for you) of a Change of Control Event upon its occurrence or, if possible within 10 days or such other time as reasonably practicable prior to the completion of such event.

(5) This Amendment, together with the Option Agreement, as well as the Grant Notice and Plan referenced therein, contain the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Option Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings, either oral or written, heretofore made with respect to subject matter herein are expressly superseded in this Amendment. In the case of any conflict between the terms of the Amendment, the Option Agreement, the Grant Notice and/or the Plan, the terms of this Amendment shall control.

FIBROGEN, INC.

AMENDMENT
TO STOCK OPTION AGREEMENTS

THIS AMENDMENT (the "Amendment") is entered into and made effective on July 1, 2013 (the "Amendment Effective Date") by and between you, ("Optionee") and **FibroGen, Inc.** ("Company"). This Amendment amends your Stock Option Agreements that govern the option grants listed on Exhibit A hereto (the "Option Agreements"). Optionee and Company shall be referred to individually herein as a "Party", and collectively as, the "Parties". The Option Agreements, together with its corresponding Option Grant Notice, this Amendment, and any previous Amendments thereof, are collectively referred to as the "Agreement".

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Amendment shall have the meaning ascribed to them in their respective Option Agreements.

(2) Section 5.3 of each of the Option Agreements is hereby deleted in its entirety and replaced with the following:

> "You may exercise the vested portion of your option [(and the unvested portion of your option if permitted)] during its Term, as set forth in Section 3 hereof, by delivering a Notice of Exercise (in a form designated by the Company) together with payment of the exercise price, pursuant to Section 5.4 hereof, to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, together with such additional documents as the Company may then require."

(3) Section 5.4 of each of the Option Agreements is hereby deleted in its entirety and replaced with the following:

"**METHOD OF PAYMENT.** Payment of the exercise price is due in full upon exercise of all or any part of your option. You may elect to make payment of the exercise price in cash or by check or in any of the following ways, if applicable:

(a) So long as the Company is Listed and if approved by the Company at the time your option is exercised, pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds. For purposes of this Agreement, the Company shall be deemed to be "Listed" when the Common Stock of the Company is listed on a national securities exchange or designated as a national market security on an interdealer quotation system, if such securities exchange or interdealer quotation system has been certified in accordance with the provisions of Section 25100(o) of the California Corporate Securities Law of 1968, as amended.

(b) So long as the Company is Listed or as otherwise approved by the Company at the time your option is exercised, by Delivery of the largest whole number of shares of Common Stock already-owned by you, free and clear of any liens, claims, encumbrances or security interests, with a Fair Market Value on the date of exercise that does not exceed the aggregate exercise price; *provided*, that any remaining balance of the aggregate exercise price not satisfied by such Delivery of whole shares shall be paid by cash or check. "Delivery" for these purposes, in the sole discretion of the Company at the time you exercise your option, shall include delivery to the Company of your attestation of ownership of such shares of Common Stock in a form approved by the Company. Notwithstanding the foregoing, you may not exercise your option by tender to the Company of Common Stock to the extent such tender would violate the provisions of any law, regulation or agreement restricting the redemption of the Company's stock.

(c) So long as the Company is Listed or as otherwise approved by the Company at the time your option is exercised, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issued upon exercise of your option by the largest whole number of shares with a Fair Market Value on the date of exercise that does not exceed the aggregate exercise price; *provided*, that any remaining balance of the aggregate exercise price not satisfied by such holding back of whole shares shall be paid by cash or check; *provided, however,* shares of Common Stock will no longer be outstanding under an Option and will not be exercisable thereafter to the extent that (i) shares are used to pay the exercise price pursuant to the "net exercise," (ii) shares are delivered to you as a result of such exercise, and (iii) shares are withheld to satisfy tax withholding obligations. Note that any option, or portion thereof, that is exercised through this "net exercise" method will be disqualified as an incentive stock option and treated as a Nonstatutory Stock Option."

(4) This Amendment, together with the Option Agreements, as well as the Grant Notice and Plan referenced therein, contain the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Option Agreements has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings, either oral or written, heretofore made with respect to subject matter herein are expressly superseded in this Amendment. In the case of any conflict between the terms of the Amendment, the Option Agreements, the Grant Notice and/or the Plan, the terms of this Amendment shall control.

FIBROGEN, INC.

By: /s/ Pat Cotroneo

Pat Cotroneo
Chief Financial Officer

FIBROGEN, INC.

AMENDED AND RESTATED 2005 STOCK PLAN
AS OF MARCH 20, 2014

1. GENERAL.

(a) Amendment and Restatement. This is an amendment and restatement of the 2005 Stock Plan that was adopted by the Board on February 17, 2005, and amended on August 20, 2007. The 2005 Stock Plan was a complete amendment and restatement of the Amended and Restated 1999 Stock Plan of FibroGen, Inc. that was adopted on February 12, 1999 and amended on November 12, 1999, April 17, 2000, November 30, 2000, October 23, 2001 and November 15, 2002 (as thereafter amended, the "***Prior Plan***"). All outstanding options or other awards granted under the Prior Plan shall remain subject to the terms of the Prior Plan; *provided, however*, that all such outstanding options or other awards shall be subject to Sections 11(b), 11(c) and 11(d) of this Plan, as applicable, instead of Section 6.1.2 of the Prior Plan regarding the treatment of such options or other awards in the event of a corporate transaction. All Stock Awards granted subsequent to the effective date of this Plan shall be subject to the terms of this Plan.

(b) Eligible Stock Award Recipients. The persons eligible to receive Stock Awards are Employees, Directors and Consultants.

(c) Available Stock Awards. The Plan provides for the grant of the following Stock Awards: (i) Incentive Stock Options, (ii) Nonstatutory Stock Options, (iii) Stock Purchase Awards, (iv) Stock Bonus Awards, (v) Stock Appreciation Rights, (vi) Stock Unit Awards, and (vii) Other Stock Awards.

(d) General Purpose. The Company, by means of the Plan, seeks to secure and retain the services of the group of persons eligible to receive Stock Awards as set forth in Section 1(a), to provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate and to provide a means by which such eligible recipients may be given an opportunity to benefit from increases in value of the Common Stock through the granting of Stock Awards.

2. DEFINITIONS.

As used in the Plan, the following definitions shall apply to the capitalized terms indicated below:

(a) *"Affiliate"* means (i) any corporation (other than the Company) in an unbroken chain of corporations ending with the Company, provided each corporation in the unbroken chain (other than the Company) owns, at the time of the determination, stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain, and (ii) any corporation (other than the Company) in an unbroken chain of corporations beginning with the Company, provided each corporation (other

than the last corporation) in the unbroken chain owns, at the time of the determination, stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain. The Board shall have the authority to determine (i) the time or times at which the ownership tests are applied, and (ii) whether "Affiliate" includes entities other than corporations within the foregoing definition.

(b) ***"Board"*** means the Board of Directors of the Company.

(c) ***"Capitalization Adjustment"*** has the meaning ascribed to that term in Section 11(a).

(d) ***"Cause"*** means, with respect to a Participant, the definition of Cause in the Participant's Stock Award Agreement. The determination that a termination is for Cause shall be made by the Company in its sole discretion. Any determination by the Company that the Continuous Service of a Participant was terminated by reason of dismissal without Cause for the purposes of outstanding Stock Awards held by such Participant shall have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

(e) ***"Change in Control"*** means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Person becomes the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control shall not be deemed to occur (A) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Person from the Company in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities or (B) solely because the level of Ownership held by any Person (the "***Subject Person***") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control shall be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or (B) more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their

Ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(iii) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur;

(iv) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; *provided*, *however*, that for purposes of the foregoing, in no event shall "substantially all" mean less than fifty percent (50%) of the consolidated assets of the Company and its Subsidiaries, as determined by the Board in its sole discretion;

(v) individuals who, on the date this Plan is adopted by the Board, are members of the Board (the "***Incumbent Board***") cease for any reason other than death, disability or voluntary resignation to constitute at least a majority of the members of the Board; *provided*, *however*, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member shall, for purposes of this Plan, be considered as a member of the Incumbent Board.

The term Change in Control shall not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company.

Notwithstanding the foregoing or any other provision of this Plan, the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant shall supersede the foregoing definition with respect to Stock Awards subject to such agreement; *provided*, *however*, that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition shall apply.

(f) ***"Code"*** means the Internal Revenue Code of 1986, as amended.

(g) ***"Committee"*** means a committee of one (1) or more members of the Board to whom authority has been delegated by the Board in accordance with Section 3(c).

(h) ***"Common Stock"*** means the common stock of the Company.

(i) ***"Company"*** means FibroGen, Inc., a Delaware corporation.

(j) ***"Consultant"*** means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the Board of Directors of an Affiliate and is compensated

for such services. However, service solely as a Director, or payment of a fee for such service, shall not cause a Director to be considered a "Consultant" for purposes of the Plan.

(k) ***"Continuous Service"*** means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Consultant or Director or a change in the entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant's service with the Company or an Affiliate, shall not terminate a Participant's Continuous Service. For example, a change in status from an employee of the Company to a consultant to an Affiliate or to a Director shall not constitute an interruption of Continuous Service. To the extent permitted by law, the Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service shall be considered interrupted in the case of any leave of absence approved by that party, including sick leave, military leave or any other personal leave. Notwithstanding the foregoing, a leave of absence shall be treated as Continuous Service for purposes of vesting in a Stock Award only to such extent as may be provided in the Company's written leave of absence policy or in the written terms of the Participant's leave of absence.

(l) ***"Corporate Transaction"*** means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries; *provided*, *however*, that for purposes of the foregoing, in no event shall "substantially all" mean less than fifty percent (50%) of the consolidated assets of the Company and its Subsidiaries, as determined by the Board in its sole discretion;

(ii) a sale or other disposition of at least ninety percent (90%) of the outstanding securities of the Company;

(iii) the consummation of a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) the consummation of a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(m) ***"Covered Employee"*** means, at such time as the Company may be subject to the applicable provisions of Section 162(m) of the Code and the Exchange Act, the chief executive officer and the four (4) other highest compensated officers of the Company or any such other officer for whom total compensation is required to be reported to stockholders under the Exchange Act, as determined for purposes of Section 162(m) of the Code.

(n) ***"Director"*** means a member of the Board.

(o) *"Disability"* means (i) prior to the Listing Date, the inability of a person, in the opinion of a qualified physician acceptable to the Company, to perform the major duties of that person's position with the Company or an Affiliate because of the sickness or injury of the person, and (ii) on and after the Listing Date, the permanent and total disability of a person within the meaning of Section 22(e)(3) of the Code.

(p) *"Employee"* means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, shall not cause a Director to be considered an "Employee" for purposes of the Plan.

(q) *"Entity"* means a corporation, partnership or other entity.

(r) *"Exchange Act"* means the Securities Exchange Act of 1934, as amended.

(s) *"Fair Market Value"* means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on the Nasdaq National Market or the Nasdaq SmallCap Market, the Fair Market Value of a share of Common Stock shall be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date in question, as reported in *The Wall Street Journal* or such other source as the Board deems reliable. Unless otherwise provided by the Board, if there is no closing sales price (or closing bid if no sales were reported) for the Common Stock on the date in question, then the Fair Market Value shall be the closing selling price (or closing bid if no sales were reported) on the last preceding date for which such quotation exists.

(ii) In the absence of such markets for the Common Stock, the Fair Market Value shall be determined by the Board, or the Finance Committee of the Board if it should be delegated such responsibility by the Board, in good faith.

(iii) Prior to the Listing Date, the value of the Common Stock shall be determined in a manner consistent with Section 260.140.50 of Title 10 of the California Code of Regulations.

(t) *"Incentive Stock Option"* means an Option intended to qualify as an incentive stock option within the meaning of Section 422 of the Code and the regulations promulgated thereunder.

(u) *"Listing Date"* means the first date upon which any security of the Company is listed (or approved for listing) upon notice of issuance on any securities exchange or designated (or approved for designation) upon notice of issuance as a national market security on an interdealer quotation system if such securities exchange or interdealer quotation system has been certified in accordance with the provisions of Section 25100(o) of the California Corporate Securities Law of 1968.

(v) *"Non-Employee Director"* means, at such time as the Company may be subject to the applicable provisions of the Exchange Act, a Director who either (i) is not a current employee or executive officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act ("***Regulation S-K***")), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation S-K, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation S-K; or (ii) is otherwise considered a "non-employee director" for purposes of Rule 16b-3.

(w) *"Nonstatutory Stock Option"* means an Option not intended to qualify as an Incentive Stock Option.

(x) *"Officer"* means (i) if the Company is subject to the Exchange Act, a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder, or (ii) if the Company is not subject to the Exchange Act, any person designated by the Company as an officer.

(y) *"Option"* means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(z) *"Option Agreement"* means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an Option grant. Each Option Agreement shall be subject to the terms and conditions of the Plan.

(aa) *"Optionholder"* means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(bb) *"Other Stock Award"* means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 7(e).

(cc) *"Other Stock Award Agreement"* means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement shall be subject to the terms and conditions of the Plan.

(dd) *"Outside Director"* means, at such time as the Company may be subject to the applicable provisions of Section 162(m) of the Code, a Director who either (i) is not a current employee of the Company or an "affiliated corporation" (within the meaning of Treasury Regulations promulgated under Section 162(m) of the Code), is not a former employee of the Company or an "affiliated corporation" who receives compensation for prior services (other than benefits under a tax-qualified retirement plan) during the taxable year, has not been an officer of the Company or an "affiliated corporation," and does not receive remuneration from the Company or an "affiliated corporation," either directly or indirectly, in any capacity other than as a Director, or (ii) is otherwise considered an "outside director" for purposes of Section 162(m) of the Code.

(ee) ***"Own," "Owned," "Owner," "Ownership"*** A person or Entity shall be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(ff) ***"Participant"*** means a person to whom a Stock Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Stock Award.

(gg) ***"Performance Criteria"*** means the one or more criteria that the Board shall select for purposes of establishing the Performance Goals for a Performance Period. The Performance Criteria that shall be used to establish such Performance Goals may be based on any one of, or combination of, the following: (i) earnings per share; (ii) earnings before interest, taxes and depreciation; (iii) earnings before interest, taxes, depreciation and amortization (EBITDA); (iv) net earnings; (v) total shareholder return; (vi) return on equity; (vii) return on assets, investment, or capital employed; (viii) operating margin; (ix) gross margin; (x) operating income; (xi) net income (before or after taxes); (xii) net operating income; (xiii) net operating income after tax; (xiv) pre- and after-tax income; (xv) pre-tax profit; (xvi) operating cash flow; (xvii) sales or revenue targets; (xviii) increases in revenue or product revenue; (xix) expenses and cost reduction goals; (xx) improvement in or attainment of expense levels; (xxi) improvement in or attainment of working capital levels; (xxii) economic value added (or an equivalent metric); (xxiii) market share; (xxiv) cash flow; (xxv) cash flow per share; (xxvi) share price performance; (xxvii) debt reduction; (xxviii) implementation or completion of projects or processes; (xxix) customer satisfaction; (xxx) total stockholder return; (xxxi) stockholders' equity; and (xxxii) other measures of performance selected by the Board. Partial achievement of the specified criteria may result in the payment or vesting corresponding to the degree of achievement as specified in the Stock Award Agreement. The Board shall, in its sole discretion, define the manner of calculating the Performance Criteria it selects to use for such Performance Period.

(hh) ***"Performance Goals"*** means, for a Performance Period, the one or more goals established by the Board for the Performance Period based upon the Performance Criteria. The Board is authorized at any time in its sole discretion, to adjust or modify the calculation of a Performance Goal for such Performance Period in order to prevent the dilution or enlargement of the rights of Participants, (a) in the event of, or in anticipation of, any unusual or extraordinary corporate item, transaction, event or development; (b) in recognition of, or in anticipation of, any other unusual or nonrecurring events affecting the Company, or the financial statements of the Company, or in response to, or in anticipation of, changes in applicable laws, regulations, accounting principles, or business conditions; or (c) in view of the Board's assessment of the business strategy of the Company, performance of comparable organizations, economic and business conditions, and any other circumstances deemed relevant. Specifically, the Board is authorized to make adjustment in the method of calculating attainment of Performance Goals and objectives for a Performance Period as follows: (i) to exclude the dilutive effects of acquisitions or joint ventures; (ii) to assume that any business divested by the Company achieved performance objectives at targeted levels during the balance of a Performance Period following such divestiture; and (iii) to exclude the effect of any change in the outstanding shares of common stock of the Company by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of

shares or other similar corporate change, or any distributions to common shareholders other than regular cash dividends. In addition, the Board is authorized to make adjustment in the method of calculating attainment of Performance Goals and objectives for a Performance Period as follows: (i) to exclude restructuring and/or other nonrecurring charges; (ii) to exclude exchange rate effects, as applicable, for non-U.S. dollar denominated net sales and operating earnings; (iii) to exclude the effects of changes to generally accepted accounting standards required by the Financial Accounting Standards Board; (iv) to exclude the effects to any statutory adjustments to corporate tax rates; (v) to exclude the impact of any "extraordinary items" as determined under generally accepted accounting principles; and (vi) to exclude any other unusual, non-recurring gain or loss or other extraordinary item.

(ii) ***"Performance Period"*** means the one or more periods of time, which may be of varying and overlapping durations, as the Board may select, over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Participant's right to and the payment of a Stock Award.

(jj) ***"Person"*** means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act if the Company is subject to the Exchange Act), except that "Person" shall not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to an offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company; or (v) any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act if the Company is subject to the Exchange Act) that, as of the effective date of the Plan as set forth in Section 14, is the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities.

(kk) ***"Plan"*** means this FibroGen, Inc. 2005 Stock Plan.

(ll) ***"Rule 16b-3"*** means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

(mm) ***"Securities Act"*** means the Securities Act of 1933, as amended.

(nn) ***"Stock Appreciation Right"*** means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 7(d).

(oo) ***"Stock Appreciation Right Agreement"*** means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement shall be subject to the terms and conditions of the Plan.

(pp) ***"Stock Award"*** means any right granted under the Plan, including an Option, a Stock Purchase Award, Stock Bonus Award, a Stock Appreciation Right, a Stock Unit Award, or any Other Stock Award.

(qq) *"Stock Award Agreement"* means a written agreement between the Company and a Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement shall be subject to the terms and conditions of the Plan.

(rr) *"Stock Bonus Award"* means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 7(b).

(ss) *"Stock Bonus Award Agreement"* means a written agreement between the Company and a holder of a Stock Bonus Award evidencing the terms and conditions of a Stock Bonus Award grant. Each Stock Bonus Award Agreement shall be subject to the terms and conditions of the Plan.

(tt) *"Stock Purchase Award"* means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 7(a).

(uu) *"Stock Purchase Award Agreement"* means a written agreement between the Company and a holder of a Stock Purchase Award evidencing the terms and conditions of a Stock Purchase Award grant. Each Stock Purchase Award Agreement shall be subject to the terms and conditions of the Plan.

(vv) *"Stock Unit Award"* means a right to receive shares of Common Stock which is granted pursuant to the terms and conditions of Section 7(c).

(ww) *"Stock Unit Award Agreement"* means a written agreement between the Company and a holder of a Stock Unit Award evidencing the terms and conditions of a Stock Unit Award grant. Each Stock Unit Award Agreement shall be subject to the terms and conditions of the Plan.

(xx) *"Subsidiary"* means, with respect to the Company, (i) any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation shall have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than fifty percent (50%).

(yy) *"Ten Percent Stockholder"* means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any Affiliate.

3. ADMINISTRATION.

(a) Administration by Board. The Board shall administer the Plan unless and until the Board delegates administration of the Plan to a Committee, as provided in Section 3(c).

(b) Powers of Board. The Board shall have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine from time to time (1) which of the persons eligible under the Plan shall be granted Stock Awards; (2) when and how each Stock Award shall be granted; (3) what type or combination of types of Stock Award shall be granted; (4) the provisions of each Stock Award granted (which need not be identical), including the time or times when a person shall be permitted to receive Common Stock pursuant to a Stock Award; and (5) the number of shares of Common Stock with respect to which a Stock Award shall be granted to each such person.

(ii) To construe and interpret the Plan and Stock Awards granted under it, and/or to establish, amend and revoke rules and regulations for its administration. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Stock Award Agreement, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective.

(iii) To effect, at any time and from time to time, with the consent of any adversely affected Optionholder, (1) the reduction of the exercise price of any outstanding Option under the Plan; (2) the cancellation of any outstanding Option under the Plan and the grant in substitution therefor of (a) a new Option under the Plan or another equity plan of the Company covering the same or a different number of shares of Common Stock, (b) a Stock Purchase Award, (c) a Stock Bonus Award, (d) a Stock Appreciation Right, (e) a Stock Unit Award, (f) an Other Stock Award, (g) cash, and/or (h) other valuable consideration (as determined by the Board, in its sole discretion); or (3) any other action that is treated as a repricing under generally accepted accounting principles.

(iv) To amend the Plan or a Stock Award as provided in Section 12.

(v) To terminate or suspend the Plan as provided in Section 13.

(vi) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan.

(vii) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Employees who are foreign nationals or employed outside the United States.

(c) Delegation to Committee.

(i) General. The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration is delegated to a Committee, the Committee shall have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board shall thereafter be to the Committee or subcommittee), subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. The Board may retain the authority to concurrently administer the Plan with the Committee including, without limitation, the power to

review, and may, at any time, retain in the Board or revest in the Board some or all of the powers previously delegated.

(ii) Section 162(m) and Rule 16b-3 Compliance. At such time as the Company may be subject to the applicable provisions of Section 162(m) of the Code and/or Section 16 of the Exchange Act, as applicable, the Committee may, in the sole discretion of the Board, consist solely of two or more Outside Directors, in accordance with Section 162(m) of the Code, and/or solely of two or more Non-Employee Directors, in accordance with Rule 16b-3. In addition, the Board or the Committee, in its sole discretion, may (1) delegate to a committee of one or more members of the Board who need not be Outside Directors the authority to grant Stock Awards to eligible persons who are either (a) not then Covered Employees and are not expected to be Covered Employees at the time of recognition of income resulting from such Stock Award, or (b) not persons with respect to whom the Company wishes to comply with Section 162(m) of the Code, and/or (2) delegate to a committee of one or more members of the Board who need not be Non-Employee Directors the authority to grant Stock Awards to eligible persons who are not then subject to Section 16 of the Exchange Act.

(d) Delegation to an Officer. The Board may delegate to one or more Officers of the Company the authority to do one or both of the following (i) designate Officers and Employees of the Company or any of its Subsidiaries to be recipients of Stock Awards and the terms thereof, and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Officers and Employees of the Company; *provided, however,* that the Board resolutions regarding such delegation shall specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Notwithstanding anything to the contrary in this Section 3(d), the Board may not delegate to an Officer authority to determine the Fair Market Value of the Common Stock pursuant to Section 2(s)(ii) above.

(e) Effect of Board's Decision. All determinations, interpretations and constructions made by the Board or the Committee as may be authorized by the Board in good faith shall not be subject to review by any person and shall be final, binding and conclusive on all persons.

4. SHARES SUBJECT TO THE PLAN.

(a) Share Reserve. Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, the number of shares of Common Stock that may be issued pursuant to Stock Awards shall not exceed, in the aggregate sixty-five million seven hundred seventeen thousand one hundred fifty two (65,717,152) shares of Common Stock.

(b) Reversion of Shares to the Share Reserve. If any Stock Award shall for any reason expire or otherwise terminate, in whole or in part, without having been exercised in full, if any shares of Common Stock issued to a Participant pursuant to a Stock Award are forfeited to or repurchased by the Company, including, but not limited to, any repurchase or forfeiture caused by the failure to meet a contingency or condition required for the vesting of such shares, or if any shares of Common Stock are cancelled in accordance with the cancellation and regrant provisions of Section 3(b)(iii), then the shares of Common Stock not issued under such Stock Award, or forfeited to or repurchased by the Company, shall revert to and again become

available for issuance under the Plan. If any shares subject to a Stock Award are not delivered to a Participant because such shares are withheld for the payment of taxes or the Stock Award is exercised through a reduction of shares subject to the Stock Award (*i.e.*, "net exercised"), the number of shares that are not delivered to the Participant shall remain available for issuance under the Plan. If the exercise price of any Stock Award is satisfied by tendering shares of Common Stock held by the Participant (either by actual delivery or attestation), then the number of shares so tendered shall remain available for issuance under the Plan. Notwithstanding anything to the contrary in this Section 4(b), subject to the provisions of Section 11(a) relating to Capitalization Adjustments the aggregate maximum number of shares of Common Stock that may be issued pursuant to the exercise of Incentive Stock Options shall be sixty-five million seven hundred seventeen thousand one hundred fifty two (65,717,152) shares of Common Stock plus the amount of any increase in the number of shares that may be available for issuance pursuant to Stock Awards pursuant to Section 4(a).

(c) Source of Shares. The stock issuable under the Plan shall be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market.

(d) Share Reserve Limitation. Prior to the Listing Date and to the extent then required by Section 260.140.45 of Title 10 of the California Code of Regulations, the total number of shares of Common Stock issuable upon exercise of all outstanding Options and the total number of shares of Common Stock provided for under any stock bonus or similar plan of the Company shall not exceed the applicable percentage as calculated in accordance with the conditions and exclusions of Section 260.140.45 of Title 10 of the California Code of Regulations, based on the shares of Common Stock of the Company that are outstanding at the time the calculation is made.

5. ELIGIBILITY.

(a) Eligibility for Specific Stock Awards. Incentive Stock Options may be granted only to Employees. Stock Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants.

(b) Ten Percent Stockholders.

(i) A Ten Percent Stockholder shall not be granted an Incentive Stock Option unless the exercise price of such Option is at least one hundred ten percent (110%) of the Fair Market Value of the Common Stock on the date of grant and the Option is not exercisable after the expiration of five (5) years from the date of grant.

(ii) Prior to the Listing Date, a Ten Percent Stockholder shall not be granted a Nonstatutory Stock Option unless the exercise price of such Option is at least (i) one hundred ten percent (110%) of the Fair Market Value of the Common Stock on the date of grant or (ii) such lower percentage of the Fair Market Value of the Common Stock on the date of grant as is permitted by Section 260.140.41 of Title 10 of the California Code of Regulations at the time of the grant of the Option.

(iii) Except as otherwise provided in Section 7(a)(i), prior to the Listing Date, a Ten Percent Stockholder shall not be granted a Restricted Stock Award, Stock Appreciation Right (if such award could be settled in shares of Common Stock) or Stock Unit Award (if such award could be settled in shares of Common Stock), unless the purchase price of the restricted stock or other award is at least (i) one hundred percent (100%) of the Fair Market Value of the Common Stock on the date of grant or (ii) such lower percentage of the Fair Market Value of the Common Stock on the date of grant as is permitted by Section 260.140.42 of Title 10 of the California Code of Regulations at the time of the grant of the award.

(c) Section 162(m) Limitation on Annual Grants. Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, at such time as the Company may be subject to the applicable provisions of Section 162(m) of the Code, no Employee shall be eligible to be granted Stock Awards whose value is determined by reference to an increase over an exercise or strike price of at least one hundred percent (100%) of the Fair Market Value of the Common Stock on the date the Stock Award is granted covering more than a number of shares of Common Stock during any calendar year that shall be determined by the Board prior to such time as the Company may become subject to the applicable provisions of Section 162(m) of the Code.

(d) Consultants. A Consultant shall not be eligible for the grant of a Stock Award if, at the time of grant, (i) if prior to the Listing Date, either the offer or the sale of the Company's securities to such Consultant is not exempt under Rule 701 of the Securities Act (***"Rule 701"***) because of the nature of the services that the Consultant is providing to the Company, because the Consultant is not a natural person, or because of some other provision of Rule 701, or (ii) if on and after the Listing Date, a Form S-8 Registration Statement under the Securities Act (***"Form S-8"***) is not available to register either the offer or the sale of the Company's securities to such Consultant because of the nature of the services that the Consultant is providing to the Company, because the Consultant is not a natural person, or because of any other rule governing the use of Form S-8.

6. OPTION PROVISIONS.

Each Option shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. All Options shall be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate certificate or certificates shall be issued for shares of Common Stock purchased on exercise of each type of Option. The provisions of separate Options need not be identical; *provided, however*, that each Option Agreement shall include (through incorporation of provisions hereof by reference in the Option or otherwise) the substance of each of the following provisions:

(a) Term. Prior to the Listing Date, subject to the provisions of Section 5(b) regarding Ten Percent Stockholders, the Board shall determine the term of any Option granted thereto, provided, that no Option shall be exercisable after the expiration of ten (10) years from the date it was granted. On and after the Listing Date, the Board shall determine the term of an Option; *provided, however*, that subject to the provisions of Section 5(b)(i) regarding Ten Percent Stockholders, no Incentive Stock Option shall be exercisable after the expiration of ten (10) years from the date of grant.

(b) Exercise Price of an Incentive Stock Option. Subject to the provisions of Section 5(b)(i) regarding Ten Percent Stockholders, the exercise price of each Incentive Stock Option shall be not less than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option on the date the Option is granted. Notwithstanding the foregoing, an Incentive Stock Option may be granted with an exercise price lower than that set forth in the preceding sentence if such Option is granted pursuant to an assumption or substitution for another option in a manner consistent with the provisions of Section 424(a) of the Code.

(c) Exercise Price of a Nonstatutory Stock Option. Subject to the provisions of Section 5(b)(ii) regarding Ten Percent Stockholders, the exercise price of each Nonstatutory Stock Option shall be not less than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option on the date the Option is granted. Notwithstanding the foregoing, a Nonstatutory Stock Option may be granted with an exercise price lower than that set forth in the preceding sentence if such Option is granted pursuant to an assumption or substitution for another option in a manner consistent with the provisions of Section 424(a) of the Code.

(d) Consideration. The purchase price of Common Stock acquired pursuant to the exercise of an Option shall be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board shall have the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to utilize a particular method of payment. The methods of payment permitted by this Section 6(d) are:

(i) by cash or check;

(ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds;

(iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;

(iv) by a “net exercise” arrangement pursuant to which the Company will reduce the number of shares of Common Stock issued upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; *provided*, *however*, the Company shall accept a cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such holding back of whole shares; *provided*, *however*, shares of Common Stock will no longer be outstanding under an Option and will not be exercisable thereafter to the extent that (i) shares are used to pay the exercise price pursuant to the “net exercise,” (ii) shares are delivered to the Participant as a result of such exercise, and (iii) shares are withheld to satisfy tax withholding obligations;

(v) according to a deferred payment or similar arrangement with the Optionholder; *provided*, *however*, that interest shall compound at least annually and shall be charged at the minimum rate of interest necessary to avoid (i) the imputation of interest income to the Company and compensation income to the Optionholder under any applicable provisions of the Code, and (ii) the treatment of the Option as a variable award for financial accounting purposes; or

(vi) in any other form of legal consideration that may be acceptable to the Board.

(e) Transferability of an Incentive Stock Option. An Incentive Stock Option shall not be transferable except by will or by the laws of descent and distribution and shall be exercisable during the lifetime of the Optionholder only by the Optionholder. Notwithstanding the foregoing, (i) the Optionholder may, by delivering written notice to the Company, in a form satisfactory to the Company, designate a third party who, in the event of the death of the Optionholder, shall thereafter be entitled to exercise the Option and (ii) an Option may be transferred pursuant to a domestic relations order provided, however, that in the event of such a transfer, such option shall become a Nonstatutory Stock Option.

(f) Transferability of a Nonstatutory Stock Option. A Nonstatutory Stock Option granted prior to the Listing Date shall not be transferable except by will or by the laws of descent and distribution and, to the extent provided in the Option Agreement, to such further extent as permitted by Section 260.140.41(d) of Title 10 of the California Code of Regulations at the time of the grant of the Option, and shall be exercisable during the lifetime of the Optionholder only by the Optionholder. A Nonstatutory Stock Option granted on or after the Listing Date shall be transferable to the extent provided in the Option Agreement. If the Nonstatutory Stock Option does not provide for transferability, then the Nonstatutory Stock Option shall not be transferable except by will or by the laws of descent and distribution and shall be exercisable during the lifetime of the Optionholder only by the Optionholder. Notwithstanding the foregoing, a Nonstatutory Stock Option may be transferred pursuant to a domestic relations order. Notwithstanding the foregoing, the Optionholder may, by delivering written notice to the Company, in a form satisfactory to the Company, designate a third party who, in the event of the death of the Optionholder, shall thereafter be entitled to exercise the Option.

(g) Vesting Generally. The total number of shares of Common Stock subject to an Option may vest and therefore become exercisable in periodic installments that may or may not be equal. The Option may be subject to such other terms and conditions on the time or times when it may or may not be exercised (which may be based on performance or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options may vary. The provisions of this Section 6(g) are subject to any Option provisions governing the minimum number of shares of Common Stock as to which an Option may be exercised.

(h) Minimum Vesting Prior to the Listing Date. Notwithstanding the foregoing Section 6(g), prior to the Listing Date, to the extent that the following restrictions on vesting are required by Section 260.140.41(f) of Title 10 of the California Code of Regulations at the time of the grant of the Option, then:

(i) Options granted to an Employee who is not an Officer, Director or Consultant shall provide for vesting of the total number of shares of Common Stock at a rate of at least twenty percent (20%) per year over five (5) years from the date the Option was granted, subject to reasonable conditions such as continued employment; and

(ii) Options granted to Officers, Directors or Consultants may be made fully exercisable, subject to reasonable conditions such as continued employment, at any time or during any period established by the Company.

(i) Termination of Continuous Service. In the event that an Optionholder's Continuous Service terminates (other than upon the Optionholder's death or Disability), the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise such Option as of the date of termination of Continuous Service) but only within such period of time ending on the earlier of (i) the date three (3) months following the termination of the Optionholder's Continuous Service (or such longer or shorter period specified in the Option Agreement, which period shall not be less than thirty (30) days for Options granted prior to the Listing Date unless such termination is for Cause), or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination of Continuous Service, the Optionholder does not exercise his or her Option within the time specified herein or in the Option Agreement (as applicable), the Option shall terminate.

(j) Extension of Termination Date. An Optionholder's Option Agreement may provide that if the exercise of the Option following the termination of the Optionholder's Continuous Service (other than upon the Optionholder's death or Disability or upon a Change in Control) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act or the Exchange Act, including without limitation Section 16 of the Exchange Act, then the Option shall terminate on the earlier of (i) the expiration of a period of three (3) months after the termination of the Optionholder's Continuous Service during which the exercise of the Option would not be in violation of such registration requirements, or (ii) the expiration of the term of the Option as set forth in the Option Agreement.

(k) Disability of Optionholder. In the event that an Optionholder's Continuous Service terminates as a result of the Optionholder's Disability, the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise such Option as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date twelve (12) months following such termination of Continuous Service (or such longer or shorter period specified in the Option Agreement, which period shall not be less than six (6) months for Options granted prior to the Listing Date), or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination of Continuous Service, the Optionholder does not exercise his or her Option within the time specified herein or in the Option Agreement (as applicable), the Option shall terminate.

(l) Death of Optionholder. In the event that (i) an Optionholder's Continuous Service terminates as a result of the Optionholder's death, or (ii) the Optionholder dies within the period (if any) specified in the Option Agreement after the termination of the Optionholder's Continuous Service for a reason other than death, then the Option may be exercised (to the extent

the Optionholder was entitled to exercise such Option as of the date of death) by the Optionholder's estate, by a person who acquired the right to exercise the Option by bequest or inheritance or by a person designated to exercise the option upon the Optionholder's death, but only within the period ending on the earlier of (i) the date eighteen (18) months following the date of death (or such longer or shorter period specified in the Option Agreement, which period shall not be less than six (6) months for Options granted prior to the Listing Date), or (ii) the expiration of the term of such Option as set forth in the Option Agreement. If, after the Optionholder's death, the Option is not exercised within the time specified herein or in the Option Agreement (as applicable), the Option shall terminate.

(m) Early Exercise. The Option may include a provision whereby the Optionholder may elect at any time before the Optionholder's Continuous Service terminates to exercise the Option as to any part or all of the shares of Common Stock subject to the Option prior to the full vesting of the Option. Any unvested shares of Common Stock so purchased may be subject to a repurchase option in favor of the Company or to any other restriction the Board determines to be appropriate. The Company shall not be required to exercise its repurchase option until at least six (6) months (or such longer or shorter period of time necessary to avoid a charge to earnings for financial accounting purposes) have elapsed following exercise of the Option unless the Board otherwise specifically provides in the Option.

(n) Right of Repurchase. Subject to the "Repurchase Limitation" in Section 10(j), the Option may, but need not, include a provision whereby the Company may elect, prior to the Listing Date, to repurchase all or any part of the vested shares of Common Stock acquired by the Optionholder pursuant to the exercise of the Option. Provided that the "Repurchase Limitation" in Section 10(j) is not violated, the Company will not exercise its repurchase option until at least six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes) have elapsed following exercise of the Option unless otherwise specifically provided in the Option.

(o) Right of First Refusal. The Option may, but need not, include a provision whereby the Company may elect, prior to the Listing Date, to exercise a right of first refusal following receipt of notice from the Optionholder of the intent to transfer all or any part of the shares of Common Stock received upon the exercise of the Option. Except as expressly provided in this Section 6(o) or in the Stock Award Agreement for the Option, such right of first refusal shall otherwise comply with any applicable provisions of the Bylaws of the Company. The Company will not exercise its right of first refusal until at least six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes) have elapsed following exercise of the Option unless otherwise specifically provided in the Option.

7. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS.

(a) Stock Purchase Awards. Each Stock Purchase Award Agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. At the Board's election, shares of Common Stock may be (i) held in book entry form subject to the Company's instructions until any restrictions relating to the Stock Purchase Award lapse; or (ii) evidenced by a certificate, which certificate shall be held in such form and manner as determined

by the Board. The terms and conditions of Stock Purchase Award Agreements may change from time to time, and the terms and conditions of separate Stock Purchase Award Agreements need not be identical, *provided, however,* that each Stock Purchase Award Agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) Purchase Price. At the time of the grant of a Stock Purchase Award, the Board will determine the price to be paid by the Participant for each share subject to the Stock Purchase Award; *provided, however*, that (i) prior to the Listing Date for purchases intended to be exempt from qualification pursuant to Section 25102(o) of the California Corporations Code, subject to the provisions of Section 5(b)(iii) regarding Ten Percent Stockholders, the price to be paid by the Participant for each share subject to the Stock Purchase Award shall not be less than eighty-five percent (85%) of the Common Stock's Fair Market Value on the date such award is made or at the time the purchase is consummated, (iii) prior to the Listing Date for purchases intended to be exempt from qualification pursuant to Section 25102(f) of the California Corporations Code, the price to be paid by the Participant for each share subject to the Stock Purchase Award shall not be less than fifty percent (50%) of the Common Stock's Fair Market Value on the date such award is made or at the time the purchase is consummated, and (iv) on and after the Listing Date, to the extent required by applicable law, the price to be paid by the Participant for each share of the Stock Purchase Award shall not be less than the par value of a share of Common Stock.

(ii) Consideration. At the time of the grant of a Stock Purchase Award, the Board will determine the consideration permissible for the payment of the purchase price of the Stock Purchase Award. The purchase price of Common Stock acquired pursuant to the Stock Purchase Award shall be paid either: (i) in cash or by check at the time of purchase, (ii) at the discretion of the Board, according to a deferred payment or other similar arrangement with the Participant, (iii) by past services rendered to the Company, or (iv) in any other form of legal consideration that may be acceptable to the Board in its sole discretion and permissible under applicable law.

(iii) Vesting. Shares of Common Stock acquired under a Stock Purchase Award may be subject to a share repurchase right or option in favor of the Company in accordance with a vesting schedule to be determined by the Board.

(iv) Termination of Participant's Continuous Service. In the event that a Participant's Continuous Service terminates, the Company shall have the right, but not the obligation, to repurchase or otherwise reacquire, any or all of the shares of Common Stock held by the Participant that have not vested as of the date of termination under the terms of the Stock Purchase Award Agreement. At the Board's election, the price paid for all shares of Common Stock so repurchased or reacquired by the Company may be at the lesser of: (i) the Fair Market Value on the relevant date, or (ii) the Participant's original cost for such shares. The Company shall not be required to exercise its repurchase or reacquisition option until at least six (6) months (or such longer or shorter period of time necessary to avoid a charge to earnings for financial accounting purposes) have elapsed following the Participant's purchase of the shares of stock acquired pursuant to the Stock Purchase Award unless otherwise determined by the Board or provided in the Stock Purchase Award Agreement.

(v) Transferability. Prior to the Listing Date, rights to purchase or receive shares of Common Stock granted under a Stock Purchase Award shall not be transferable except by will or by the laws of descent and distribution, or pursuant to a domestic relations order, and shall be exercisable during the lifetime of the Participant only by the Participant. On and after the Listing Date, rights to purchase or receive shares of Common Stock granted under a Stock Purchase Award shall be transferable by the Participant only upon such terms and conditions as are set forth in the Stock Purchase Award Agreement, as the Board shall determine in its sole discretion, and so long as Common Stock awarded under the Stock Purchase Award remains subject to the terms of the Stock Purchase Award Agreement.

(b) Stock Bonus Awards. Each Stock Bonus Award Agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. At the Board's election, shares of Common Stock may be (i) held in book entry form subject to the Company's instructions until any restrictions relating to the Stock Bonus Award lapse; or (ii) evidenced by a certificate, which certificate shall be held in such form and manner as determined by the Board. The terms and conditions of Stock Bonus Award Agreements may change from time to time, and the terms and conditions of separate Stock Bonus Award Agreements need not be identical, *provided, however*, that each Stock Bonus Award Agreement shall include (through incorporation of provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. A Stock Bonus Award may be awarded in consideration for (i) past services actually rendered to the Company or an Affiliate, or (ii) any other form of legal consideration that may be acceptable to the Board in its sole discretion and permissible under applicable law.

(ii) Vesting. Shares of Common Stock awarded under the Stock Bonus Award Agreement may be subject to forfeiture to the Company in accordance with a vesting schedule to be determined by the Board.

(iii) Termination of Participant's Continuous Service. In the event a Participant's Continuous Service terminates, the Company may receive via a forfeiture condition, any or all of the shares of Common Stock held by the Participant which have not vested as of the date of termination of Continuous Service under the terms of the Stock Bonus Award Agreement.

(iv) Transferability. Prior to the Listing Date, rights to acquire shares of Common Stock under a Stock Bonus Award Agreement shall not be transferable except by will or by the laws of descent and distribution, or pursuant to a domestic relations order, and shall be exercisable during the lifetime of the Participant only by the Participant. On and after the Listing Date, rights to acquire shares of Common Stock under a Stock Bonus Award Agreement shall be transferable by the Participant only upon such terms and conditions as are set forth in the Stock Bonus Award Agreement, as the Board shall determine in its sole discretion, and so long as Common Stock awarded under the Stock Bonus Award Agreement remains subject to the terms of the Stock Bonus Award Agreement.

(c) Stock Unit Awards. Each Stock Unit Award Agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. The terms and conditions of Stock Unit Award Agreements may change from time to time, and the terms and conditions of separate Stock Unit Award Agreements need not be identical, *provided*, *however*, that each Stock Unit Award Agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. At the time of grant of a Stock Unit Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Stock Unit Award; *provided*, *however*, that prior to the Listing Date, subject to the provisions of Section 5(b)(iii) regarding Ten Percent Stockholders, if the Stock Unit Award may be settled in shares of Common Stock, the price to be paid by the Participant for each share subject to the Stock Unit Award shall not be less than eighty-five percent (85%) of the Common Stock's Fair Market Value on the date such award is made or at the time the purchase is consummated. The consideration to be paid (if any) by the Participant for each share of Common Stock subject to a Stock Unit Award may be paid in any form of legal consideration that may be acceptable to the Board in its sole discretion and permissible under applicable law.

(ii) Vesting. At the time of the grant of a Stock Unit Award, the Board may impose such restrictions or conditions to the vesting of the Stock Unit Award as it, in its sole discretion, deems appropriate.

(iii) Payment. A Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and contained in the Stock Unit Award Agreement.

(iv) Additional Restrictions. At the time of the grant of a Stock Unit Award, the Board, as it deems appropriate, may impose such restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Stock Unit Award after the vesting of such Stock Unit Award.

(v) Dividend Equivalents. Dividend equivalents may be credited in respect of shares of Common Stock covered by a Stock Unit Award, as determined by the Board and contained in the Stock Unit Award Agreement. At the sole discretion of the Board, such dividend equivalents may be converted into additional shares of Common Stock covered by the Stock Unit Award in such manner as determined by the Board. Any additional shares covered by the Stock Unit Award credited by reason of such dividend equivalents will be subject to all the terms and conditions of the underlying Stock Unit Award Agreement to which they relate.

(vi) Termination of Participant's Continuous Service. Except as otherwise provided in the applicable Stock Unit Award Agreement, such portion of the Stock Unit Award that has not vested will be forfeited upon the Participant's termination of Continuous Service.

(d) Stock Appreciation Rights. Each Stock Appreciation Right Agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate.

The terms and conditions of Stock Appreciation Right Agreements may change from time to time, and the terms and conditions of separate Stock Appreciation Right Agreements need not be identical; *provided, however*, that each Stock Appreciation Right Agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) Strike Price and Calculation of Appreciation. Each Stock Appreciation Right will be denominated in shares of Common Stock equivalents. The appreciation distribution payable on the exercise of a Stock Appreciation Right will be not greater than an amount equal to the excess of (i) the aggregate Fair Market Value (on the date of the exercise of the Stock Appreciation Right) of a number of shares of Common Stock equal to the number of share of Common Stock equivalents in which the Participant is vested under such Stock Appreciation Right, and with respect to which the Participant is exercising the Stock Appreciation Right on such date, over (ii) an amount (the strike price) that will be determined by the Board at the time of grant of the Stock Appreciation Right, *provided, however*, that prior to the Listing Date, subject to the provisions of Section 5(b)(iii) regarding Ten Percent Stockholders, if the Stock Appreciation Right may be settled in shares of Common Stock, the price to be paid by the Participant for each share subject to the Stock Appreciation Right shall not be less than eighty-five percent (85%) of the Common Stock's Fair Market Value on the date such award is made or at the time the purchase is consummated.

(ii) Vesting. At the time of the grant of a Stock Appreciation Right, the Board may impose such restrictions or conditions to the vesting of such Stock Appreciation Right as it, in its sole discretion, deems appropriate.

(iii) Exercise. To exercise any outstanding Stock Appreciation Right, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Appreciation Right Agreement evidencing such Stock Appreciation Right.

(iv) Payment. The appreciation distribution in respect to a Stock Appreciation Right may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and contained in the Stock Appreciation Right Agreement evidencing such Stock Appreciation Right.

(v) Termination of Continuous Service. In the event that a Participant's Continuous Service terminates, the Participant may exercise his or her Stock Appreciation Right (to the extent that the Participant was entitled to exercise such Stock Appreciation Right as of the date of termination) but only within such period of time ending on the earlier of (i) the date three (3) months following the termination of the Participant's Continuous Service (or such longer or shorter period specified in the Stock Appreciation Right Agreement), or (ii) the expiration of the term of the Stock Appreciation Right as set forth in the Stock Appreciation Right Agreement. If, after termination, the Participant does not exercise his or her Stock Appreciation Right within the time specified herein or in the Stock Appreciation Right Agreement (as applicable), the Stock Appreciation Right shall terminate.

(e) Other Stock Awards. Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock may be granted either alone or in addition to Stock Awards provided for under Section 6 and the preceding provisions of this Section 7. Subject to the provisions of the Plan, the Board shall have sole and complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards.

8. COVENANTS OF THE COMPANY.

(a) Availability of Shares. During the terms of the Stock Awards, the Company shall keep available at all times the number of shares of Common Stock required to satisfy such Stock Awards.

(b) Securities Law Compliance. The Company shall seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; *provided, however,* that this undertaking shall not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful grant of Stock Awards or issuance and sale of Common Stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained.

9. USE OF PROCEEDS FROM SALES OF COMMON STOCK.

Proceeds from the sale of shares of Common Stock pursuant to Stock Awards shall constitute general funds of the Company.

10. MISCELLANEOUS.

(a) Acceleration of Exercisability and Vesting. The Board shall have the power to accelerate the time at which a Stock Award may first be exercised or the time during which a Stock Award or any part thereof will vest in accordance with the Plan, notwithstanding the provisions in the Stock Award stating the time at which it may first be exercised or the time during which it will vest.

(b) Stockholder Rights. No Participant shall be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to such Stock Award unless and until such Participant has satisfied all requirements for exercise of the Stock Award pursuant to its terms.

(c) No Employment or Other Service Rights. Nothing in the Plan, any Stock Award Agreement or other instrument executed thereunder or any Stock Award granted pursuant thereto shall confer upon any Participant any right to continue to serve the Company or an

Affiliate in the capacity in effect at the time the Stock Award was granted or shall affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the Bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(d) Incentive Stock Option $100,000 Limitation. To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds one hundred thousand dollars ($100,000), the Options or portions thereof that exceed such limit (according to the order in which they were granted) shall be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(e) Investment Assurances. The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Stock Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Stock Award; and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Stock Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, shall be inoperative if (i) the issuance of the shares upon the exercise or acquisition of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act, or (ii) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(f) Withholding Obligations. To the extent provided by the terms of a Stock Award Agreement, the Company may, in its sole discretion, satisfy any federal, state or local tax withholding obligation relating to a Stock Award by any of the following means (in addition to the Company's right to withhold from any compensation paid to the Participant by the Company) or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Stock Award; or (iii) by such other method as may be set forth in the Stock Award Agreement.

(g) Electronic Delivery. Any reference herein to a "written" agreement or document shall include any agreement or document delivered electronically or posted on the Company's intranet.

(h) Performance Stock Awards. A Stock Award may be granted, may vest, or may be exercised based upon service conditions, upon the attainment during a Performance Period of certain Performance Goals, or both. The length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained shall be conclusively determined by the Board in its sole discretion. Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, at such time as the Company may be subject to the applicable provisions of Section 162(m) of the Code, the maximum benefit to be received by any individual in any calendar year attributable to Stock Awards described in this Section 10(h) shall not exceed the value of a number of shares of Common Stock that shall be determined by the Board prior to such time as the Company may become subject to the applicable provisions of Section 162(m) of the Code.

(i) Information Obligation. Prior to the Listing Date, to the extent required by Section 260.140.46 of Title 10 of the California Code of Regulations, the Company shall deliver financial statements to Participants at least annually. This Section 10(i) shall not apply to key Employees whose duties in connection with the Company assure them access to equivalent information.

(j) Repurchase Limitation. The terms of any repurchase option shall be specified in the Stock Award, and the repurchase price may be either the Fair Market Value of the shares of Common Stock on the date of termination of Continuous Service or the lower of (i) the Fair Market Value of the shares of Common Stock on the date of repurchase or (ii) their original purchase price. To the extent required by Section 260.140.41 and Section 260.140.42 of Title 10 of the California Code of Regulations at the time a Stock Award is made, any repurchase option contained in a Stock Award granted prior to the Listing Date to a person who is not an Officer, Director or Consultant shall be upon the terms described below:

(i) Fair Market Value. If the repurchase option gives the Company the right to repurchase the shares of Common Stock upon termination of Continuous Service at not less than the Fair Market Value of the shares of Common Stock to be purchased on the date of termination of Continuous Service, then (i) the right to repurchase shall be exercised for cash or cancellation of purchase money indebtedness for the shares of Common Stock within ninety (90) days of termination of Continuous Service (or in the case of shares of Common Stock issued upon exercise of Stock Awards after such date of termination, within ninety (90) days after the date of the exercise) or such longer period as may be agreed to by the Company and the Participant (for example, for purposes of satisfying the requirements of Section 1202(c)(3) of the Code regarding “qualified small business stock”) and (ii) the right terminates when the shares of Common Stock become publicly traded.

(ii) Original Purchase Price. If the repurchase option gives the Company the right to repurchase the shares of Common Stock upon termination of Continuous Service at the lower of (i) the Fair Market Value of the shares of Common Stock on the date of repurchase or (ii) their original purchase price, then (x) the right to repurchase at the original purchase price shall lapse at the rate of at least twenty percent (20%) of the shares of Common Stock per year over five (5) years from the date the Stock Award is granted (without respect to the date the Stock Award was exercised or became exercisable) and (y) the right to repurchase shall be

exercised for cash or cancellation of purchase money indebtedness for the shares of Common Stock within ninety (90) days of termination of Continuous Service (or in the case of shares of Common Stock issued upon exercise of Options after such date of termination, within ninety (90) days after the date of the exercise) or such longer period as may be agreed to by the Company and the Participant (for example, for purposes of satisfying the requirements of Section 1202(c)(3) of the Code regarding "qualified small business stock").

11. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; CORPORATE TRANSACTIONS.

(a) Capitalization Adjustments. If any change is made in, or other events occur with respect to, the Common Stock subject to the Plan or subject to any Stock Award after the effective date of the Plan set forth in Section 14 without the receipt of consideration by the Company (through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other transaction not involving the receipt of consideration by the Company (each a "***Capitalization Adjustment***")), the Plan shall be appropriately adjusted in the class(es) and maximum number of securities subject to the Plan pursuant to Sections 4(a) and 4(b), the maximum number of securities that may be awarded to any person pursuant to Sections 5(c) and 10(h), and the outstanding Stock Awards will be appropriately adjusted in the class(es) and number of securities and price per share of stock subject to such outstanding Stock Awards. The Board shall make such adjustments, and its determination shall be final, binding and conclusive. (Notwithstanding the foregoing, the conversion of any convertible securities of the Company shall not be treated as a transaction "without receipt of consideration" by the Company.)

(b) Dissolution or Liquidation. In the event of a proposed dissolution or liquidation of the Company, the Company shall notify each Participant at least 30 days prior to such proposed action. In the event of a dissolution or liquidation of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to the Company's right of repurchase) shall terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to the Company's repurchase option may be repurchased by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service, *provided, however,* that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Stock Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

(c) Corporate Transaction. The following provisions shall apply to Stock Awards in the event of a Corporate Transaction unless otherwise provided in a written agreement between the Company or any Affiliate and the holder of the Stock Award:

(i) Stock Awards May Be Assumed. In the event of a Corporate Transaction, any surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) may assume or continue any or all Stock Awards outstanding under the Plan or may substitute similar stock awards for Stock Awards outstanding under the Plan (including but not limited to, awards to acquire the same consideration paid to the

stockholders of the Company pursuant to the Corporate Transaction), and any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to Stock Awards may be assigned by the Company to the successor of the Company (or the successor's parent company, if any), in connection with such Corporate Transaction. A surviving corporation or acquiring corporation may choose to assume or continue only a portion of a Stock Award or substitute a similar stock award for only a portion of a Stock Award. The terms of any assumption, continuation or substitution shall be set by the Board in accordance with the provisions of Section 3.

(ii) Stock Awards Held by Participants and Recent Participants. In the event of a Corporate Transaction in which the surviving corporation or acquiring corporation (or its parent company) does not assume or continue such outstanding Stock Awards or substitute similar stock awards for such outstanding Stock Awards, then with respect to Stock Awards that have not been assumed, continued or substituted and that are held by Participants whose Continuous Service has not terminated more than three (3) months prior to the effective time of the Corporate Transaction (referred to as the "***Participants and Recent Participants***"), the vesting of such Stock Awards (and, if applicable, the time at which such Stock Awards may be exercised) shall (contingent upon the effectiveness of the Corporate Transaction) be accelerated in full to a date prior to the effective time of such Corporate Transaction as the Board shall determine (or, if the Board shall not determine such a date, to the date that is five (5) days prior to the effective time of the Corporate Transaction), and such Stock Awards shall terminate if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction, and any reacquisition or repurchase rights held by the Company with respect to such Stock Awards shall lapse (contingent upon the effectiveness of the Corporate Transaction, except that such acceleration of vesting shall not apply to any employee terminated for Cause.

(iii) Stock Awards Held by Other Participants. In the event of a Corporate Transaction in which the surviving corporation or acquiring corporation (or its parent company) does not assume or continue such outstanding Stock Awards or substitute similar stock awards for such outstanding Stock Awards, then with respect to Stock Awards that have not been assumed, continued or substituted and that are held by persons other than Participants and Recent Participants, the vesting of such Stock Awards (and, if applicable, the time at which such Stock Award may be exercised) shall not be accelerated and such Stock Awards (other than a Stock Award consisting of vested and outstanding shares of Common Stock not subject to the Company's right of repurchase) shall terminate if not exercised (if applicable) prior to the effective time of the Corporate Transaction; *provided, however,* that any reacquisition or repurchase rights held by the Company with respect to such Stock Awards shall not terminate and may continue to be exercised notwithstanding the Corporate Transaction.

(iv) Payment for Stock Awards in Lieu of Exercise. Notwithstanding the foregoing, in the event a Stock Award will terminate if not exercised prior to the effective time of a Corporate Transaction, the Board may provide, in its sole discretion, that the holder of such Stock Award may not exercise such Stock Award but will receive a payment, in such form as may be determined by the Board, equal in value to the excess, if any, of (i) the value of the property the holder of the Stock Award would have received upon the exercise of the Stock Award, over (ii) any exercise price payable by such holder in connection with such exercise.

(d) Change in Control. A Stock Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Stock Award Agreement for such Stock Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant, but in the absence of such provision, no such acceleration shall occur.

12. AMENDMENT OF THE PLAN AND STOCK AWARDS.

(a) Amendment of Plan. Subject to the limitations, if any, of applicable law, the Board at any time, and from time to time, may amend the Plan. However, except as provided in Section 11(a) relating to Capitalization Adjustments, no amendment shall be effective unless approved by the stockholders of the Company to the extent stockholder approval is necessary to satisfy applicable law.

(b) Stockholder Approval. The Board, in its sole discretion, may submit any other amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of Section 162(m) of the Code and the regulations thereunder regarding the exclusion of performance-based compensation from the limit on corporate deductibility of compensation paid to Covered Employees.

(c) Contemplated Amendments. It is expressly contemplated that the Board may amend the Plan in any respect the Board deems necessary or advisable to provide eligible Employees with the maximum benefits provided or to be provided under the provisions of the Code and the regulations promulgated thereunder relating to Incentive Stock Options and/or to bring the Plan and/or Incentive Stock Options granted under it into compliance therewith.

(d) No Impairment of Rights. Rights under any Stock Award granted before amendment of the Plan shall not be impaired by any amendment of the Plan unless (i) the Company requests the consent of the affected Participant, and (ii) such Participant consents in writing.

(e) Amendment of Stock Awards. The Board, at any time and from time to time, may amend the terms of any one or more Stock Awards, including, but not limited to, amendments to provide terms more favorable than previously provided in the Stock Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion; *provided, however,* that the rights under any Stock Award shall not be impaired by any such amendment unless (i) the Company requests the consent of the affected Participant, and (ii) such Participant consents in writing.

13. TERMINATION OR SUSPENSION OF THE PLAN.

(a) Plan Term. The Board may suspend or terminate the Plan at any time. Unless sooner terminated, the Plan shall terminate on the day before the tenth (10th) anniversary of the date the Plan is adopted by the Board or approved by the stockholders of the Company, whichever is earlier. No Stock Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

(b) No Impairment of Rights. Suspension or termination of the Plan shall not impair rights and obligations under any Stock Award granted while the Plan is in effect except with the written consent of the affected Participant.

14. EFFECTIVE DATE OF PLAN.

This Plan (as an amendment and restatement of the Prior Plan) shall become effective on the date that the Plan is adopted by the Board, but no Stock Award shall be exercised (or, in the case of a Stock Purchase Award, Stock Bonus Award, Stock Unit Award, or Other Stock Award, shall be granted) unless and until the Plan has been approved by the stockholders of the Company, which approval shall be within twelve (12) months before or after the date the Plan is adopted by the Board.

15. CHOICE OF LAW.

Except as may otherwise be expressly provided for herein, the law of the State of Delaware shall govern all questions concerning the construction, validity and interpretation of this Plan, without regard to such state's conflict of laws rules. All references to Section 260.140 of Title 10 of the California Code of Regulations, to the extent such Title or Section may be amended from time to time, shall be deemed to apply to such amended Title or Section.

This is an amendment and restatement of the 2005 Amended and Restated Stock Plan that reflects the increase of 7.5 million shares, as approved by the BOD on September 12, 2013.

FIBROGEN, INC.

STOCK OPTION AGREEMENT
(INCENTIVE STOCK OPTION OR NONSTATUTORY STOCK OPTION)
2005 STOCK PLAN

Pursuant to your Stock Option Grant Notice ("Grant Notice") and this Stock Option Agreement, FibroGen, Inc. (the "Company") has granted you an option under its 2005 Stock Plan (the "Plan") to purchase the number of shares of the Company's Common Stock indicated in your Grant Notice at the exercise price indicated in your Grant Notice. Defined terms not explicitly defined in this Stock Option Agreement but defined in the Plan shall have the same definitions as in the Plan.

The details of your option are as follows:

1. VESTING. Subject to the conditions and limitations contained herein (including Section 9), your option will vest as provided in your Grant Notice, provided that vesting will cease upon the termination of your Continuous Service and the non-vested portion of your option shall terminate immediately, and be of no further force or effect.

2. NUMBER OF SHARES AND EXERCISE PRICE. The number of shares of Common Stock subject to your option and your exercise price per share referenced in your Grant Notice may be adjusted from time to time for Capitalization Adjustments.

3. EXERCISE PRIOR TO VESTING ("EARLY EXERCISE"). If permitted in your Grant Notice (i.e., the "Exercise Schedule" indicates that "Early Exercise" of your option is permitted), or if otherwise approved by the Company, and subject to the provisions of your option, you may elect at any time that is both (i) during the period of your Continuous Service and (ii) during the Term of your option, to exercise all or part of your option, including the nonvested portion of your option; *provided, however,* that:

(a) a partial exercise of your option shall be deemed to cover first vested shares of Common Stock and then the earliest vesting installment of unvested shares of Common Stock;

(b) any shares of Common Stock so purchased from installments that have not vested as of the date of exercise shall be subject to the purchase option in favor of the Company as described in the Company's form of Early Exercise Stock Purchase Agreement; and

(c) you shall enter into the Company's form of Early Exercise Stock Purchase Agreement with a vesting schedule that will result in the same vesting as if no early exercise had occurred.

4. INCENTIVE STOCK OPTIONS.

(a) If your option is an Incentive Stock Option, then, to the extent that the aggregate Fair Market Value (determined at the time of grant) of the shares of Common Stock with respect to which your option plus all other Incentive Stock Options you hold are exercisable for the first time by you during any calendar year (under all plans of the Company and its Affiliates) exceeds one hundred thousand dollars ($100,000), your option(s) or portions thereof that exceed such limit (according to the order in which they were granted) shall be treated as Nonstatutory Stock Options.

(b) If your option is an Incentive Stock Option, note that to obtain the federal income tax advantages associated with an Incentive Stock Option, the Code currently requires that at all times beginning on the date of grant of your option and ending on the day three (3) months before the date of your option's exercise, you must be an employee of the Company or an Affiliate, except in the event of your death or your permanent and total disability, as defined in Section 22(e) of the Code. (The definition of disability in Section 22(e) of the Code is different from the definition of the Disability under the Plan). The Company has provided for extended exercisability of your option under certain circumstances for your benefit, *however*, under Section 22(e) of the Code, your option will not be treated as an Incentive Stock Option if you exercise your option more than three (3) months after the date your employment with the Company (or its Affiliate) terminates, even if you continue to provide services to the Company or an Affiliate as a Consultant or non-employee Director.

5. METHOD OF PAYMENT. Payment of the exercise price is due in full upon exercise of all or any part of your option. You may elect to make payment of the exercise price in cash or by check or in any of the following ways, if applicable:

(a) So long as the Company is Listed and if approved by the Company at the time your option is exercised, pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds. For purposes of this Agreement, the Company shall be deemed to be "Listed" when the Common Stock of the Company is listed on a national securities exchange or designated as a national market security on an interdealer quotation system, if such securities exchange or interdealer quotation system has been certified in accordance with the provisions of Section 25100(o) of the California Corporate Securities Law of 1968, as amended.

(b) So long as the Company is Listed or as otherwise approved by the Company at the time your option is exercised, by Delivery of the largest whole number of shares of Common Stock already-owned by you, free and clear of any liens, claims, encumbrances or security interests, with a Fair Market Value on the date of exercise that does not exceed the aggregate exercise price; *provided*, that any remaining balance of the aggregate exercise price not satisfied by such Delivery of whole shares shall be paid by cash or check. "Delivery" for these purposes, in the sole discretion of the Company at the time you exercise your option, shall include delivery to the Company of your attestation of ownership of such shares of Common Stock in a form approved by the Company. Notwithstanding the foregoing, you may not exercise your option by tender

to the Company of Common Stock to the extent such tender would violate the provisions of any law, regulation or agreement restricting the redemption of the Company's stock.

(c) So long as the Company is Listed or as otherwise approved by the Company at the time your option is exercised, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issued upon exercise of your option by the largest whole number of shares with a Fair Market Value on the date of exercise that does not exceed the aggregate exercise price; *provided*, that any remaining balance of the aggregate exercise price not satisfied by such holding back of whole shares shall be paid by cash or check; *provided, however,* shares of Common Stock will no longer be outstanding under an Option and will not be exercisable thereafter to the extent that (i) shares are used to pay the exercise price pursuant to the "net exercise," (ii) shares are delivered to you as a result of such exercise, and (iii) shares are withheld to satisfy tax withholding obligations. Note that any option, or portion thereof, that is exercised through this "net exercise" method will be disqualified as an incentive stock option and treated as a Nonstatutory Stock Option.

6. WHOLE SHARES. You may exercise your option only for whole shares of Common Stock.

7. SECURITIES LAW COMPLIANCE. Notwithstanding anything to the contrary contained herein, you may not exercise your option unless the shares of Common Stock issuable upon such exercise are then registered under the Securities Act or, if such shares of Common Stock are not then so registered, the Company has determined that such exercise and issuance would be exempt from the registration requirements of the Securities Act. The exercise of your option also must comply with other applicable laws and regulations governing your option, and you may not exercise your option if the Company determines that such exercise would not be in material compliance with such laws and regulations.

8. TERM. You may not exercise your option before the commencement or after the expiration of its Term. The term of your option commences on the Date of Grant, as set forth on your Grant Notice, and expires upon the earliest of the following:

(a) three (3) months after the termination of your Continuous Service for any reason other than your Disability or death, provided that if during any part of such three (3) month period your option is not exercisable solely because of the condition set forth in Section 7, your option shall not expire until the earlier of the Expiration Date or until it shall have been exercisable for an aggregate period of three (3) months after the termination of your Continuous Service;

(b) twelve (12) months after the termination of your Continuous Service due to your Disability;

(c) eighteen (18) months after your death if you die either during your Continuous Service or within three (3) months after your Continuous Service terminates;

(d) the Expiration Date indicated in your Grant Notice; or

(e) the day before the tenth (10th) anniversary of the Date of Grant.

9. EXERCISE.

(a) You may exercise the vested portion of your option (and the unvested portion of your option if permitted) during its Term by delivering a Notice of Exercise (in a form designated by the Company) together with payment of the exercise price, pursuant to Section 5 hereof, to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, together with such additional documents as the Company may then require.

(b) By exercising your option you agree that, as a condition to any exercise of your option, the Company may require you to enter into an arrangement providing for the payment by you to the Company of any tax withholding obligation of the Company arising by reason of (1) the exercise of your option, (2) the lapse of any substantial risk of forfeiture to which the shares of Common Stock are subject at the time of exercise, or (3) the disposition of shares of Common Stock acquired upon such exercise.

(c) If your option is an Incentive Stock Option, by exercising your option you agree that you will notify the Company in writing within fifteen (15) days after the date of any disposition of any of the shares of the Common Stock issued upon exercise of your option that occurs within two (2) years after the date of your option grant or within one (1) year after such shares of Common Stock are transferred upon exercise of your option.

(d) By exercising your option you agree that you shall not sell, dispose of, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale, any shares of Common Stock or other securities of the Company held by you, for a period of time specified by the managing underwriter(s) (not to exceed one hundred eighty (180) days) following the effective date of a registration statement of the Company filed under the Securities Act (the "Lock Up Period"); *provided, however*, that nothing contained in this section shall prevent the exercise of a repurchase option, if any, in favor of the Company during the Lock Up Period. You further agree to execute and deliver such other agreements as may be reasonably requested by the Company and/or the underwriter(s) that are consistent with the foregoing or that are necessary to give further effect thereto. In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to your shares of Common Stock until the end of such period. The underwriters of the Company's stock are intended third party beneficiaries of this Section 9(e) and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto.

10. VESTING UPON CHANGE IN CONTROL.

(a) In the event of a Change in Control, as defined in the Plan, except as set forth subsection 10(c) below, and upon your subsequent involuntary termination from employment with the Company or its successor corporation without Cause, the vesting and exercisability of all unvested outstanding stock options granted hereunder will be accelerated in full. For purposes of this Section 10, "Cause" shall be defined solely as one or more of the following:

(i) the eligible employee's commission of any felony related to the company or its business or any crime involving fraud or moral turpitude under the laws of the United States or any state thereof or of any foreign jurisdiction where the eligible employee is employed;

(ii) the eligible employee's attempted commission of, or participation in, a fraud against the Company;

(iii) the eligible employee's unauthorized use or disclosure of the Company's confidential information or trade secrets;

(iv) the eligible employee's willful failure to substantially perform his or her duties and responsibilities owed to the Company;

provided, however, that the conduct described under clause (iv) above will only constitute Cause if such conduct is not cured, within 15 days after the eligible employee's receipt of written notice from the Company or the Board of Directors specifying the particulars of the conduct that may constitute Cause.

(b) In the event of your Constructive Termination (as defined below) within twelve (12) months after a Change in Control, as defined in the Plan, except as set forth in subsection 10(c) below, the vesting and exercisability of all unvested outstanding stock options granted hereunder will be accelerated in full. For purposes of this Agreement, "Constructive Termination" shall be defined as:

(i) a substantial reduction in the eligible employee's duties or responsibilities (and not simply a change in title or reporting relationships) in effect immediately prior to the effective date of the Change in Control; *provided, however,* that it shall not be a "Constructive Termination" if the Company is retained as a separate legal entity or business unit following the effective date of the Change in Control and the eligible employee holds the same position in such legal entity or business unit as the eligible employee held before the effective date of the Change in Control;

(ii) a material reduction by the Company in the eligible employee's annual base salary, as in effect on the effective date of the Change in Control or as increased thereafter;

(iii) any failure by the Company to continue in effect any benefit plan or program, including incentive plans or plans with respect to the receipt of securities of the Company, in which the eligible employee was participating immediately prior to the effective date of the Change in Control (hereinafter referred to as "Benefit Plans"), or the taking of any action by the Company that would adversely affect the eligible employee's participation in or reduce the eligible employee's benefits under the Benefit Plans or deprive the eligible employee of any fringe benefit that he or she enjoyed immediately prior to the effective date of the Change in Control; *provided, however,* that a Constructive Termination shall not be deemed to have occurred if the Company provides for the eligible employee's participation in benefit plans and programs that, taken as a whole, are comparable to the Benefit Plans;

(iv) a relocation of the eligible employee's business office to a location more than fifty (50) miles from the location at which the eligible employee performed his or her duties as of the effective date of the Change in Control, except for required travel by the eligible employee on the Company's business to an extent substantially consistent with his or her business travel obligations prior to the effective date of the Change in Control; or

(v) a material breach by the Company of any provision of any material agreement between the eligible employee and the Company concerning the terms and conditions of the eligible employee's employment.

(c) For purposes of this Agreement, notwithstanding anything to the contrary contained in the Plan, the term "Change in Control" shall be defined as in the Plan, except that the term shall not include the implementation of anti-takeover measures, including, without limitation, a recapitalization or reorganization of the Company's capital structure, whether by merger, amendment of the Company's certificate of incorporation or certificate(s) of designations, or otherwise, solely for the purpose of the implementation of a dual class stock structure, in which one class of securities has greater voting power on matters involving a change of control and other related issues, irrespective of (i) whether such anti-takeover measure includes a voting agreement or a proxy with respect to the Company's shares or (ii) whether such recapitalization, reorganization or anti-takeover measure results in a change in Ownership of Greater than fifty percent (50%) of the total voting power of the Company.

11. TRANSFERABILITY. Your option is not transferable, except by will or by the laws of descent and distribution, and is exercisable during your life only by you. Notwithstanding the foregoing, by delivering written notice to the Company, in a form satisfactory to the Company, you may designate a third party who, in the event of your death, shall thereafter be entitled to exercise your option.

12. RIGHT OF FIRST REFUSAL. Shares of Common Stock that you acquire upon exercise of your option are subject to a right of first refusal in favor of the Company (or its assignee) as long as the Company is not Listed. You may not sell, or in any manner transfer (by way of assignment, pledge, or otherwise) any of the shares of Common Stock or any right or interest therein, whether voluntarily or by operation of law, or by gift or otherwise, except by a transfer which meets the following requirements. Any sale or transfer, or purported sale or transfer, of shares of Common Stock of the Company shall be null and void unless the terms, conditions, and provisions of this Section 12 are strictly observed and followed.

(a) If you desire to sell or otherwise transfer any of your shares of Common Stock, you must first give written notice thereof to the Company (the "Notice"), including the name and address of the proposed transferee, the number of shares to be transferred, and all other terms other than the proposed transfer price or consideration.

(b) The Company shall have an initial ten (10) days to request pricing terms of the proposed transfer and you must provide the Company with notice of such terms promptly, and in any event, with five (5) days of Company's request.

(c) For thirty (30) days following receipt of the Notice, the Company (or its assignee) shall have the option to purchase all (but not less than all) of the shares specified in the Notice at the price provided to the Company pursuant to subsection (b) above and upon the terms set forth in such Notice; *provided, however,* that, with your consent, the Company (or its assignee) shall have the option to purchase a lesser portion of the shares specified in said Notice at the price and upon the terms set forth therein. In the event of a gift, property settlement or other transfer in which the proposed transferee is proposing to pay anything other than cash for the shares, the price shall be deemed to be the fair market value of the stock at such time as determined in good faith by the Board of Directors. In the event the Company (or its assignee) elects to purchase such shares, the Company shall so notify you within such thirty (30) day period and provide the compensation, in cash or cancellation of indebtedness, within sixty (60) days after receipt of the Notice.

(d) In the event the Company does not elect to acquire all of the shares specified in your Notice, you may, within a sixty (60) day period following the expiration of the Company's right of first refusal (pursuant to subsection (c) above), transfer the shares which were not acquired by the Company (or its assignee), on the terms specified in said Notice and at the price, if any, provided to the Company pursuant to subsection (b) above, *provided that* you provide the transferee with a copy of all agreements applicable to such Common Stock and a copy of the Company's Bylaws. All shares of Common Stock so sold by you shall continue to be subject to the provisions of this Agreement.

(e) Anything to the contrary contained herein notwithstanding, the following transactions shall be exempt from the Company's right of first refusal hereunder: (i) a transfer of any of your shares upon your death by will or intestacy or otherwise to your spouse or registered domestic partner, lineal descendant or ascendant, brother, or sister; (ii) to any custodian or trustee for your exclusive account; or (iii) a transfer of any of your shares to the Company.

13. RIGHT OF REPURCHASE. In the event that your Continuous Service is interrupted or terminates for any reason, and subject to any limitations set forth in the Plan, the Company shall have the right prior to the date on which it is Listed, but not the obligation, to repurchase all or any portion of the shares of Common Stock you have acquired under the terms of this Agreement at a purchase price, to the extent required to maintain exemption from Internal Revenue Code Section 409A, equal to the fair market value of such Common Stock, as determined by the Board of Directors in good faith. A repurchase pursuant to this Section 13 shall be effective upon notice of the repurchase and delivery of the consideration therefor. The Company shall have 180 days (or such longer period of time as is reasonably necessary for the Company to obtain an independent valuation of the fair market value of such Common Stock) from the later of (i) the date of interruption or termination of your Continuous Service and (ii) the date of your last option exercise, to exercise its right of repurchase and pay such purchase price in cash or cancellation of indebtedness. Notwithstanding the foregoing, if the right of repurchase described in the Company's bylaws in effect at the time the Company elects to exercise such right, expands the rights herein or provides for additional rights than those described herein, then such rights set forth in the Bylaws shall control with respect to the shares of Common Stock you have acquired under the terms of this Agreement.

14. OPTION NOT A SERVICE CONTRACT. Your option is not an employment or service contract, and nothing in your option shall be deemed to create in any way whatsoever any obligation on your part to continue in the employ of the Company or an Affiliate, or of the Company or an Affiliate to continue your employment. In addition, nothing in your option shall obligate the Company or an Affiliate, their respective stockholders, Boards of Directors, Officers or Employees to continue any relationship that you might have as a Director or Consultant for the Company or an Affiliate.

15. WITHHOLDING OBLIGATIONS.

(a) At the time you exercise your option, in whole or in part, or at any time thereafter as requested by the Company, you hereby authorize withholding from payroll and any other amounts payable to you, and otherwise agree to make adequate provision for (including by means of a "cashless exercise" pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board to the extent permitted by the Company), any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or an Affiliate, if any, which arise in connection with the exercise of your option.

(b) Upon your request and subject to approval by the Company, in its sole discretion, and compliance with any applicable legal conditions or restrictions, the Company may withhold from fully vested shares of Common Stock otherwise issuable to you upon the exercise of your option a number of whole shares of Common Stock having a Fair Market Value, determined by the Company as of the date of exercise, not in excess of the minimum amount of tax required to be withheld by law (or such lower amount as may be necessary to avoid variable award accounting). If the date of determination of any tax withholding obligation is deferred to a date later than the date of exercise of your option, share withholding pursuant to the preceding sentence shall not be permitted unless you make a proper and timely election under Section 83(b) of the Code, covering the aggregate number of shares of Common Stock acquired upon such exercise with respect to which such determination is otherwise deferred, to accelerate the determination of such tax withholding obligation to the date of exercise of your option. Notwithstanding the filing of such election, shares of Common Stock shall be withheld solely from fully vested shares of Common Stock determined as of the date of exercise of your option that are otherwise issuable to you upon such exercise. Any adverse consequences to you arising in connection with such share withholding procedure shall be your sole responsibility.

(c) You may not exercise your option unless the tax withholding obligations of the Company and/or any Affiliate are satisfied. Accordingly, you may not be able to exercise your option when desired even though your option is vested, and the Company shall have no obligation to issue a certificate for such shares of Common Stock or release such shares of Common Stock from any escrow provided for herein unless such obligations are satisfied.

16. NOTICES. Any notices provided for in your option or the Plan shall be given in writing and shall be deemed effectively given upon receipt or, in the case of notices delivered by mail by the Company to you, five (5) days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company.

17. GOVERNING PLAN DOCUMENT. Your option is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your option, and is further subject to all interpretations, amendments, rules and regulations, which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of your option and those of the Plan, the provisions of the Plan shall control.

FIBROGEN, INC.
STOCK OPTION GRANT NOTICE
2005 STOCK PLAN

FibroGen, Inc. (the "Company"), pursuant to its Amended and Restated 2005 Stock Plan (the "Plan"), hereby grants to Optionholder an option to purchase the number of shares of the Company's Common Stock set forth below. This option is subject to all of the terms and conditions as set forth herein and in the Stock Option Agreement, the Plan and the Notice of Exercise, all of which are attached hereto and incorporated herein in their entirety.

Optionholder:	
Date of Grant:	
Vesting Commencement Date:	
Number of Shares Subject to Option:	
Exercise Price (Per Share):	
Total Exercise Price:	
Expiration Date:	

Type of Grant: ☐ Incentive Stock Option[1] ☐ Nonstatutory Stock Option

Exercise Schedule: As permitted under your Stock Option Agreement.

Vesting Schedule: 1/4th of the shares vest one year after the Vesting Commencement Date.
1/16th of the shares vest quarterly thereafter over the next three years.

Additional Terms/Acknowledgements: The undersigned Optionholder acknowledges receipt of, and understands and agrees to, this Stock Option Grant Notice, the Stock Option Agreement and the Plan. Optionholder further acknowledges that as of the Date of Grant, this Stock Option Grant Notice, the Stock Option Agreement and the Plan set forth the entire understanding between Optionholder and the Company regarding the acquisition of stock in the Company and supersede all prior oral and written agreements on that subject with the exception of (i) options previously granted and delivered to Optionholder under the Plan, and (ii) the following agreements only:

OTHER AGREEMENTS: _____

_____

FIBROGEN, INC.	**OPTIONHOLDER:**
By: _____	_____
Signature	Signature
Title: _____	Date: _____
Date: _____	

ATTACHMENTS: Stock Option Agreement, 2005 Stock Plan and Notice of Exercise

[1] If this is an Incentive Stock Option, it (plus other outstanding Incentive Stock Options) cannot be first *exercisable* for more than $100,000 in value (measured by exercise price) in any calendar year. Any excess over $100,000 is a Nonstatutory Stock Option.

NOTICE OF EXERCISE

FibroGen, Inc.
409 Illinois Street
San Francisco, CA 94158

Date of Exercise: _____

Ladies and Gentlemen:

This constitutes notice under my stock option that I elect to purchase the number of shares for the price set forth below.

Type of Option (check one): Incentive ☐ Nonstatutory ☐

Grant Date: _____

Grant Number: _____

Number of shares as to which option is exercised: _____

Certificate to be issued in name of: _____

Cash Payment delivered herewith: _____

Value of shares of FibroGen, Inc. common stock delivered herewith[1]: _____

By this exercise, I agree (i) to provide such additional documents as you may require pursuant to the terms of the FibroGen, Inc. 2005 Stock Plan, (ii) to provide for the payment by me to you (in the manner designated by you) of your withholding obligation, if any, relating to the exercise of this option, and (iii) if this exercise relates to an incentive stock option, to notify you in writing within fifteen (15) days after the date of any disposition of any of the shares of Common Stock issued upon exercise of this option that occurs within two (2) years after the date of grant of this option or within one (1) year after such shares of Common Stock are issued upon exercise of this option.

[1] Shares must meet the public trading requirements set forth in the option. Shares must be valued in accordance with the terms of the option being exercised, must have been owned for the minimum period required in the option, and must be owned free and clear of any liens, claims, encumbrances or security interests. Certificates must be endorsed or accompanied by an executed assignment separate from certificate.

I hereby make the following certifications and representations with respect to the number of shares of Common Stock of the Company listed above (the "Shares"), which are being acquired by me for my own account upon exercise of the Option as set forth above:

I acknowledge that the Shares have not been registered under the Securities Act of 1933, as amended (the "Securities Act"), and are deemed to constitute "restricted securities" under Rule 701 and Rule 144 promulgated under the Securities Act. I warrant and represent to the Company that I have no present intention of distributing or selling said Shares, except as permitted under the Securities Act and any applicable state securities laws.

I further acknowledge that I will not be able to resell the Shares for at least ninety days (90) after the stock of the Company becomes publicly traded (*i.e.*, subject to the reporting requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934) under Rule 701 and that more restrictive conditions apply to affiliates of the Company under Rule 144.

I further acknowledge that all certificates representing any of the Shares subject to the provisions of the Option shall have endorsed thereon appropriate legends reflecting the foregoing limitations, as well as any legends reflecting restrictions pursuant to the Company's Articles of Incorporation, Bylaws and/or applicable securities laws.

I further agree that, if required by the Company (or a representative of the underwriters) in connection with the first underwritten registration of the offering of any securities of the Company under the Securities Act, I will not sell or otherwise transfer or dispose of any shares of Common Stock or other securities of the Company during such period following the effective date of the registration statement of the Company filed under the Securities Act as may be requested by the Company or the representative of the underwriters. I further agree that the Company may impose stop-transfer instructions with respect to securities subject to the foregoing restrictions until the end of such period.

I further agree and acknowledge that in the event the consideration given to the Company for the exercise of this stock option is not received by the Company for any reason, including without limitation, the return of a check for insufficient funds, that this exercise will not be deemed to have occurred and any stock certificates issued as a result of such exercise will be cancelled. Upon receipt by the Company of (i) a new notice of exercise, and (ii) the appropriate consideration for the exercise, the exercise shall be deemed to have occurred upon the date of such receipt by the Company.

Very truly yours,

_____

Print Name: _____

FIBROGEN, INC.
2005 STOCK PLAN

RESTRICTED STOCK PURCHASE AGREEMENT

FibroGen, Inc. (the "Company") wishes to sell to you, and you wish to purchase, shares of Common Stock from the Company, pursuant to the provisions of the Company's 2005 Stock Plan (the "Plan").

Therefore, pursuant to the terms of the Restricted Stock Award Grant Notice ("Grant Notice") and this Restricted Stock Purchase Agreement ("Agreement") (collectively, the "Award"), the Company grants you the right to purchase the number of shares of Common Stock indicated in the Grant Notice. Defined terms not explicitly defined in this Agreement but defined in the Plan shall have the same definitions as in the Plan.

The details of your Award are as follows:

1. AGREEMENT TO PURCHASE. You hereby agree to purchase from the Company, and the Company hereby agrees to sell to you, the aggregate number of shares of Common Stock specified in your Grant Notice at the specified Purchase Price per Share. You may not purchase less than the aggregate number of shares specified in the Grant Notice.

2. CLOSING. The purchase and sale of the shares shall be consummated as follows:

You may purchase the shares by delivering the Total Purchase Price referenced in your Grant Notice to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, on the Closing Date specified in the Grant Notice (or at such other time and place as you and the Company may mutually agree upon in writing) along with such additional documents as the Company may then require.

You agree to execute two (2) copies of the Assignment Separate From Certificate (with date and number of shares blank) substantially in the form attached to the Grant Notice as Attachment III and to execute Joint Escrow Instructions substantially in the form attached to the Grant Notice as Attachment IV and to deliver the same to the Company on the Closing Date, along with the certificate or certificates evidencing the shares, for use by the Escrow Agent pursuant to the terms of the Joint Escrow Instructions.

If payment is to be made in whole or in part by promissory note, you agree to execute a Promissory Note in the form of Attachment V to the Grant Notice and to execute a pledge agreement in the form of Attachment VI to the Grant Notice (the "Pledge Agreement") and to deliver the same to the Company on the Closing Date, along with the certificate or certificates evidencing the shares, for use by the Escrow Agent pursuant to the terms of the Joint Escrow Instructions.

3. METHOD OF PAYMENT. You may elect to make payment of the Purchase Price as follows:

In cash or by check.

Provided that at the time of purchase the Common Stock is publicly traded and quoted regularly in The Wall Street Journal, by delivery of already-owned shares of Common Stock either you have been held for the period required to avoid a charge to the Company's reported earnings (generally six (6) months) or that you did not acquire, directly or indirectly from the Company, that are owned free and clear of any liens, claims, encumbrances or security interests, and that are valued at Fair Market Value on the date of purchase. "Delivery" for these purposes shall include delivery to the Company of your attestation of ownership of such shares of Common Stock in a form approved by the Company. Notwithstanding the foregoing, you may not purchase the shares by tender to the Company of Common Stock to the extent such tender would constitute a violation of the provisions of any law, regulation or agreement restricting the redemption of the Company's stock.

4. VESTING. Subject to the limitations contained herein, the shares you purchase will vest as provided in your Grant Notice, provided that vesting will cease upon the termination of your Continuous Service.

5. NUMBER OF SHARES AND PURCHASE PRICE. The number of shares of Common Stock subject to your Award and your Purchase Price per Share referenced in your Grant Notice may be adjusted from time to time for Capitalization Adjustments.

6. SECURITIES LAW COMPLIANCE. Notwithstanding anything to the contrary contained herein, you may not purchase any shares of Common Stock under your Award unless the shares of Common Stock issuable upon such purchase are then registered under the Securities Act or, if such shares of Common Stock are not then so registered, the Company has determined that such purchase and issuance would be exempt from the registration requirements of the Securities Act. The purchase of shares under your Award also must comply with other applicable laws and regulations governing your Award, and you may purchase such shares if the Company determines that such purchase would not be in material compliance with such laws and regulations.

7. UNVESTED SHARE REPURCHASE OPTION

Repurchase Option. In the event your Continuous Service terminates, then the Company shall have an irrevocable option (the "Repurchase Option") for a period of ninety (90) days after said termination, or such longer period as may be agreed to by you and the Company, to repurchase from you or your personal representative, as the case may be, those shares that you purchased pursuant to this Agreement that have not as yet vested as of such termination date in accordance with the Vesting Schedule indicated on your Grant Notice (the "Unvested Shares").

Shares Repurchasable at the Lower of your Original Purchase Price or Fair Market Value. The Company may repurchase all or any of the Unvested Shares at a price equal to the lower of your Purchase Price for such shares as indicated on your Grant Notice or the Fair Market Value of the Unvested Shares on the date of repurchase

8. EXERCISE OF REPURCHASE OPTION. The Repurchase Option shall be exercised by written notice signed by such person designated by the Company and delivered or mailed as provided herein. Such notice shall identify the number of shares of Common Stock to be purchased and shall notify you of the time, place and date for settlement of such purchase, which shall be scheduled by the Company within the term of the Repurchase Option set forth above. The Company shall be entitled to pay for any shares of Common Stock purchased pursuant to its Repurchase Option at the Company's option in cash or by offset against any indebtedness owing to the Company by you (including without limitation any Promissory Note given in payment for the Common Stock), or by a combination of both. Upon delivery of such notice and payment of the purchase price in any of the ways described above, the Company shall become the legal and beneficial owner of the Common Stock being repurchased and all rights and interest therein or related thereto, and the Company shall have the right to transfer to its own name the Common Stock being repurchased by the Company, without further action by you.

9. CORPORATE TRANSACTIONS. In the event of a Corporate Transaction, the Repurchase Option may be assigned by the Company to the successor of the Company (or such successor's parent company), if any, in connection with such Corporate Transaction. To the extent the Repurchase Option remains in effect following such Corporate Transaction, it shall apply to the new capital stock or other property received in exchange for the Common Stock in consummation of the Corporate Transaction, but only to the extent the Common Stock was at the time covered by such right. Appropriate adjustments shall be made to the price per share payable upon exercise of the Repurchase Option to reflect the Corporate Transaction upon the Company's capital structure; provided, however that the aggregate price per share payable upon exercise of the Repurchase Option shall remain the same.

10. ESCROW OF UNVESTED COMMON STOCK. As security for your faithful performance of the terms of this Agreement and to insure the availability for delivery of your Common Stock upon exercise of the Repurchase Option herein provided for, you agree, at the closing hereunder, to deliver to and deposit with Secretary of the Company or the Secretary's designee ("Escrow Agent"), as Escrow Agent in this transaction, three (3) stock assignments duly endorsed (with date and number of shares left blank) in the form attached to the Grant Notice as Attachment III, together with a certificate or certificates evidencing all of the Common Stock subject to the Repurchase Option; said documents are to be held by the Escrow Agent and delivered by said Escrow Agent pursuant to the Joint Escrow Instructions of you and the Company set forth in Attachment IV to the Grant Notice, which instructions also shall be delivered to the Escrow Agent at the closing hereunder.

11. RIGHTS AS STOCKHOLDER. Subject to the provisions of this Agreement, you shall exercise all rights and privileges of a stockholder of the Company with respect to the shares deposited in escrow. You shall be deemed to be the holder of the shares for purposes of receiving any dividends that may be paid with respect to such shares and for purposes of

exercising any voting rights relating to such shares, even if some or all of the shares have not yet vested and been released from the Company's Repurchase Option.

12. LIMITATIONS ON TRANSFER. In addition to any other limitation on transfer created by applicable securities laws, you shall not sell, assign, hypothecate, donate, encumber or otherwise dispose of any interest in the Common Stock while the Common Stock is subject to the Repurchase Option. After any Common Stock has been released from the Repurchase Option, you shall not sell, assign, hypothecate, donate, encumber or otherwise dispose of any interest in the Common Stock except in compliance with the provisions herein and applicable securities laws.

13. RESTRICTIVE LEGENDS. All certificates representing the Common Stock shall have endorsed thereon legends in substantially the following forms (in addition to any other legend which may be required by other agreements between the parties hereto):

THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE BEEN ACQUIRED FOR INVESTMENT PURPOSES ONLY AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AS AMENDED (THE "ACT"). SUCH SHARES MAY NOT BE SOLD OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR UNLESS THE COMPANY RECEIVES AN OPINION OF COUNSEL, IN FORM AND SUBSTANCE REASONABLY ACCEPTABLE TO THE ISSUER, THAT THE SALE OR TRANSFER IS EXEMPT FROM REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF THE ACT.

THESE SECURITIES WERE ISSUED UNDER A RESTRICTED STOCK PURCHASE AGREEMENT, AND ARE SUBJECT, IN ACCORDANCE WITH THE TERMS OF THE AGREEMENT, TO (I) A RIGHT OF FIRST REFUSAL AND/OR A RIGHT OF REPURCHASE HELD BY THE COMPANY AND/OR (II) RESTRICTIONS ON TRANSFER FOLLOWING THE EFFECTIVE DATE OF A REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933, AS AMENDED, FOR AN OFFERING OF THE COMPANY'S SECURITIES, SUCH RESTRICTIONS TO LAST FOR A PERIOD TO BE DETERMINED BY THE COMPANY AND THE UNDERWRITERS OF SUCH OFFERING BUT NOT TO EXCEED 180 DAYS.

Any legend required by appropriate blue sky officials.

14. INVESTMENT REPRESENTATIONS. In connection with the purchase of the Common Stock, you represent to the Company the following:

You are aware of the Company's business affairs and financial condition and has acquired sufficient information about the Company to reach an informed and knowledgeable decision to acquire the Common Stock. You are acquiring the Common Stock for investment for your own account only and not with a view to, or for resale in connection with, any "distribution" thereof within the meaning of the Securities Act.

You understand that the Common Stock has not been registered under the Securities Act by reason of a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of your investment intent as expressed herein.

You further acknowledge and understand that the Common Stock must be held indefinitely unless the Common Stock is subsequently registered under the Securities Act or an exemption from such registration is available. You further acknowledge and understand that the Company is under no obligation to register the Common Stock. You understand that the certificate evidencing the Common Stock will be imprinted with a legend that prohibits the transfer of the Common Stock unless the Common Stock is registered or such registration is not required in the opinion of counsel for the Company.

You are familiar with the provisions of Rules 144 and 701, under the Securities Act, as in effect from time to time, which, in substance, permit limited public resale of "restricted securities" acquired, directly or indirectly, from the issuer thereof (or from an affiliate of such issuer), in a non-public offering subject to the satisfaction of certain conditions. Rule 701 provides that if the issuer qualifies under Rule 701 at the time of issuance of the securities, such issuance will be exempt from registration under the Securities Act. In the event the Company becomes subject to the reporting requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the securities exempt under Rule 701 may be sold by you ninety (90) days thereafter, subject to the satisfaction of certain of the conditions specified by Rule 144 and the market stand-off provision described in Section 15 below.

In the event that the sale of the Common Stock does not qualify under Rule 701 at the time of purchase, then the Common Stock may be resold by you in certain limited circumstances subject to the provisions of Rule 144, which requires, among other things: (i) the availability of certain public information about the Company and (ii) the resale occurring following the required holding period under Rule 144 after you have purchased, and made full payment of (within the meaning of Rule 144), the securities to be sold.

You further understand that at the time you wish to sell the Common Stock there may be no public market upon which to make such a sale, and that, even if such a public market then exists, the Company may not be satisfying the current public current information requirements of Rule 144 or 701, and that, in such event, you would be precluded from selling the Common Stock under Rule 144 or 701 even if the minimum holding period requirement had been satisfied.

15. MARKET STAND-OFF AGREEMENT. By purchasing shares of Common Stock under your Award, you agree that the Company (or a representative of the underwriter(s)) may, in connection with the first underwritten registration of the offering of any securities of the Company under the Securities Act, require that you not sell, dispose of, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale, any shares of Common Stock or other securities of the Company held by you, for a period of time specified by the underwriter(s) (not to exceed one hundred eighty (180) days) following the effective date of the registration statement of the Company filed under the Securities Act. You further agree to execute and deliver such other

agreements as may be reasonably requested by the Company and/or the underwriter(s) that are consistent with the foregoing or that are necessary to give further effect thereto. In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to your shares of Common Stock until the end of such period. The underwriters of the Company's stock are intended third party beneficiaries of this Section 7 and shall have the right, power and authority to enforce the provision hereof as though they were a party hereto.

16. TRANSFERABILITY. Your Award is not transferable except by will or by the laws of descent and distribution and shall be exercisable during your lifetime only by you.

17. RIGHT OF FIRST REFUSAL. Shares of Common Stock that you acquire under your Award are subject to any right of first refusal that may be described in the Company's bylaws in effect at such time the Company elects to exercise its right. The Company's right of first refusal shall expire on the Listing Date. For purposes of this Agreement, Listing Date shall mean the first date upon which any security of the Company is listed (or approved for listing) upon notice of issuance on a national securities exchange or on the National Market System of the Nasdaq Stock Market (or any successor to that entity).

18. RIGHT OF REPURCHASE. To the extent provided in the Company's bylaws in effect at such time the Company elects to exercise its right, the Company shall have the right to repurchase all or any part of the shares of Common Stock that have been released from the Company's Repurchase Option.

19. AWARD NOT A SERVICE CONTRACT. Your Award is not an employment or service contract, and nothing in your Award shall be deemed to create in any way whatsoever any obligation on your part to continue in the employ of the Company or an Affiliate, or of the Company or an Affiliate to continue your employment. In addition, nothing in your Award shall obligate the Company or an Affiliate, their respective stockholders, Boards of Directors, Officers or Employees to continue any relationship that you might have as a Director or Consultant for the Company or an Affiliate.

20. WITHHOLDING OBLIGATIONS.

At the time your Award is granted, or at any time thereafter as requested by the Company, you hereby authorize withholding from payroll and any other amounts payable to you, and otherwise agree to make adequate provision for, any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or an Affiliate, if any, which arise in connection with your Award.

Unless the tax withholding obligations of the Company or any Affiliate are satisfied, the Company shall have no obligation to issue a certificate for such shares or release such shares from any escrow provided for herein.

21. TAX CONSEQUENCES. The acquisition and vesting of the shares of Common Stock purchased pursuant to your Award may have adverse tax consequences to you that may avoided or mitigated by filing an election under Section 83(b) of the Code. Such election must

be filed within thirty (30) days after the date your purchase the shares pursuant to your Award. YOU ACKNOWLEDGE THAT IT IS YOUR RESPONSIBILITY, AND NOT THE COMPANY'S, TO FILE A TIMELY ELECTION UNDER CODE SECTION 83(B), EVEN IF YOU REQUEST THE COMPANY TO MAKE THE FILING ON YOUR BEHALF.

22. NOTICES. Any notices provided for in your Award or the Plan shall be given in writing and shall be deemed effectively given upon receipt or, in the case of notices delivered by mail by the Company to you, five (5) days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company.

23. MISCELLANEOUS.

The rights and obligations of the Company under your Award shall be transferable to any one or more persons or entities, and all covenants and agreements hereunder shall inure to the benefit of, and be enforceable by the Company's successors and assigns. Your rights and obligations under your Award may only be assigned with the prior written consent of the Company.

You agree upon request to execute any further documents or instruments necessary or desirable in the sole determination of the Company to carry out the purposes or intent of your Award.

You acknowledge and agree that you have reviewed your Award in its entirety, have had an opportunity to obtain the advice of counsel prior to executing and accepting your Award and fully understand all provisions of your Award.

24. GOVERNING PLAN DOCUMENT. Your Award is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your Award, and is further subject to all interpretations, amendments, rules and regulations which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of your Award and those of the Plan, the provisions of the Plan shall control.

ASSIGNMENT SEPARATE FROM CERTIFICATE

FOR VALUE RECEIVED and pursuant to that certain Restricted Stock Award Grant Notice and Restricted Stock Purchase Agreement (the "Award"), Sarah A. O'Dowd hereby sells, assigns and transfers unto FibroGen, Inc., a Delaware corporation ("Assignee") ( ) shares of the Common Stock of the Assignee, standing in the undersigned's name on the books of said corporation represented by Certificate No. herewith and do hereby irrevocably constitute and appoint as attorney-in-fact to transfer the said stock on the books of the within named Company with full power of substitution in the premises. This Assignment may be used only in accordance with and subject to the terms and conditions of the Award, in connection with the reacquisition of shares of Common Stock of the Corporation issued to the undersigned pursuant to the Award, and only to the extent that such shares remain subject to the Corporation's Purchase Option under the Award.

Dated: _____

Signature: _____
Recipient

[INSTRUCTION: Please do not fill in any blanks other than the signature line. The purpose of this Assignment is to enable the Company to exercise its Purchase Option set forth in the Award without requiring additional signatures on your part.**]**

JOINT ESCROW INSTRUCTIONS

Date

Corporate Secretary
FibroGen, Inc.
225 Gateway Boulevard
South San Francisco, CA 94080

Dear Sir/Madam:

As Escrow Agent for both FibroGen, Inc., a Delaware corporation (the "Company"), and the undersigned recipient of stock of the Company ("Recipient"), you are hereby authorized and directed to hold the documents delivered to you pursuant to the terms of that certain Restricted Stock Award Grant Notice (the "Grant Notice"), dated [DATE] to which a copy of these Joint Escrow Instructions is attached as Attachment IV, and pursuant to the terms of that certain Restricted Stock Purchase Agreement ("Agreement"), which is Attachment I to the Grant Notice, in accordance with the following instructions:

1. In the event Recipient ceases to render services to the Company or an affiliate of the Company during the vesting period set forth in the Grant Notice, the Company or its assignee will give to Recipient and you a written notice specifying that the shares of stock shall be transferred to the Company. Recipient and the Company hereby irrevocably authorize and direct you to close the transaction contemplated by such notice in accordance with the terms of said notice.

2. At the closing you are directed (a) to date any stock assignments necessary for the transfer in question, (b) to fill in the number of shares being transferred, and (c) to deliver same, together with the certificate evidencing the shares of stock to be transferred, to the Company.

3. Recipient irrevocably authorizes the Company to deposit with you any certificates evidencing shares of stock to be held by you hereunder and any additions and substitutions to said shares as specified in the Grant Notice. Recipient does hereby irrevocably constitute and appoint you as Recipient's attorney-in-fact and agent for the term of this escrow to execute with respect to such securities and other property all documents of assignment and/or transfer and all stock certificates necessary or appropriate to make all securities negotiable and complete any transaction herein contemplated.

4. This escrow shall terminate upon vesting of the shares or upon the earlier return of the shares to the Company.

5. If at the time of termination of this escrow you should have in your possession any documents, securities, or other property belonging to Recipient, you shall deliver all of same to any pledgee entitled thereto or, if none, to Recipient and shall be discharged of all further obligations hereunder.

6. Your duties hereunder may be altered, amended, modified or revoked only by a writing signed by all of the parties hereto.

7. You shall be obligated only for the performance of such duties as are specifically set forth herein and may rely and shall be protected in relying or refraining from acting on any instrument reasonably believed by you to be genuine and to have been signed or presented by the proper party or parties or their assignees. You shall not be personally liable for any act you may do or omit to do hereunder as Escrow Agent or as attorney-in-fact for Recipient while acting in good faith and any act done or omitted by you pursuant to the advice of your own attorneys shall be conclusive evidence of such good faith.

8. You are hereby expressly authorized to disregard any and all warnings given by any of the parties hereto or by any other person or corporation, excepting only orders or process of courts of law, and are hereby expressly authorized to comply with and obey orders, judgments or decrees of any court. In case you obey or comply with any such order, judgment or decree of any court, you shall not be liable to any of the parties hereto or to any other person, firm or corporation by reason of such compliance, notwithstanding any such order, judgment or decree being subsequently reversed, modified, annulled, set aside, vacated or found to have been entered without jurisdiction.

9. You shall not be liable in any respect on account of the identity, authority or rights of the parties executing or delivering or purporting to execute or deliver the Grant Notice or any documents or papers deposited or called for hereunder.

10. You shall not be liable for the outlawing of any rights under any statute of limitations with respect to these Joint Escrow Instructions or any documents deposited with you.

11. You shall be entitled to employ such legal counsel and other experts as you may deem necessary properly to advise you in connection with your obligations hereunder, may rely upon the advice of such counsel, and may pay such counsel reasonable compensation therefor.

12. Your responsibilities as Escrow Agent hereunder shall terminate if you shall cease to be Secretary of the Company or if you shall resign by written notice to each party. In the event of any such termination, the Company may appoint any officer or assistant officer of the Company as successor Escrow Agent and Recipient hereby confirms the appointment of such successor or successors as his attorney-in-fact and agent to the full extent of your appointment.

13. If you reasonably require other or further instruments in connection with these Joint Escrow Instructions or obligations in respect hereto, the necessary parties hereto shall join in furnishing such instruments.

14. It is understood and agreed that should any dispute arise with respect to the delivery and/or ownership or right of possession of the securities, you may (but are not obligated to) retain in your possession without liability to anyone all or any part of said securities until such dispute shall have been settled either by mutual written agreement of the parties concerned or by a final order, decree or judgment of a court of competent jurisdiction after the time for appeal has expired and no appeal has been perfected, but you shall be under no duty whatsoever to institute or defend any such proceedings.

15. Any notice required or permitted hereunder shall be given in writing and shall be deemed effectively given upon personal delivery or upon deposit in any United States Post Box, by registered or certified mail with postage and fees prepaid, addressed to each of the other parties hereunto entitled at the following addresses, or at such other addresses as a party may designate by ten (10) days' written notice to each of the other parties hereto:

COMPANY: FibroGen, Inc.
225 Gateway Boulevard
South San Francisco, CA 94080
Attn: General Counsel / Chief Financial Officer

RECIPIENT:

ESCROW AGENT: FibroGen, Inc.
225 Gateway Boulevard
South San Francisco, CA 94080
Attn: Corporate Secretary

16. By signing these Joint Escrow Instructions you become a party hereto only for the purpose of said Joint Escrow Instructions; you do not become a party to the Grant Notice.

17. This instrument shall be binding upon and inure to the benefit of the parties hereto, and their respective successors and permitted assigns. It is understood and agreed that references to "you" or "your" herein refer to the original Escrow Agent and to any and all successor Escrow Agents. It is understood and agreed that the Company may at any time or from time to time assign its rights under the Grant Notice and these Joint Escrow Instructions in whole or in part.

Very truly yours,

FIBROGEN, INC.

By: _____
CFO

RECIPIENT

_____
Name

ESCROW AGENT:

_____

FIBROGEN, INC.

STOCK APPRECIATION RIGHT AGREEMENT
2005 STOCK PLAN

Name of Grantee: _____
No. of Stock Appreciation Rights: _____
Exercise Price per Share: _____
[FMV on Grant Date]
Grant Date: _____
Vesting Commencement Date: _____
Expiration Date: _____

Pursuant to the 2005 Stock Plan (the "Plan") as amended through the date hereof, FibroGen, Inc. (the "Company") hereby grants to the Grantee named above the number of Stock Appreciation Rights ("SARs") specified above. This Agreement shall give the Grantee the right to exercise on or prior to the Expiration Date specified above all or part of the number of SARs specified above at the Exercise Price per Share specified above, and to receive a payment in accordance with Paragraph 2 of this Agreement, subject to the terms and conditions set forth herein and in the Plan. Each of the SARs granted herein relates to one share of the Common Stock, par value $0.01 per share (the "Stock"), of the Company. Defined terms not explicitly defined in this Agreement but defined in the Plan shall have the same definitions as in the Plan.

Vesting Schedule. Subject to the discretion of the Company to accelerate the vesting schedule hereunder, these SARs shall be vested in accordance with the following schedule, provided that vesting will cease immediately upon the termination of your Continuous Service and the non-vested portion of your SARs shall terminate immediately and be of no further force or effect:

[The Stock Appreciation Right will vest and become exercisable as to 25% of the Shares covering the Award twelve (12) months after the Vesting Commencement Date, and as to 1/48 of the Shares covering the Award each month thereafter on the same day of the Vesting Commencement Date, subject to Grantee's Continuous Service through each such date.]

Exercise of Stock Appreciation Rights.

Exercisability. No SARs may be exercised until they have vested. Once vested, these SARs shall be exercisable within thirty (30) days prior to the Expiration Date, or at any time prior thereto provided that a Liquidity Event (as defined below) has occurred. For the purpose of this Agreement, a "Liquidity Event" shall be defined to have occurred on either (1) the effective date of a registration statement for an initial public offering, filed by the Company under the Securities Act; or (2) the execution of an agreement, or approval of a plan or other similar document providing for a transaction or series of transactions that, if completed, would constitute a Change of Control Event (as defined below), *provided that*, in the event you deliver

a notice of exercise in accordance herewith prior to the completion of such Change of Control Event in satisfaction of the above requirements, the exercise shall only be effective, if at all, upon or immediately prior to, as applicable, the completion of the transaction or series of transactions constituting the Change of Control Event, as necessary for you to participate therein. The Company will provide you with notice of a Change of Control Event upon its occurrence or, if possible within 10 days or such other time as reasonably practicable prior to the completion of such event. For the purpose of this Agreement, a "*Change of Control Event*" shall be distinct from a Change in Control (as defined in the Plan) and shall mean the occurrence of a single transaction or series of related transactions of any one or more of the following events:

there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving entity in such merger, consolidation or similar transaction or (B) more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their ownership of the outstanding voting securities of the Company immediately prior to such transaction;

the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur; or

there is consummated a sale, lease, exclusive license or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are owned by stockholders of the Company in substantially the same proportions as their ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; *provided*, *however*, that for purposes of the foregoing, in no event shall "substantially all" mean less than fifty percent (50%) of the consolidated assets of the Company and its Subsidiaries, as determined by the Board in its sole discretion.

The term Change of Control Event shall not include a merger or other transaction effected exclusively for the purpose of changing the domicile of the Company.

Exercise Procedure. The Grantee may elect to exercise vested SARs in the following manner: Prior to the close of business on the Expiration Date, the Grantee may give written notice to the Company of his or her election to exercise a specified number of vested SARs along with any applicable tax withholding amounts as required by this Agreement. The Grantee shall thereupon receive a payment in an amount equal to the product of (i) the Fair Market Value of a share of Stock on the date of exercise less the Exercise Price per Share

specified in this Agreement, multiplied by (ii) the number of SARs exercised. Such payment shall be in the form of cash or shares of Stock at the election of the Company less any applicable withholding taxes not paid by Grantee. Such payment shall be made as soon as reasonably practicable. If the payment is to be made in the form of shares of Stock, the Company shall determine the number of shares to be delivered to the Grantee by dividing the cash payment by the Fair Market Value of a share of Stock on the date of exercise which shall be deemed to have occurred on the date all exercise requirements are completed and received by the Company.

Grantee may exercise SARs only in increments of whole shares and the minimum number of SARs which may be exercised at any one time shall be 100, unless the number of SARs being exercised is the total number of SARs subject to exercise at the time.

Notwithstanding any other provision hereof or of the Plan, no SAR shall be exercisable after the Expiration Date hereof.

Termination of Employment.

If the Grantee's Continuous Service ceases for any or no reason, the then-unvested portion of the SARs awarded by this Agreement will terminate and the Grantee will have no further rights thereunder. Provided the SARs are exercisable in accordance with Section 2 hereof, the Grantee (or, if applicable, the Grantee's personal representative, designated beneficiary, estate or the person(s) to whom the SARs are transferred pursuant to the Grantee's will or in accordance with the laws of descent and distribution) shall have the period set forth below to exercise the SARs to the extent vested as of the date Grantee's Continuous Service ceases:

Reason for Termination of Employment	Exercise Period
Death	12 months from date of death (Exercised by Grantee's legal representative or legatee)
Disability	12 months from date of termination of employment
Termination	3 months from date of termination of employment

provided, however, that no SARs may be exercised after the Expiration Date hereof.

Incorporation of Plan. Notwithstanding anything herein to the contrary, these SARs shall be subject to and governed by all the terms and conditions of the Plan. Capitalized terms in this Agreement shall have the meaning specified in the Plan, unless a different meaning is specified herein. In the event of a conflict between one or more provisions of this Agreement and one or more provisions of the Plan, the provisions of the Plan will govern.

Transferability. Subject to the limitation on the transferability of this grant contained herein, this Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

This Agreement is personal to the Grantee, is non-assignable and is not transferable in any manner, by operation of law or otherwise, other than by will or the laws of descent and distribution. These SARs are exercisable, during the Grantee's lifetime, only by the Grantee, and thereafter, only by the Grantee's legal representative or legatee. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of this grant, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this grant and the rights and privileges conferred hereby immediately will become null and void.

Right of First Refusal. Shares of Common Stock that you acquire upon exercise of your SARs are subject to a right of first refusal in favor of the Company (or its assignee) as long as the Company is not Listed. You may not sell, or in any manner transfer (by way of assignment, pledge, or otherwise) any of the shares of Common Stock or any right or interest therein, whether voluntarily or by operation of law, or by gift or otherwise, except by a transfer which meets the following requirements. Any sale or transfer, or purported sale or transfer, of shares of Common Stock of the Company shall be null and void unless the terms, conditions, and provisions of this Section 11 are strictly observed and followed.

If you desire to sell or otherwise transfer any of your shares of Common Stock, you must first give written notice thereof to the Company (the "Notice"), including the name and address of the proposed transferee, the number of shares to be transferred, and all other terms other than the proposed transfer price or consideration.

The Company shall have an initial ten (10) days to request pricing terms of the proposed transfer and you must provide the Company with notice of such terms promptly, and in any event, with five (5) days of Company's request.

For thirty (30) days following receipt of the Notice, the Company (or its assignee) shall have the SARs to purchase all (but not less than all) of the shares specified in the Notice at the price provided to the Company pursuant to subsection (b) above and upon the terms set forth in such Notice; *provided, however,* that, with your consent, the Company (or its assignee) shall have the SARs to purchase a lesser portion of the shares specified in said Notice at the price and upon the terms set forth therein. In the event of a gift, property settlement or other transfer in which the proposed transferee is proposing to pay anything other than cash for the shares, the price shall be deemed to be the fair market value of the stock at such time as determined in good faith by the Board of Directors. In the event the Company (or its assignee) elects to purchase such shares, the Company shall so notify you within such thirty (30) day period and provide the compensation, in cash or cancellation of indebtedness, within sixty (60) days after receipt of the Notice.

In the event the Company does not elect to acquire all of the shares specified in your Notice, you may, within a sixty (60) day period following the expiration of the Company's right of first refusal (pursuant to subsection (c) above), transfer the shares which were not acquired by the Company (or its assignee), on the terms specified in said Notice and at

the price, if any, provided to the Company pursuant to subsection (b) above, *provided that* you provide the transferee with a copy of all agreements applicable to such Common Stock and a copy of the Company's Bylaws. All shares of Common Stock so sold by you shall continue to be subject to the provisions of this Agreement.

Anything to the contrary contained herein notwithstanding, the following transactions shall be exempt from the Company's right of first refusal hereunder: (i) a transfer of any of your shares upon your death by will or intestacy or otherwise to your spouse or registered domestic partner, lineal descendant or ascendant, brother, or sister; (ii) to any custodian or trustee for your exclusive account; or (iii) a transfer of any of your shares to the Company.

Tax Withholding. The Grantee hereby authorizes the Company, at the time of exercise or at any time thereafter as requested by the Company, to withhold from payroll and any other amounts payable to Grantee, and otherwise agrees to make arrangements satisfactory to the Company for, any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or an Affiliate, if any, which arise in connection with the exercise of your SARs. Grantee acknowledges and agrees that the Company may refuse to honor the exercise and refuse to make the payment required under this Agreement if such withholding amounts are not delivered at the time of exercise. If payment is to be made in shares of Stock, the Company may satisfy the minimum tax withholding obligation by withholding from shares of Stock to be issued to the Grantee.

Under Code Section 409A, a SAR that was granted with a per Share exercise price that is determined by the Internal Revenue Service (the "IRS") to be less than the Fair Market Value of a Share on the date of grant (a "Discount SAR") may be considered "deferred compensation." A Discount SAR may result in (i) income recognition by Grantee prior to the exercise of the award, (ii) an additional twenty percent (20%) federal income tax, and (iii) potential penalty and interest charges. The Discount SAR may also result in additional state income, penalty and interest tax to the Grantee. Grantee acknowledges that the Company cannot and has not guaranteed that the IRS will agree that the per Share exercise price of this SAR equals or exceeds the Fair Market Value of a Share on the Date of Grant in a later examination. Grantee agrees that if the IRS determines that the SAR was granted with a per Share exercise price that was less than the Fair Market Value of a Share on the date of grant, Grantee will be solely responsible for Grantee's costs related to such a determination.

Securities Law Compliance**.** Notwithstanding anything to the contrary contained herein, you may not exercise your SARs unless the shares of Common Stock issuable upon such exercise are then registered under the Securities Act or, if such shares of Common Stock are not then so registered, the Company has determined that such exercise and issuance would be exempt from the registration requirements of the Securities Act. The exercise of your SARs also must comply with other applicable laws and regulations governing your SARs, and you may not exercise your SARs if the Company determines that such exercise would not be in material compliance with such laws and regulations.

Miscellaneous.

Notice hereunder shall be given to the Company at its principal place of business, and shall be given to the Grantee at the address set forth below, or in either case at such other address as one party may subsequently furnish to the other party in writing.

This Agreement does not confer upon the Grantee any rights with respect to continuance of employment by the Company or any Subsidiary.

The Board will have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination of whether or not and to what extent the SARs has vested). All actions taken and all interpretations and determinations made by the Board in good faith will be final and binding upon Grantee, the Company and all other interested persons. No member of the Board will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Agreement.

In the event that any provision in this Agreement will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Agreement.

This Agreement constitutes the entire understanding of the parties on the subjects covered. Grantee expressly warrants that he or she is not accepting this Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company.

This Agreement shall be governed by the laws of the State of California, without giving effect to the conflict of law principles thereof. For purposes of litigating any dispute that arises under the SARs or this Agreement, the parties hereby submit to and consent to the jurisdiction of the State of California**,** and agree that such litigation shall be conducted in the courts of Santa Clara County, California**,** or the federal courts for the United States for the Northern District of California, and no other courts, where this Award is made and/or to be performed.

[COMPANY NAME]

By: _____

Title:

The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned.

Dated: _____

_____

Grantee's Signature

Grantee's name and address:

_____

_____

_____

FIBROGEN, INC.

STOCK OPTION AGREEMENT
(INCENTIVE STOCK OPTION OR NONSTATUTORY STOCK OPTION)
2005 STOCK PLAN

Pursuant to your Election to Participate in FibroGen's Amendment and Exchange Offer ending on June 24, 2010 (your "Election") and this Stock Option Agreement entered into and made effective on June 24, 2010 (the "Agreement"), FibroGen, Inc. (the "Company") has granted you a new option under its 2005 Stock Plan (the "Plan") to purchase the number of shares of the Company's Common Stock not yet exercised from the original stock option grant(s) cancelled by your Election, at the exercise price indicated in your New Stock Option Grant Notice (the "Grant Notice") which you shall promptly sign and return to the Company after it is distributed to you. Defined terms not explicitly defined in this Stock Option Agreement but defined in the Plan shall have the same definitions as in the Plan.

The details of your option are as follows:

1. VESTING. Subject to the conditions and limitations contained herein (including Section 9), your option will vest as provided in your Grant Notice, provided that vesting will cease upon the termination of your Continuous Service and the non-vested portion of your option shall terminate immediately, and be of no further force or effect.

2. NUMBER OF SHARES AND EXERCISE PRICE. The number of shares of Common Stock subject to your option and your exercise price per share referenced in your Grant Notice may be adjusted from time to time for Capitalization Adjustments.

3. INCENTIVE STOCK OPTIONS.

(a) If your option is an Incentive Stock Option, then, to the extent that the aggregate Fair Market Value (determined at the time of grant) of the shares of Common Stock with respect to which your option plus all other Incentive Stock Options you hold are exercisable for the first time by you during any calendar year (under all plans of the Company and its Affiliates) exceeds one hundred thousand dollars ($100,000), your option(s) or portions thereof that exceed such limit (according to the order in which they were granted) shall be treated as Nonstatutory Stock Options.

(b) If your option is an Incentive Stock Option, note that to obtain the federal income tax advantages associated with an Incentive Stock Option, the Code currently requires that at all times beginning on the date of grant of your option and ending on the day three (3) months before the date of your option's exercise, you must be an employee of the Company or an Affiliate, except in the event of your death or your permanent and total disability, as defined in Section 22(e) of the Code. (The definition of disability in Section 22(e) of the Code is different from the definition of the Disability under the Plan). The Company has provided for extended exercisability of your option under certain circumstances for your benefit, *however*, under Section 22(e) of the Code, your option will not be treated as an Incentive Stock Option if

you exercise your option more than three (3) months after the date your employment with the Company (or its Affiliate) terminates, even if you continue to provide services to the Company or an Affiliate as a Consultant or non-employee Director.

4. METHOD OF PAYMENT. Payment of the exercise price is due in full upon exercise of all or any part of your option. You may elect to make payment of the exercise price in cash or by check or in any of the following ways, if applicable:

(a) So long as the Company is Listed and if approved by the Company at the time your option is exercised, pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds. For purposes of this Agreement, the Company shall be deemed to be "Listed" when the Common Stock of the Company is listed on a national securities exchange or designated as a national market security on an interdealer quotation system, if such securities exchange or interdealer quotation system has been certified in accordance with the provisions of Section 25100(o) of the California Corporate Securities Law of 1968, as amended.

(b) So long as the Company is Listed or as otherwise approved by the Company at the time your option is exercised, by Delivery of the largest whole number of shares of Common Stock already-owned by you, free and clear of any liens, claims, encumbrances or security interests, with a Fair Market Value on the date of exercise that does not exceed the aggregate exercise price; *provided*, that any remaining balance of the aggregate exercise price not satisfied by such Delivery of whole shares shall be paid by cash or check. "Delivery" for these purposes, in the sole discretion of the Company at the time you exercise your option, shall include delivery to the Company of your attestation of ownership of such shares of Common Stock in a form approved by the Company. Notwithstanding the foregoing, you may not exercise your option by tender to the Company of Common Stock to the extent such tender would violate the provisions of any law, regulation or agreement restricting the redemption of the Company's stock.

(c) So long as the Company is Listed or as otherwise approved by the Company at the time your option is exercised, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issued upon exercise by the largest whole number of shares with a Fair Market Value on the date of exercise that does not exceed the aggregate exercise price; *provided*, that any remaining balance of the aggregate exercise price not satisfied by such holding back of whole shares shall be paid by cash or check; *provided*, *however*, shares of Common Stock will no longer be outstanding under an Option and will not be exercisable thereafter to the extent that (i) shares are used to pay the exercise price pursuant to the "net exercise," (ii) shares are delivered to you as a result of such exercise, and (iii) shares are withheld to satisfy tax withholding obligations.

5. WHOLE SHARES. You may exercise your option only for whole shares of Common Stock.

6. SECURITIES LAW COMPLIANCE. Notwithstanding anything to the contrary contained herein, you may not exercise your option unless the shares of Common Stock issuable upon such exercise are then registered under the Securities Act or, if such shares of Common Stock are not then so registered, the Company has determined that such exercise and issuance would be exempt from the registration requirements of the Securities Act. The exercise of your option also must comply with other applicable laws and regulations governing your option, and you may not exercise your option if the Company determines that such exercise would not be in material compliance with such laws and regulations.

7. TERM. Subject to the provisions of Section 8 (below), you may not exercise your option before the commencement or after the expiration of its Term. The Term of your option commences on the Date of Grant, as set forth on your Grant Notice, and expires on the day before the tenth (10th) anniversary of the Date of Grant regardless of your employment status.

8. EXERCISE.

(a) You may exercise the vested portion of your option within sixty (60) days prior to the expiration of its Term, as set forth in Section 7 hereof, or at any time during the Term provided that a Liquidity Event (as defined below) has occurred, by delivering a Notice of Exercise (in a form designated by the Company) together with payment of the exercise price and payment of any mandatory withholding or employment taxes, as required by the Company, to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, together with such additional documents as the Company may then require. For the purpose of this Agreement, a "Liquidity Event" shall be defined to have occurred on either (1) the effective date of a registration statement for an initial public offering, filed by the Company under the Securities Act; or (2) the execution of an agreement, or approval of a plan or other similar document providing for a transaction or series of transactions that, if completed, would constitute a Change of Control Event (as defined below), *provided that*, in the event you deliver a Notice of Exercise prior to the completion of such Change of Control Event in satisfaction of the above requirements, the exercise shall only be effective, if at all, upon or immediately prior to, as applicable, the completion of the transaction or series of transactions constituting the Change of Control Event, as necessary for you to participate therein. The Company will provide you with notice (at the last address it has on file for you) of a Change of Control Event upon its occurrence or, if possible within 10 days or such other time as reasonably practicable prior to the completion of such event.

(b) For the purpose of this Agreement, a "*Change of Control Event*" shall be distinct from a Change in Control (as defined in the Plan) and shall mean the occurrence of a single transaction or series of related transactions of any one or more of the following events:

(i) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving entity in such merger, consolidation or similar transaction or (B) more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving

Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(ii) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur; or

(iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are owned by stockholders of the Company in substantially the same proportions as their ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; *provided, however*, that for purposes of the foregoing, in no event shall "substantially all" mean less than fifty percent (50%) of the consolidated assets of the Company and its Subsidiaries, as determined by the Board in its sole discretion.

The term Change of Control Event shall not include a merger or other transaction effected exclusively for the purpose of changing the domicile of the Company.

(c) By exercising your option you agree that, as a condition to any exercise of your option, the Company may require you to enter into an arrangement providing for the payment by you to the Company of any tax withholding obligation of the Company arising by reason of (1) the exercise of your option, (2) the lapse of any substantial risk of forfeiture to which the shares of Common Stock are subject at the time of exercise, or (3) the disposition of shares of Common Stock acquired upon such exercise.

(d) If your option is an Incentive Stock Option, by exercising your option you agree that you will notify the Company in writing within fifteen (15) days after the date of any disposition of any of the shares of the Common Stock issued upon exercise of your option that occurs within two (2) years after the date of your option grant or within one (1) year after such shares of Common Stock are transferred upon exercise of your option.

(e) By exercising your option you agree that you shall not sell, dispose of, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale, any shares of Common Stock or other securities of the Company held by you, for a period of time specified by the managing underwriter(s) (not to exceed one hundred eighty (180) days) following the effective date of a registration statement of the Company filed under the Securities Act (the "Lock Up Period"); *provided, however*, that nothing contained in this section shall prevent the exercise of a repurchase option, if any, in favor of the Company during the Lock Up Period. You further agree to execute and deliver such other agreements as may be reasonably requested by the Company and/or the underwriter(s) that are consistent with the foregoing or that are necessary to give further effect thereto. In order to enforce the foregoing covenant, the Company may impose

stop-transfer instructions with respect to your shares of Common Stock until the end of such period. The underwriters of the Company's stock are intended third party beneficiaries of this Section 8(e) and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto.

9. VESTING UPON CHANGE IN CONTROL.

(a) In the event of a Change in Control, as defined in the Plan, except as set forth subsection 9(c) below, and upon your subsequent involuntary termination from employment with the Company or its successor corporation without Cause, the vesting and exercisability of all unvested outstanding stock options granted hereunder will be accelerated in full. For purposes of this Section 9, "Cause" shall be defined solely as one or more of the following:

(i) the eligible employee's commission of any felony related to the company or its business or any crime involving fraud or moral turpitude under the laws of the United States or any state thereof or of any foreign jurisdiction where the eligible employee is employed;

(ii) the eligible employee's attempted commission of, or participation in, a fraud against the Company;

(iii) the eligible employee's unauthorized use or disclosure of the Company's confidential information or trade secrets;

(iv) the eligible employee's willful failure to substantially perform his or her duties and responsibilities owed to the Company;

provided, however, that the conduct described under clause (iv) above will only constitute Cause if such conduct is not cured, within 15 days after the eligible employee's receipt of written notice from the Company or the Board of Directors specifying the particulars of the conduct that may constitute Cause.

(b) In the event of your Constructive Termination (as defined below) within twelve (12) months after a Change in Control, as defined in the Plan, except as set forth in subsection 9(c) below, the vesting and exercisability of all unvested outstanding stock options granted hereunder will be accelerated in full. For purposes of this Agreement, "Constructive Termination" shall be defined as:

(i) a substantial reduction in the eligible employee's duties or responsibilities (and not simply a change in title or reporting relationships) in effect immediately prior to the effective date of the Change in Control; *provided*, *however*, that it shall not be a "Constructive Termination" if the Company is retained as a separate legal entity or business unit following the effective date of the Change in Control and the eligible employee holds the same position in such legal entity or business unit as the eligible employee held before the effective date of the Change in Control;

(ii) a material reduction by the Company in the eligible employee's annual base salary, as in effect on the effective date of the Change in Control or as increased thereafter;

(iii) any failure by the Company to continue in effect any benefit plan or program, including incentive plans or plans with respect to the receipt of securities of the Company, in which the eligible employee was participating immediately prior to the effective date of the Change in Control (hereinafter referred to as "Benefit Plans"), or the taking of any action by the Company that would adversely affect the eligible employee's participation in or reduce the eligible employee's benefits under the Benefit Plans or deprive the eligible employee of any fringe benefit that he or she enjoyed immediately prior to the effective date of the Change in Control; *provided, however*, that a Constructive Termination shall not be deemed to have occurred if the Company provides for the eligible employee's participation in benefit plans and programs that, taken as a whole, are comparable to the Benefit Plans;

(iv) a relocation of the eligible employee's business office to a location more than fifty (50) miles from the location at which the eligible employee performed his or her duties as of the effective date of the Change in Control, except for required travel by the eligible employee on the Company's business to an extent substantially consistent with his or her business travel obligations prior to the effective date of the Change in Control; or

(v) a material breach by the Company of any provision of any material agreement between the eligible employee and the Company concerning the terms and conditions of the eligible employee's employment.

(c) For purposes of this Agreement, notwithstanding anything to the contrary contained in the Plan, the term "Change in Control" shall be defined as in the Plan, except that the term shall not include the implementation of anti-takeover measures, including, without limitation, a recapitalization or reorganization of the Company's capital structure, whether by merger, amendment of the Company's certificate of incorporation or certificate(s) of designations, or otherwise, solely for the purpose of the implementation of a dual class stock structure, in which one class of securities has greater voting power on matters involving a change of control and other related issues, irrespective of (i) whether such anti-takeover measure includes a voting agreement or a proxy with respect to the Company's shares or (ii) whether such recapitalization, reorganization or anti-takeover measure results in a change in Ownership of Greater than fifty percent (50%) of the total voting power of the Company.

10. TRANSFERABILITY. Your option is not transferable, except by will or by the laws of descent and distribution, and is exercisable during your life only by you. Notwithstanding the foregoing, by delivering written notice to the Company, in a form satisfactory to the Company, you may designate a third party who, in the event of your death, shall thereafter be entitled to exercise your option.

11. RIGHT OF FIRST REFUSAL. Shares of Common Stock that you acquire upon exercise of your option are subject to a right of first refusal in favor of the Company (or its assignee) as long as the Company is not Listed. You may not sell, or in any manner transfer (by way of assignment, pledge, or otherwise) any of the shares of Common Stock or any right or

interest therein, whether voluntarily or by operation of law, or by gift or otherwise, except by a transfer which meets the following requirements. Any sale or transfer, or purported sale or transfer, of shares of Common Stock of the Company shall be null and void unless the terms, conditions, and provisions of this Section 11 are strictly observed and followed.

(a) If you desire to sell or otherwise transfer any of your shares of Common Stock, you must first give written notice thereof to the Company (the "Notice"), including the name and address of the proposed transferee, the number of shares to be transferred, and all other terms other than the proposed transfer price or consideration.

(b) The Company shall have an initial ten (10) days to request pricing terms of the proposed transfer and you must provide the Company with notice of such terms promptly, and in any event, with five (5) days of Company's request.

(c) For thirty (30) days following receipt of the Notice, the Company (or its assignee) shall have the option to purchase all (but not less than all) of the shares specified in the Notice at the price provided to the Company pursuant to subsection (b) above and upon the terms set forth in such Notice; *provided, however,* that, with your consent, the Company (or its assignee) shall have the option to purchase a lesser portion of the shares specified in said Notice at the price and upon the terms set forth therein. In the event of a gift, property settlement or other transfer in which the proposed transferee is proposing to pay anything other than cash for the shares, the price shall be deemed to be the fair market value of the stock at such time as determined in good faith by the Board of Directors. In the event the Company (or its assignee) elects to purchase such shares, the Company shall so notify you within such thirty (30) day period and provide the compensation, in cash or cancellation of indebtedness, within sixty (60) days after receipt of the Notice.

(d) In the event the Company does not elect to acquire all of the shares specified in your Notice, you may, within a sixty (60) day period following the expiration of the Company's right of first refusal (pursuant to subsection (c) above), transfer the shares which were not acquired by the Company (or its assignee), on the terms specified in said Notice and at the price, if any, provided to the Company pursuant to subsection (b) above, *provided that* you provide the transferee with a copy of all agreements applicable to such Common Stock and a copy of the Company's Bylaws. All shares of Common Stock so sold by you shall continue to be subject to the provisions of this Agreement.

(e) Anything to the contrary contained herein notwithstanding, the following transactions shall be exempt from the Company's right of first refusal hereunder: (i) a transfer of any of your shares upon your death by will or intestacy or otherwise to your spouse or registered domestic partner, lineal descendant or ascendant, brother, or sister; (ii) to any custodian or trustee for your exclusive account; or (iii) a transfer of any of your shares to the Company.

12. OPTION NOT A SERVICE CONTRACT. Your option is not an employment or service contract, and nothing in your option shall be deemed to create in any way whatsoever any obligation on your part to continue in the employ of the Company or an Affiliate, or of the Company or an Affiliate to continue your employment. In addition, nothing in your option shall obligate the Company or an Affiliate, their respective stockholders, Boards of Directors, Officers or Employees to continue any relationship that you might have as a Director or Consultant for the Company or an Affiliate.

13. WITHHOLDING OBLIGATIONS.

(a) At the time you exercise your option, in whole or in part, or at any time thereafter as requested by the Company, you hereby authorize withholding from payroll and any other amounts payable to you, and otherwise agree to make adequate provision for (including by means of a "cashless exercise" pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board to the extent permitted by the Company), any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or an Affiliate, if any, which arise in connection with the exercise of your option.

(b) Upon your request and subject to approval by the Company, in its sole discretion, and compliance with any applicable legal conditions or restrictions, the Company may withhold from fully vested shares of Common Stock otherwise issuable to you upon the exercise of your option a number of whole shares of Common Stock having a Fair Market Value, determined by the Company as of the date of exercise, not in excess of the minimum amount of tax required to be withheld by law (or such lower amount as may be necessary to avoid variable award accounting). If the date of determination of any tax withholding obligation is deferred to a date later than the date of exercise of your option, share withholding pursuant to the preceding sentence shall not be permitted unless you make a proper and timely election under Section 83(b) of the Code, covering the aggregate number of shares of Common Stock acquired upon such exercise with respect to which such determination is otherwise deferred, to accelerate the determination of such tax withholding obligation to the date of exercise of your option. Notwithstanding the filing of such election, shares of Common Stock shall be withheld solely from fully vested shares of Common Stock determined as of the date of exercise of your option that are otherwise issuable to you upon such exercise. Any adverse consequences to you arising in connection with such share withholding procedure shall be your sole responsibility.

(c) You may not exercise your option unless the tax withholding obligations of the Company and/or any Affiliate are satisfied. Accordingly, you may not be able to exercise your option when desired even though your option is vested, and the Company shall have no obligation to issue a certificate for such shares of Common Stock or release such shares of Common Stock from any escrow provided for herein unless such obligations are satisfied.

14. NOTICES. Any notices provided for in your option or the Plan shall be given in writing and shall be deemed effectively given upon receipt or, in the case of notices delivered by mail by the Company to you, five (5) days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company.

15. GOVERNING PLAN DOCUMENT. Your option is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your option, and is further subject to all interpretations, amendments, rules and regulations, which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of your option and those of the Plan, the provisions of the Plan shall control.

FIBROGEN, INC.

STOCK OPTION AGREEMENT
(INCENTIVE STOCK OPTION OR NONSTATUTORY STOCK OPTION)
2005 STOCK PLAN

Pursuant to your Election to Participate in FibroGen's Amendment and Exchange Offer ending on June 24, 2010 (your "Election") and this Stock Option Agreement entered into and made effective on June 24, 2010 (the "Agreement"), FibroGen, Inc. (the "Company") has granted you a new option under its 2005 Stock Plan (the "Plan") to purchase the number of shares of the Company's Common Stock not yet exercised from the original stock option grant(s) cancelled by your Election, at the exercise price indicated in your New Stock Option Grant Notice (the "Grant Notice") which you shall promptly sign and return to the Company after it is distributed to you. Defined terms not explicitly defined in this Stock Option Agreement but defined in the Plan shall have the same definitions as in the Plan.

The details of your option are as follows:

1. VESTING. Subject to the conditions and limitations contained herein (including Section 9), your option will vest as provided in your Grant Notice, provided that vesting will cease upon the termination of your Continuous Service and the non-vested portion of your option shall terminate immediately, and be of no further force or effect.

2. NUMBER OF SHARES AND EXERCISE PRICE. The number of shares of Common Stock subject to your option and your exercise price per share referenced in your Grant Notice may be adjusted from time to time for Capitalization Adjustments.

3. INCENTIVE STOCK OPTIONS.

(a) If your option is an Incentive Stock Option, then, to the extent that the aggregate Fair Market Value (determined at the time of grant) of the shares of Common Stock with respect to which your option plus all other Incentive Stock Options you hold are exercisable for the first time by you during any calendar year (under all plans of the Company and its Affiliates) exceeds one hundred thousand dollars ($100,000), your option(s) or portions thereof that exceed such limit (according to the order in which they were granted) shall be treated as Nonstatutory Stock Options.

(b) If your option is an Incentive Stock Option, note that to obtain the federal income tax advantages associated with an Incentive Stock Option, the Code currently requires that at all times beginning on the date of grant of your option and ending on the day three (3) months before the date of your option's exercise, you must be an employee of the Company or an Affiliate, except in the event of your death or your permanent and total disability, as defined in Section 22(e) of the Code. (The definition of disability in Section 22(e) of the Code is different from the definition of the Disability under the Plan). The Company has provided for extended exercisability of your option under certain circumstances for your benefit, *however*, under Section 22(e) of the Code, your option will not be treated as an Incentive Stock Option if

you exercise your option more than three (3) months after the date your employment with the Company (or its Affiliate) terminates, even if you continue to provide services to the Company or an Affiliate as a Consultant or non-employee Director.

4. METHOD OF PAYMENT. Payment of the exercise price is due in full upon exercise of all or any part of your option. You may elect to make payment of the exercise price in cash or by check or in any of the following ways, if applicable:

(a) So long as the Company is Listed and if approved by the Company at the time your option is exercised, pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds. For purposes of this Agreement, the Company shall be deemed to be "Listed" when the Common Stock of the Company is listed on a national securities exchange or designated as a national market security on an interdealer quotation system, if such securities exchange or interdealer quotation system has been certified in accordance with the provisions of Section 25100(o) of the California Corporate Securities Law of 1968, as amended.

(b) So long as the Company is Listed or as otherwise approved by the Company at the time your option is exercised, by Delivery of the largest whole number of shares of Common Stock already-owned by you, free and clear of any liens, claims, encumbrances or security interests, with a Fair Market Value on the date of exercise that does not exceed the aggregate exercise price; *provided*, that any remaining balance of the aggregate exercise price not satisfied by such Delivery of whole shares shall be paid by cash or check. "Delivery" for these purposes, in the sole discretion of the Company at the time you exercise your option, shall include delivery to the Company of your attestation of ownership of such shares of Common Stock in a form approved by the Company. Notwithstanding the foregoing, you may not exercise your option by tender to the Company of Common Stock to the extent such tender would violate the provisions of any law, regulation or agreement restricting the redemption of the Company's stock.

(c) So long as the Company is Listed or as otherwise approved by the Company at the time your option is exercised, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issued upon exercise by the largest whole number of shares with a Fair Market Value on the date of exercise that does not exceed the aggregate exercise price; *provided*, that any remaining balance of the aggregate exercise price not satisfied by such holding back of whole shares shall be paid by cash or check; *provided*, *however*, shares of Common Stock will no longer be outstanding under an Option and will not be exercisable thereafter to the extent that (i) shares are used to pay the exercise price pursuant to the "net exercise," (ii) shares are delivered to you as a result of such exercise, and (iii) shares are withheld to satisfy tax withholding obligations.

5. WHOLE SHARES. You may exercise your option only for whole shares of Common Stock.

6. SECURITIES LAW COMPLIANCE. Notwithstanding anything to the contrary contained herein, you may not exercise your option unless the shares of Common Stock issuable upon such exercise are then registered under the Securities Act or, if such shares of Common Stock are not then so registered, the Company has determined that such exercise and issuance would be exempt from the registration requirements of the Securities Act. The exercise of your option also must comply with other applicable laws and regulations governing your option, and you may not exercise your option if the Company determines that such exercise would not be in material compliance with such laws and regulations.

7. TERM. Subject to the provisions of Section 8 (below), you may not exercise your option before the commencement or after the expiration of its Term. The Term of your option commences on the Date of Grant, as set forth on your Grant Notice, and expires on the day before the tenth (10th) anniversary of the Date of Grant regardless of your employment status.

8. EXERCISE.

(a) You may exercise the vested portion of your option within sixty (60) days prior to the expiration of its Term, as set forth in Section 7 hereof, or at any time during the Term provided that a Liquidity Event (as defined below) has occurred, by delivering a Notice of Exercise (in a form designated by the Company) together with payment of the exercise price and payment of any mandatory withholding or employment taxes, as required by the Company, to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, together with such additional documents as the Company may then require. For the purpose of this Agreement, a "Liquidity Event" shall be defined to have occurred on either (1) the effective date of a registration statement for an initial public offering, filed by the Company under the Securities Act; or (2) the execution of an agreement, or approval of a plan or other similar document providing for a transaction or series of transactions that, if completed, would constitute a Change of Control Event (as defined below), *provided that*, in the event you deliver a Notice of Exercise prior to the completion of such Change of Control Event in satisfaction of the above requirements, the exercise shall only be effective, if at all, upon or immediately prior to, as applicable, the completion of the transaction or series of transactions constituting the Change of Control Event, as necessary for you to participate therein. The Company will provide you with notice (at the last address it has on file for you) of a Change of Control Event upon its occurrence or, if possible within 10 days or such other time as reasonably practicable prior to the completion of such event.

(b) For the purpose of this Agreement, a "*Change of Control Event*" shall be distinct from a Change in Control (as defined in the Plan) and shall mean the occurrence of a single transaction or series of related transactions of any one or more of the following events:

(iv) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving entity in such merger, consolidation or similar transaction or (B) more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving

Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(v) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur; or

(vi) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are owned by stockholders of the Company in substantially the same proportions as their ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; *provided, however*, that for purposes of the foregoing, in no event shall "substantially all" mean less than fifty percent (50%) of the consolidated assets of the Company and its Subsidiaries, as determined by the Board in its sole discretion.

The term Change of Control Event shall not include a merger or other transaction effected exclusively for the purpose of changing the domicile of the Company.

(c) By exercising your option you agree that, as a condition to any exercise of your option, the Company may require you to enter into an arrangement providing for the payment by you to the Company of any tax withholding obligation of the Company arising by reason of (1) the exercise of your option, (2) the lapse of any substantial risk of forfeiture to which the shares of Common Stock are subject at the time of exercise, or (3) the disposition of shares of Common Stock acquired upon such exercise.

(d) If your option is an Incentive Stock Option, by exercising your option you agree that you will notify the Company in writing within fifteen (15) days after the date of any disposition of any of the shares of the Common Stock issued upon exercise of your option that occurs within two (2) years after the date of your option grant or within one (1) year after such shares of Common Stock are transferred upon exercise of your option.

(e) By exercising your option you agree that you shall not sell, dispose of, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale, any shares of Common Stock or other securities of the Company held by you, for a period of time specified by the managing underwriter(s) (not to exceed one hundred eighty (180) days) following the effective date of a registration statement of the Company filed under the Securities Act (the "Lock Up Period"); *provided, however*, that nothing contained in this section shall prevent the exercise of a repurchase option, if any, in favor of the Company during the Lock Up Period. You further agree to execute and deliver such other agreements as may be reasonably requested by the Company and/or the underwriter(s) that are consistent with the foregoing or that are necessary to give further effect thereto. In order to enforce the foregoing covenant, the Company may impose

stop-transfer instructions with respect to your shares of Common Stock until the end of such period. The underwriters of the Company's stock are intended third party beneficiaries of this Section 8(e) and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto.

9. VESTING UPON CHANGE IN CONTROL.

(a) In the event of a Change in Control, as defined in the Plan, except as set forth subsection 9(c) below, and upon your subsequent involuntary termination from employment with the Company or its successor corporation without Cause, the vesting and exercisability of all unvested outstanding stock options granted hereunder will be accelerated in full. For purposes of this Section 9, "Cause" shall be defined solely as one or more of the following:

(i) the eligible employee's commission of any felony related to the company or its business or any crime involving fraud or moral turpitude under the laws of the United States or any state thereof or of any foreign jurisdiction where the eligible employee is employed;

(ii) the eligible employee's attempted commission of, or participation in, a fraud against the Company;

(iii) the eligible employee's unauthorized use or disclosure of the Company's confidential information or trade secrets;

(iv) the eligible employee's willful failure to substantially perform his or her duties and responsibilities owed to the Company;

provided, however, that the conduct described under clause (iv) above will only constitute Cause if such conduct is not cured, within 15 days after the eligible employee's receipt of written notice from the Company or the Board of Directors specifying the particulars of the conduct that may constitute Cause.

(b) In the event of your Constructive Termination (as defined below) within twelve (12) months after a Change in Control, as defined in the Plan, except as set forth in subsection 9(c) below, the vesting and exercisability of all unvested outstanding stock options granted hereunder will be accelerated in full. For purposes of this Agreement, "Constructive Termination" shall be defined as:

(i) a substantial reduction in the eligible employee's duties or responsibilities (and not simply a change in title or reporting relationships) in effect immediately prior to the effective date of the Change in Control; *provided*, *however*, that it shall not be a "Constructive Termination" if the Company is retained as a separate legal entity or business unit following the effective date of the Change in Control and the eligible employee holds the same position in such legal entity or business unit as the eligible employee held before the effective date of the Change in Control;

(ii) a material reduction by the Company in the eligible employee's annual base salary, as in effect on the effective date of the Change in Control or as increased thereafter;

(iii) any failure by the Company to continue in effect any benefit plan or program, including incentive plans or plans with respect to the receipt of securities of the Company, in which the eligible employee was participating immediately prior to the effective date of the Change in Control (hereinafter referred to as "Benefit Plans"), or the taking of any action by the Company that would adversely affect the eligible employee's participation in or reduce the eligible employee's benefits under the Benefit Plans or deprive the eligible employee of any fringe benefit that he or she enjoyed immediately prior to the effective date of the Change in Control; *provided, however,* that a Constructive Termination shall not be deemed to have occurred if the Company provides for the eligible employee's participation in benefit plans and programs that, taken as a whole, are comparable to the Benefit Plans;

(iv) a relocation of the eligible employee's business office to a location more than fifty (50) miles from the location at which the eligible employee performed his or her duties as of the effective date of the Change in Control, except for required travel by the eligible employee on the Company's business to an extent substantially consistent with his or her business travel obligations prior to the effective date of the Change in Control; or

(v) a material breach by the Company of any provision of any material agreement between the eligible employee and the Company concerning the terms and conditions of the eligible employee's employment.

(c) For purposes of this Agreement, notwithstanding anything to the contrary contained in the Plan, the term "Change in Control" shall be defined as in the Plan, except that the term shall not include the implementation of anti-takeover measures, including, without limitation, a recapitalization or reorganization of the Company's capital structure, whether by merger, amendment of the Company's certificate of incorporation or certificate(s) of designations, or otherwise, solely for the purpose of the implementation of a dual class stock structure, in which one class of securities has greater voting power on matters involving a change of control and other related issues, irrespective of (i) whether such anti-takeover measure includes a voting agreement or a proxy with respect to the Company's shares or (ii) whether such recapitalization, reorganization or anti-takeover measure results in a change in Ownership of Greater than fifty percent (50%) of the total voting power of the Company.

10. TRANSFERABILITY. Your option is not transferable, except by will or by the laws of descent and distribution, and is exercisable during your life only by you. Notwithstanding the foregoing, by delivering written notice to the Company, in a form satisfactory to the Company, you may designate a third party who, in the event of your death, shall thereafter be entitled to exercise your option.

11. RIGHT OF FIRST REFUSAL. Shares of Common Stock that you acquire upon exercise of your option are subject to a right of first refusal in favor of the Company (or its assignee) as long as the Company is not Listed. You may not sell, or in any manner transfer (by way of assignment, pledge, or otherwise) any of the shares of Common Stock or any right or

interest therein, whether voluntarily or by operation of law, or by gift or otherwise, except by a transfer which meets the following requirements. Any sale or transfer, or purported sale or transfer, of shares of Common Stock of the Company shall be null and void unless the terms, conditions, and provisions of this Section 11 are strictly observed and followed.

(a) If you desire to sell or otherwise transfer any of your shares of Common Stock, you must first give written notice thereof to the Company (the "Notice"), including the name and address of the proposed transferee, the number of shares to be transferred, and all other terms other than the proposed transfer price or consideration.

(b) The Company shall have an initial ten (10) days to request pricing terms of the proposed transfer and you must provide the Company with notice of such terms promptly, and in any event, with five (5) days of Company's request.

(c) For thirty (30) days following receipt of the Notice, the Company (or its assignee) shall have the option to purchase all (but not less than all) of the shares specified in the Notice at the price provided to the Company pursuant to subsection (b) above and upon the terms set forth in such Notice; *provided, however,* that, with your consent, the Company (or its assignee) shall have the option to purchase a lesser portion of the shares specified in said Notice at the price and upon the terms set forth therein. In the event of a gift, property settlement or other transfer in which the proposed transferee is proposing to pay anything other than cash for the shares, the price shall be deemed to be the fair market value of the stock at such time as determined in good faith by the Board of Directors. In the event the Company (or its assignee) elects to purchase such shares, the Company shall so notify you within such thirty (30) day period and provide the compensation, in cash or cancellation of indebtedness, within sixty (60) days after receipt of the Notice.

(d) In the event the Company does not elect to acquire all of the shares specified in your Notice, you may, within a sixty (60) day period following the expiration of the Company's right of first refusal (pursuant to subsection (c) above), transfer the shares which were not acquired by the Company (or its assignee), on the terms specified in said Notice and at the price, if any, provided to the Company pursuant to subsection (b) above, *provided that* you provide the transferee with a copy of all agreements applicable to such Common Stock and a copy of the Company's Bylaws. All shares of Common Stock so sold by you shall continue to be subject to the provisions of this Agreement.

(e) Anything to the contrary contained herein notwithstanding, the following transactions shall be exempt from the Company's right of first refusal hereunder: (i) a transfer of any of your shares upon your death by will or intestacy or otherwise to your spouse or registered domestic partner, lineal descendant or ascendant, brother, or sister; (ii) to any custodian or trustee for your exclusive account; or (iii) a transfer of any of your shares to the Company.

12. RIGHT OF REPURCHASE. In the event that your Continuous Service is interrupted or terminates for any reason, and subject to any limitations set forth in the Plan, the Company shall have the right prior to the date on which it is Listed, but not the obligation, to repurchase all or any portion of the shares of Common Stock you have acquired under the terms of this Agreement at a purchase price, to the extent required to maintain exemption from Internal

Revenue Code Section 409A, equal to the fair market value of such Common Stock, as determined by the Board of Directors in good faith. A repurchase pursuant to this Section 12 shall be effective upon notice of the repurchase and delivery of the consideration therefor. The Company shall have 180 days (or such longer period of time as is reasonably necessary for the Company to obtain an independent valuation of the fair market value of such Common Stock) from the later of (i) the date of interruption or termination of your Continuous Service and (ii) the date of your last option exercise, to exercise its right of repurchase and pay such purchase price in cash or cancellation of indebtedness. Notwithstanding the foregoing, if the right of repurchase described in the Company's bylaws in effect at the time the Company elects to exercise such right, expands the rights herein or provides for additional rights than those described herein, then such rights set forth in the Bylaws shall control with respect to the shares of Common Stock you have acquired under the terms of this Agreement.

13. OPTION NOT A SERVICE CONTRACT. Your option is not an employment or service contract, and nothing in your option shall be deemed to create in any way whatsoever any obligation on your part to continue in the employ of the Company or an Affiliate, or of the Company or an Affiliate to continue your employment. In addition, nothing in your option shall obligate the Company or an Affiliate, their respective stockholders, Boards of Directors, Officers or Employees to continue any relationship that you might have as a Director or Consultant for the Company or an Affiliate.

14. WITHHOLDING OBLIGATIONS.

(a) At the time you exercise your option, in whole or in part, or at any time thereafter as requested by the Company, you hereby authorize withholding from payroll and any other amounts payable to you, and otherwise agree to make adequate provision for (including by means of a "cashless exercise" pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board to the extent permitted by the Company), any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or an Affiliate, if any, which arise in connection with the exercise of your option.

(b) Upon your request and subject to approval by the Company, in its sole discretion, and compliance with any applicable legal conditions or restrictions, the Company may withhold from fully vested shares of Common Stock otherwise issuable to you upon the exercise of your option a number of whole shares of Common Stock having a Fair Market Value, determined by the Company as of the date of exercise, not in excess of the minimum amount of tax required to be withheld by law (or such lower amount as may be necessary to avoid variable award accounting). If the date of determination of any tax withholding obligation is deferred to a date later than the date of exercise of your option, share withholding pursuant to the preceding sentence shall not be permitted unless you make a proper and timely election under Section 83(b) of the Code, covering the aggregate number of shares of Common Stock acquired upon such exercise with respect to which such determination is otherwise deferred, to accelerate the determination of such tax withholding obligation to the date of exercise of your option. Notwithstanding the filing of such election, shares of Common Stock shall be withheld solely from fully vested shares of Common Stock determined as of the date of exercise of your option that are otherwise issuable to you upon such exercise. Any adverse consequences to you arising in connection with such share withholding procedure shall be your sole responsibility.

(c) You may not exercise your option unless the tax withholding obligations of the Company and/or any Affiliate are satisfied. Accordingly, you may not be able to exercise your option when desired even though your option is vested, and the Company shall have no obligation to issue a certificate for such shares of Common Stock or release such shares of Common Stock from any escrow provided for herein unless such obligations are satisfied.

15. NOTICES. Any notices provided for in your option or the Plan shall be given in writing and shall be deemed effectively given upon receipt or, in the case of notices delivered by mail by the Company to you, five (5) days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company.

16. GOVERNING PLAN DOCUMENT. Your option is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your option, and is further subject to all interpretations, amendments, rules and regulations, which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of your option and those of the Plan, the provisions of the Plan shall control.

FIBROGEN, INC.

AMENDMENT
TO STOCK OPTION AGREEMENT
GRANTED UNDER 2005 STOCK PLAN

Pursuant to your Election to Participate in FibroGen's Amendment and Exchange Offer ending on June 24, 2010 (your "Election"), this **AMENDMENT** (the "Amendment") is entered into and made effective on June 24, 2010 (the "Amendment Effective Date") by and between you, **[ ]** ("Optionee") and **FibroGen, Inc.** and its subsidiaries ("Company"). This Amendment amends the Stock Option Agreement that governs the option with Option Grant Number **[ ]** (now referred to as MA**[ ]**) granted on **[ ]** for **[ ]** shares of FibroGen Common Stock, for which you have agreed to amend pursuant to your executed Election (the "Option Agreement"). Optionee and Company shall be referred to individually herein as a "Party", and collectively as, the "Parties". The Option Agreement, together with its corresponding Option Grant Notice and this Amendment are collectively referred to as the "Agreement".

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Amendment shall have the meaning ascribed to them in their respective Option Agreement.

(2) For the purpose of the Agreement, a "***Change of Control Event***" shall be distinct from a Change in Control (as defined in the Plan) and shall mean the occurrence of a single transaction or series of related transactions of any one or more of the following events:

(i) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving entity in such merger, consolidation or similar transaction or (B) more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(ii) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur; or

(iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are owned by stockholders of the Company in substantially the same proportions as their ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; *provided, however*, that for purposes of the foregoing, in no event shall "substantially all" mean less than fifty percent (50%) of the consolidated assets of the Company and its Subsidiaries, as determined by the Board in its sole discretion.

The term Change of Control Event shall not include a merger or other transaction effected exclusively for the purpose of changing the domicile of the Company.

(3) Section 3 of the Option Agreement is hereby deleted in its entirety and replaced with the following:

"**INCENTIVE STOCK OPTIONS.**

(a) If your option is an Incentive Stock Option, then, to the extent that the aggregate Fair Market Value (determined at the time of grant) of the shares of Common Stock with respect to which your option plus all other Incentive Stock Options you hold are exercisable for the first time by you during any calendar year (under all plans of the Company and its Affiliates) exceeds one hundred thousand dollars ($100,000), your option(s) or portions thereof that exceed such limit (according to the order in which they were granted) shall be treated as Nonstatutory Stock Options.

(b) If your option is an Incentive Stock Option, note that to obtain the federal income tax advantages associated with an Incentive Stock Option, the Code currently requires that at all times beginning on the date of grant of your option and ending on the day three (3) months before the date of your option's exercise, you must be an employee of the Company or an Affiliate, except in the event of your death or your permanent and total disability, as defined in Section 22(e) of the Code. (The definition of disability in Section 22(e) of the Code is different from the definition of the Disability under the Plan). The Company has provided for extended exercisability of your option under certain circumstances for your benefit, *however*, under Section 22(e) of the Code, your option will not be treated as an Incentive Stock Option if you

exercise your option more than three (3) months after the date your employment with the Company (or its Affiliate) terminates, even if you continue to provide services to the Company or an Affiliate as a Consultant or non-employee Director."

(4) Section 7 of the Option Agreement is hereby deleted in its entirety and replaced with the following:

"Subject to the provisions of Section 8 (below), you may not exercise your option before the commencement or after the expiration of its Term. The Term of your option commences on the Date of Grant and expires on the day before the tenth (10th) anniversary of the Date of Grant regardless of your employment status."

(5) Section 8(a) of the Option Agreement is hereby deleted in its entirety and replaced with the following:

(a) You may exercise the vested portion of your option within sixty (60) days prior to the expiration of its term, as set forth in Section 7 hereof, or at any time during your option's term provided that a Liquidity Event (as defined below) has occurred, by delivering a Notice of Exercise (in a form designated by the Company) together with payment of the exercise price and payment of any mandatory withholding or employment taxes, as requested by the Company, to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, together with such additional documents as the Company may then require. For the purpose of this Agreement, a "Liquidity Event" shall be defined to have occurred on either (1) the effective date of a registration statement for an initial public offering, filed by the Company under the Securities Act; or (2) the execution of an agreement, or approval of a plan or other similar document providing for a transaction or series of transactions that, if completed, would constitute a Change of Control Event, *provided that*, in the event you deliver a Notice of Exercise prior to the completion of such Change of Control Event in satisfaction of the above requirements, the exercise shall only be effective, if at all, upon or immediately prior to, as applicable, the completion of the transaction or series of transactions constituting the Change of Control Event, as necessary for you to participate therein. The Company will provide you with notice (at the last address it has on file for you) of a Change of Control Event upon its occurrence or, if possible within 10 days or such other time as reasonably practicable prior to the completion of such event.

(6) All references to "Change of Control" in the Option Agreement shall hereby be deleted and replaced by the words "Change in Control" as is consistent with the 2005 Plan.

(7) This Amendment, together with the Option Agreement, as well as the Grant Notice and Plan referenced therein, contain the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Option Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings, either oral or written, heretofore made with respect to subject matter herein are expressly superseded in this Amendment. In the case of any conflict between the terms of the Amendment, the Option Agreement, the Grant Notice and/or the Plan, the terms of this Amendment shall control.

FIBROGEN, INC.

AMENDMENT
TO STOCK OPTION AGREEMENTS

THIS AMENDMENT (the "Amendment") is entered into and made effective on July 1, 2013 (the "Amendment Effective Date") by and between you, ("Optionee") and **FibroGen, Inc.** ("Company"). This Amendment amends your Stock Option Agreements that govern the option grants listed on Exhibit A hereto (the "Option Agreements"). Optionee and Company shall be referred to individually herein as a "Party", and collectively as, the "Parties". The Option Agreements, together with its corresponding Option Grant Notice, this Amendment, and any previous Amendments thereof, are collectively referred to as the "Agreement".

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Amendment shall have the meaning ascribed to them in their respective Option Agreements.

(2) The following sentence is hereby added on to the end of Section 4(c) of each of the Option Agreements:

> Note that any option, or portion thereof, that is exercised through this "net exercise" method will be disqualified as an incentive stock option and treated as a Nonstatutory Stock Option.

(3) Section 8(a) of each of the Option Agreements is hereby deleted in its entirety and replaced with the following:

> "You may exercise the vested portion of your option (and the unvested portion of your option if permitted) during its Term, as set forth in Section 7 hereof, by delivering a Notice of Exercise (in a form designated by the Company) together with payment of the exercise price, pursuant to Section 4 hereof, to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, together with such additional documents as the Company may then require."

(4) This Amendment, together with the Option Agreements, as well as the Grant Notice and Plan referenced therein, contain the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Option Agreements has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings, either oral or written, heretofore made with respect to subject matter herein are expressly superseded in this Amendment. In the case of any conflict between the terms of the Amendment, the Option Agreements, the Grant Notice and/or the Plan, the terms of this Amendment shall control.

FIBROGEN, INC.

By: /s/ Pat Cotroneo

Pat Cotroneo
Chief Financial Officer

CONFIDENTIAL-2005

Exhibit 10.8

LEASE AGREEMENT

BY AND BETWEEN

X-4 DOLPHIN LLC,
A Delaware limited liability company,

as Landlord

and

FIBROGEN, INC.
A Delaware corporation,
as Tenant

409-499 Illinois Street, San Francisco, California

Dated as of: September 22, 2006

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LEASE AGREEMENT

THIS LEASE AGREEMENT ("***Lease***") is entered and dated for reference purposes only as September 22, 2006, by and between "Landlord" and "Tenant" (as such terms are defined in Sections 1.2 and 1.3 below).

RECITALS

A. Landlord owns that certain approximately 3.8 acre parcel of land located at the intersection of Illinois and 16th Streets in San Francisco, California more particularly described in Exhibit A-1 hereto (the "***Land***").

B. Pursuant to this Lease, and the plans, specifications and other documents referenced herein, Landlord will construct certain improvements on the Land, including (i) one six-story building containing approximately 239,000 rentable square feet ("***Building 1***"), (ii) one six-story building containing approximately 211,000 rentable square feet ("***Building 2***"), (iii) parking improvements consisting of one at grade and two below grade levels ("***Parking Garage***"), (iv) certain other common areas and site improvements and (v) certain other improvements as generally described on the site plan attached hereto as Exhibit A-2.

ARTICLE 1

SALIENT LEASE TERMS

In addition to the terms defined throughout this Lease, the following salient terms shall have the following meanings when referred to in this Lease:

1.1 Rent Payment Address

To the lockbox or other location designated by Landlord from time to time upon written notice to Tenant.

1.2 "*Landlord*" and Notice Address

Landlord:

X-4 Dolphin LLC, a Delaware limited liability company

Notice Address:

X-4 Dolphin LLC
c/o Shorenstein Company LLC
555 California Street: 49th floor
San Francisco, California 94104
Attn: Corporate Secretary

1.3 *"Tenant"* and Notice Address

Tenant:

FibroGen, Inc., a Delaware corporation

Notice Address:

Prior to the Rent Commencement Date:

225 Gateway Boulevard
South San Francisco, California 94080
Attention: President
cc: Legal Department

After the Rent Commencement Date:

409 Illinois Street
San Francisco, California 94158
Attention: President
cc: Legal Department

1.4 *"Premises"*

Floors 1-6 of the Building 1, together with any portion of Building 2 Tenant may from time to time lease in accordance with Article 33 hereof.

1.5 *"Building 1," "Building 2"* and "Buildings"

"**Building 1**" means that building referred to in Recital B above, the core and shell of which are to be constructed by Landlord, commonly known as 409 Illinois Street, San Francisco, California, to contain approximately 239,000 square feet of Rentable Area, which square footage shall be determined upon the Landlord's completion of the Base Building Work for Building 1 (as that term is defined in the Work Letter).

"**Building 2**" means that building referred to in Recital B above, the core and shell of which are to be constructed by Landlord, commonly known as 499 Illinois Street, San Francisco, California, to contain approximately 211,000 square feet of Rentable Area, which square footage shall be determined upon the Landlord's completion of the Base Building Work for Building 2.

"**Buildings**" means, collectively, Building 1 and Building 2.

1.6 *"Complex"*

For purposes of this Lease, the term " Complex" means the Parking Garage, the Buildings, the Land, and the Common Areas (as defined in Section 2.1 below), all as generally outlined in Exhibit A-2 attached hereto.

1.7 *"Construction Term"*

The period beginning on the Tenant Access Date and expiring on the Rent Commencement Date.

1.8 *"Expansion Options"*

The terms "***First Expansion Option,***" "***Second Expansion Option***" and "***Expansion Options***" shall have the meanings ascribed to such terms in Article 33.

1.9 *"Principal Term"*

The period commencing on the Rent Commencement Date and expiring on the fifteen (15) year anniversary of thereof, subject to adjustment as set forth in Article 33.

1.10 *"Term"*

The period commencing on the Tenant Access Date and expiring on the later to occur of (i) the last day of the Principal Term or (ii) the last day of any Renewal Period (as defined in Section 34.1 below).

1.11 *"Tenant Access Date"*

The date Tenant is first allowed access to Floor 1 of Building 1 for purposes of commencing construction of the Tenant Improvements as defined in Section 5(b)(i) of the Work Letter. The parties anticipate that the Tenant Access Date shall occur on approximately February 1, 2008 (the "***Target Tenant Access Date***"). Prior to the Tenant Access Date, Tenant shall have the right to enter the Premises with Landlord's written approval, which approval shall not be unreasonably withheld or delayed to undertake certain preliminary construction work expected to consist of work such as, by way of illustration and not limitation, under-slab plumbing and location of stairwells and shafts. Landlord shall use commercially reasonable efforts to complete such construction with the applicable time periods set forth in the Estimated Construction Schedule (as that term is defined in Section 3(a) of the Work Letter), and to cause the Tenant Access Date to occur not later than the Target Tenant Access Date. In the event that the Tenant Access Date does not occur on or before the Target Tenant Access Date for any reason, then (a) this Lease shall not be void or voidable by either party (other than as specifically provided in this Lease), and (b) Landlord shall not be liable to Tenant for any loss or damage resulting therefrom. Notwithstanding the foregoing, if the Tenant Access Date does not occur on or before February 1, 2009 (the "***Outside Date***"), Tenant, as its sole remedy, shall have the right to (i) continue this Lease and reserve its right to the "Holdover Consideration" described below, or (ii) cancel this Lease by giving written notice of such cancellation to Landlord, with either of such notices being delivered to Landlord at any time after the Outside Date and prior to the Tenant Access Date. If Tenant elects to give the cancellation notice, this Lease shall be cancelled effective thirty (30) days after Landlord's receipt of Tenant's cancellation notice, unless the Tenant Access Date occurs within said thirty (30) day period; provided, however, that the Outside Date shall be extended by the number of days that the Tenant Access Date is delayed due to any Tenant Delay (as defined in the Work Letter). In the event of such cancellation by Tenant, neither party shall have any obligations to the other under this Lease, except for

obligations arising before such cancellation (and any obligation of the Landlord to reimburse Tenant for "Reusable Tenant Improvement Costs" as set out below), and Landlord shall return to Tenant in full any prepaid Rent, shall return to Tenant the Initial Letter of Credit (as that term is defined in Section 8.1 below), and shall pay Tenant, in accordance with the following sentence, the "***Reusable Tenant Improvement Cost***" (defined below). Landlord shall calculate the Reusable Tenant Improvement Cost, and shall deliver to Tenant a reasonably particularized itemization of such calculation, accompanied by the payment to Tenant thereof, not later than thirty (30) days following the commencement date of a third party lease for the Premises. For purposes of this Section 1.11, "Reusable Tenant Improvement Cost" shall mean and refer to those costs expended by Tenant (and not reimbursed by Landlord) for Tenant Improvements installed in the Premises which a third party tenant leasing the Premises or Landlord would have been required to install in the Premises for the use and benefit of such third party tenant, but which were not so installed and paid for by Landlord or such third party tenant because they had in fact been previously installed in the Premises by Tenant as a long-lead time item prior to Tenant's cancellation of this Lease pursuant to this Section 1.11. If Tenant elects to give the continuation notice, then this Lease shall continue in full force and effect, and, if the Tenant Access Date does not occur by the Outside Date, Tenant shall be entitled to "Holdover Consideration" in the form of a day-for-day Rent credit for each day from and after the Outside Date until the Tenant Access Date.

1.12 *"Minimum Monthly Rent"*

Rent for the first twelve (12) months commencing on the Rent Commencement Date shall be charged at the rate of $45.90 per square foot per annum ($3.825 per square foot per month), and shall be increased by two percent (2%) on each anniversary of the Rent Commencement Date; provided, however, that Minimum Monthly Rent for the first thirteen (13) months following the Rent Commencement Date shall be calculated on the basis of 175,000 square feet of Rentable Area. The Minimum Monthly Rent for the Premises for the initial fifteen (15) year Principal Term is estimated to be as follows:

Period	Estimated Minimum Monthly Rent (Bldg. 1)	Minimum Annual Rent PSF (Bldg. 1 and Bldg. 2)
Tenant Access Date-Day Prior to Rent Commencement Date	$ 0.00	$ 0.00
Rent Commencement Date — Month 12	669,375.00*	45.90
Month 13	682,762.50*	46.82
Month 14 – Month 24	932,458.50	46.82
Month 25 – Month 36	951,107.67	47.75
Month 37 – Month 48	970,129.82	48.71
Month 49 – Month 60	989,532.42	49.68
Month 61 – Month 72	1,009,323.07	50.68
Month 73 – Month 84	1,029,509.53	51.69
Month 85 – Month 96	1,050,099.72	52.72
Month 97 – Month 108	1,071,101.71	53.78
Month 109 – Month 120	1,092,523.75	54.85

Period	Estimated Minimum Monthly Rent (Bldg. 1)	Minimum Annual Rent PSF (Bldg. 1 and Bldg. 2)
Month 121 –Month 132	1,114,374.22	55.95
Month 133 – Month 144	1,136,661.71	57.07
Month 145 – Month 156	1,159,394.94	58.21
Month 157 – Month 168	1,182,582.84	59.38
Month 169 – Month 180	1,206,234.50	60.56

* Based on 175,000 square feet of Rentable Area

1.13 *"Permitted Use"*

The Premises shall be used solely for:

(a) research and development, including chemical and biological laboratories and a vivarium facility;

(b) executive and administrative offices;

(c) manufacturing facilities; sterile fill and finish facilities;

(d) a pilot plant facility whether or not qualifying under the Current Good Manufacturing Practices (cGMP) as specified under the Code of Federal Regulations Title 21;

(e) a diagnostics facility analyzing material received through courier or U.S. mail; and

(f) a logistics and distribution center.

1.14 *"Broker"*

Shorenstein Management, Inc. and Cornish & Carey Commercial (Tenant's Broker).

1.15 Security Deposit

Seven Million Two Hundred Fifty-Three Thousand Six Hundred Eighty-One and No/100 Dollars ($7,253,681.00) in the form of an irrevocable standby letter of credit, subject to adjustment as set forth in Article 33.

1.16 Contents

Included as part of this Lease are the following Exhibits and addenda which are attached hereto and incorporated herein by this reference:

Exhibits: A-1 Land
A-2 Site Plan of the Complex

B	Work Letter Agreement
C-1	Acknowledgment of Rent Commencement Date
C-2	Exercise Notice
C-3	Acknowledgement of Expansion
D	Form of Letter of Credit

ARTICLE 2

ADDITIONAL DEFINITIONS

The terms defined in this Article 2 shall, for all purposes of this Lease and all agreements supplemental hereto, have the meanings herein specified, unless expressly stated otherwise.

2.1 ***"Common Areas"***

means all areas and facilities outside the Premises within the exterior boundaries of the Land, together with the exterior plaza and access areas within the Complex, all as provided and designated by Landlord from time to time for the general use and convenience of Tenant and of other tenants of Landlord having the common use of such areas, and their respective authorized representatives and invitees. Common Areas include, without limitation, stairways, elevator shafts, corridors and janitor rooms in the Buildings (except where a Building is occupied solely by Tenant), the Parking Garage, the driveways and landscaped areas in the Complex as generally outlined on Exhibit A-2 attached hereto. Exhibit A-2 is tentative and Landlord reserves the right to make alterations thereto from time to time.

2.2 ***"Comparable Buildings"***

means other first class office/laboratory/research and development buildings of similar quality the construction of which has been completed after January 1, 2008 in or adjacent to the south side of the Mission Bay area of San Francisco.

2.3 ***"Insurance Costs"***

means all premiums and costs and expenses for all policies of insurance which may be obtained by Landlord in its discretion for (a) the Premises, the Buildings, the Parking Garage and the Common Areas of the Complex, and any blanket policies, covering damage thereto and loss of rents caused by fire and other perils Landlord elects to cover, including, without limitation, coverage for earthquakes, floods and terrorism, (b) commercial general liability insurance for the benefit of Landlord and its designees, and (c) such other coverage Landlord elects to obtain for the Premises, the Buildings and/or the Common Areas of the Complex, including, without limitation, coverage for environmental liability and losses.

2.4 ***"Lease Year"***

means any calendar year, or portion thereof, following the commencement hereof, the whole or any part of which period is included within the Term.

2.5 *"Mission Bay Regulations"*

means and includes that certain Mission Bay South Redevelopment Project Owner Participation Agreement dated as of April 17, 2001 between the Redevelopment Agency of the City and County of San Francisco and ESPRIT de CORP. (the "***OPA***"), including, without limitation, the Equal Opportunity Program and Prevailing Wage Requirements attached as Exhibit H to the OPA (the "***Program in Diversity/Economic Development***"); that certain Risk Management Plan, Mission Bay Area, San Francisco, California dated May 11, 1999, Number 03-6381S, submitted to California Regional Water Quality Control Board, San Francisco Bay Region and California Environmental Protection Agency, Department of Toxic Substances Control and prepared by ENVIRON Corporation, Emeryville, CA (the "***Risk Management Plan***"); the Mission Bay South CEQA Mitigation Measures (the "***Mitigation Measures***"); that certain Parcel X-4 Remedial Measures Memorandum of Understanding dated November 19, 2004 between Union Oil Company of California, Chevron U.S.A., Texaco Inc., Atlantic Richfield Company, ECOR-SF, Inc. and ECOR-SF Holdings, Inc. and any deed restrictions filed in accordance therewith (the "***Remedial Measures MOU***").

2.6 *"Operating Costs"*

means all expenses, costs and disbursements of any kind, other than Taxes and Insurance Costs, paid, incurred or payable by Landlord, or others on behalf of Landlord, in connection with the ownership, management, operation, maintenance and repair and other related activities in connection with any part of the Buildings, and the Common Areas and/or the Complex and of the personal property, fixtures, machinery, equipment, systems and apparatus used in connection therewith, in accordance with Landlord's standard accounting procedures.

(a) Operating Costs shall include, but not be limited to, the aggregate of the amount paid for:

(1) all gas, electric, water, sewers, oil and other utilities, including any surcharges and taxes, imposed, serving the Complex;

(2) painting for the Complex;

(3) managerial and administrative expenses, including the cost of accounting services necessary to compute the rents and charges payable by tenants of the Complex and keep the books relating to the Complex, office rent, supplies, equipment, salaries, wages, payroll tax, workers compensation, disability insurance, bonuses and other compensation (including fringe benefits, vacation, holidays and other paid absence benefits) relating to employees of Landlord or its agents engaged in the management, operation, repair, or maintenance of the Complex;

(4) the total charges of any independent contractors employed in the repair, care, operation, maintenance, and cleaning of the Complex;

(5) the amount paid or payable for all supplies occasioned by everyday wear and tear;

(6) the costs of window and exterior wall cleaning of the Complex; and the cost of landscaping, relamping, and all supplies, tools, equipment and materials used in the operation, repair and maintenance of the Complex, or any portion thereof;

(7) fees for legal, accounting (including, without limitation, any outside audit as Landlord may elect in its reasonable discretion), inspection and consulting services;

(8) the cost of porters, parking attendants, guards and other protection services;

(9) the cost of establishing and maintaining the Buildings' or Complex's directory board;

(10) payments for general maintenance and repairs to the plant and equipment, including supplying climate control to the Complex;

(11) the cost of supplying all services pursuant to Article 11 hereof to the extent such services are not paid by individual tenants of the Complex;

(12) the cost for the repair and replacement of all maintenance and cleaning equipment and master utility meters and of the costs incurred for repairing or replacing all other fixtures, equipment and facilities serving or comprising the Complex;

(13) all community association dues, assessments and charges and property owners' association dues, assessments and charges which may be imposed upon Landlord by virtue of any recorded instrument affecting title to the Complex, including, without limitation, the Mission Bay Regulations;

(14) all costs to upgrade, improve or change the utility, efficiency or capacity of any utility or telecommunication system serving the Complex;

(15) the repair and replacement, resurfacing and/or repaving of any paved areas, curbs or gutters within the Buildings or the Common Areas;

(16) the repair and replacement of any equipment or facilities serving or located within the Complex;

(17) except as set forth in Section 18.1(a) below, the cost of any capital repairs, improvements, alterations and replacements made by the Landlord to the Complex ("***Capital Costs***"). However, certain Capital Costs shall be includable in Operating Costs each year only to the extent of that fraction allocable to the year in question calculated by amortizing such Capital Cost over the reasonably useful life of the improvement resulting therefrom, as determined by Landlord in its good faith discretion, with interest on the unamortized balance at the higher of (i) ten percent (10%) per annum; or (ii) the interest rate as may have been paid by Landlord for the funds borrowed for the purpose of performing the work for which the Capital Costs have been expended, but in no event to exceed the highest rate permissible by law. The Capital Costs subject to such amortization procedure are restricted to the following categories: (a) those costs for capital improvements to the Complex of a type which do not normally recur more frequently than every five (5) years in the normal course of operation and maintenance of such facilities (specifically excluding painting of all or a portion of the Complex); (b) replacement of capital improvements or Complex service equipment when required because of normal wear and tear; (c) costs for capital improvements incurred for the purpose of reducing other operating expenses

or utility costs, from which Tenant can expect a reasonable benefit, and (d) costs for capital improvements that are required by governmental law, ordinance, regulation or mandate, not applicable to the Complex at the time of the original construction;

(18) the cost of licenses, certificates, permits and inspections and the cost of contesting any governmental enactments which may affect Operating Costs, and the costs incurred in connection with a governmentally mandated transportation system management program or similar program (but excluding any transportation management assessment or parking tax to the extent included in parking charges); and

(19) the cost of maintaining and operating the Parking Garage, including without limitation the towing of vehicles parked in violation of the Landlord's rules and regulations.

(b) Operating Costs shall not include the following:

(1) Any costs or expenses properly allocable to other tenants of the Complex;

(2) Capital Costs incurred by Landlord for the repair, maintenance or replacement of Structural portions of the Building(s), as set forth in Section 18.1(a);

(3) legal expenses incurred expressly for negotiating a lease with a particular tenant, or as a result of a default of a specific tenant, which negotiation or default does not affect the operation of the Complex.

(4) costs of Base Building Work done pursuant to the Work Letter or the costs of installing leasehold improvements in leasable space for tenants or occupants or prospective tenants or occupants of the Building;

(5) real estate brokers' leasing commissions;

(6) legal fees, space planner fees and advertising expenses incurred with regard to leasing the Buildings or portions thereof;

(7) any cost or expenditure to the extent for which Landlord is reimbursed, by insurance proceeds or otherwise;

(8) depreciation or amortization of the elements of the Complex or its contents or components, except to the extent of amortization of Capital Costs as provided above;

(9) legal expenses incurred in enforcing the terms of any other lease at the Complex;

(10) except as expressly provided in this Section, debt service, including without limitation, mortgage debt, interest, principal, late charges, prepayment fees and closing costs;

(11) rent under any ground or underlying lease;

(12) Taxes (as defined in Section 2.11 below);

(13) executive salaries or benefits, or salaries or benefits for employees above the function of Complex manager

(14) the cost (including amortization thereof) of any improvements or alterations which would be properly classified as capital expenditures according to generally accepted property management practices, except to the extent expressly included in Operating Costs pursuant to Section 2.6(a) above;

(15) advertising or promotional expenditures;

(16) penalties or other costs incurred due to a violation by Landlord, as determined by written admission, stipulation, final judgment or arbitration award, of any of the terms and conditions of this Lease or of applicable law, except to the extent such costs reflect costs that would have been incurred by Landlord absent such violation;

(17) costs of repairs occasioned by casualty, to the extent Landlord is reimbursed by insurance proceeds (or would have been reimbursed if Landlord had obtained the insurance required of it pursuant to this Lease, if any), and other work paid for by insurance, condemnation or warranty proceeds, or for which Landlord is reimbursed by Tenant;

(18) the cost of any abatement of Hazardous Materials (as defined in Section 10.3 below); provided, however, that Operating Costs may include the costs attributable to those actions taken by Landlord in connection with the ordinary operation and maintenance of the Complex, including costs incurred in removing limited amounts of Hazardous Materials from the Common Areas or Parking Garage or other non-leasable space within the Complex;

(19) Landlord’s general corporate office overhead and administrative expenses (except to the extent that such costs are included in a management fee);

(20) costs associated with the maintenance of the entity which constitutes Landlord, as the same are distinguished from the costs of the operation of the Complex by Landlord;

(21) costs, penalties or fines arising from Landlord’s violation of applicable law, except to the extent such costs reflect costs that would have been incurred by Landlord absent such violation;

(22) any costs incurred in installing, operating, maintaining or owning any specialty service or other commercial concession in the Common Areas not necessary for Landlord’s operation, repair, maintenance and provision of required services for the Complex, including, but not limited to any observatory, broadcasting facility (other than the Complex’s music system and life support systems), luncheon club, cafeteria, athletic or recreational club;

(23) overhead and profit increments paid to subsidiaries or affiliates of Landlord for goods or services (including management services), to the extent that the cost thereof materially exceeds the amounts normally payable for similar goods or services under

similar circumstances (taking into account the market factors in effect on the date any relevant contracts were negotiated) in the Comparable Buildings;

(24) charitable and political contributions;

(25) costs for entertainment and gifts or events, other than as may have been approved by Tenant in writing prior to such entertainment or gifts or events; and

(26) rentals and other related expenses incurred in leasing air conditioning systems, elevators or other equipment ordinarily considered to be of a capital nature (except equipment that is not affixed to the Complex and is used in providing janitorial services, and except to the extent such costs would otherwise be includable pursuant to Section 2.6(a) of the inclusions to Operating Costs);

(27) any expenses for services which would otherwise be considered Operating Costs, which are assumed and performed by Tenant in accordance with Section 11.1 below, including, by way of illustration and not limitation, pest control, janitorial services, HVAC maintenance and sewer and water testing;

(28) any insurance deductible in excess of a commercially reasonable deductible, and in no event any deductible in excess of the "***Deductible Ceiling***," which, for purposes of this Lease shall mean and refer to the amount of One Hundred Thousand Dollars and No/100 ($100,000.00), which amount shall be adjusted on the first (1st) anniversary of the Rent Commencement Date and every succeeding anniversary during the Term hereof (each such date being referred to herein as an "***Adjustment Date***") by the percentage change, if any, in the Consumer Price Index during the prior one (1) year period. The adjustment, if any, shall be calculated using the Revised Consumer Price Index for Urban Wage Earners and Clerical Workers All Items (1982-84=100) for the San Francisco-Oakland-San Jose, California area published by the Bureau of Labor Statistics of the United States Department of Labor (the "***Index***"). The Index for the month which is two (2) months prior to the month in which the applicable one (1) year period commences shall be considered the "base." Such adjustments shall be made as soon as specific Bureau of Labor Statistics figures become available, and shall be adjusted retroactive to the beginning of the respective one (1) year period. In the event that the Index contemplated herein is not reported for the months required for the calculation set forth above, the parties agree to utilize the Index reported for the nearest preceding month(s) for such calculation. If the Index shall be converted to a different standard reference base or otherwise revised, the determination of subsequent increases in the insurance deductible shall be made with the use of such conversion factor formula or table for converting the Index as may be published by the Bureau of Labor Statistics or any successor agency, or, if the Bureau of Labor Statistics or any successor agency does not publish the same, then with the use of such conversion factor, formula, or table, as may be published by Prentice Hall, Inc., or, failing such publication, that published by any other nationally recognized publisher of similar statistical information. In the event the Index shall cease to be published, the index designated by the Bureau of Labor Statistics or the Department of Labor as replacing the Index shall be used thereafter. In the event the Bureau of Labor Statistics or the Department of Labor fails to designate a replacement, then the calculation shall be determined on the basis of an index chosen by Landlord as a comparable and recognized index of the purchasing power of the United States consumer dollar published by

the Department of Labor or other governmental agency. If Landlord determines that it would be cost effective for both parties to increase the Deductible Ceiling so as to address the then current insurance premium market, Tenant shall meet with Landlord in good faith to discuss an adjustment to the Deductible Ceiling.

(29) any contribution toward the cost of repair due to an uninsured casualty in excess of the Deductible Ceiling, as the same may be adjusted from time to time pursuant to exclusion (28) above, or as previously agreed by Landlord and Tenant.

2.7 *"Parking Garage"*

means the parking structure, fixtures and other improvements now or hereafter located on the Complex as generally depicted in Exhibit A-2 attached hereto.

2.8 *"Proportionate Share of Insurance Costs"*

means, for so long as the Premises consists of only Building 1, a fraction (converted to a percentage), the numerator of which is the Rentable Area of Building 1 and the denominator of which is the aggregate Rentable Area of Building 1 and Building 2. For any time during which the Premises consists of Building 1 and all or any portion of Building 2, "Proportionate Share of Insurance Costs" means a fraction (converted to a percentage), the numerator of which is the Rentable Area (as defined in Section 2.15 below) of the Premises (as the same may be adjusted from time to time) and the denominator of which is the aggregate Rentable Area of Building 1 and Building 2. Tenant's Proportionate Share of Insurance Costs may be calculated as set forth in Article 33 and specified in the Acknowledgment of Expansion, as appropriate. Proportionate Share of Insurance Costs shall be recalculated by Landlord as may be required effective as at the commencement of any period to which the calculation is applicable in this Lease.

2.9 *"Proportionate Share of Operating Costs"*

with respect to Building 1 means one hundred percent (100%). "***Proportionate Share of Operating Costs***" with respect to Building 2 means a fraction (converted to a percentage), the numerator of which is the Rentable Area (as defined in Section 2.15 below) of the Premises contained in Building 2 (as the same may be adjusted from time to time) and the denominator of which is the Rentable Area of Building 2. Proportionate Share of Operating Costs may be calculated as set forth in Article 33 and specified in the Acknowledgment of Expansion, as appropriate. Proportionate Share of Operating Costs shall be recalculated by Landlord as may be required effective as at the commencement of any period to which the calculation is applicable in this Lease. During any period in another tenant leases all or some portion of Building 2, certain Operating Costs attributable to Building 2 may be calculated differently to yield a higher percentage share for Tenant in the event Landlord permits other tenants in Building 2 to directly incur such expenses rather than have Landlord incur the expense in common for Building 2 (such as, by way of illustration, wherein a tenant performs its own janitorial services). In such case Tenant's Proportionate Share of Operating Costs with regard to the applicable expense shall be calculated as having as its denominator the Rentable Area of all floors rentable to tenants in Building 2 less the Rentable Area of tenants who have incurred such expense directly. In any case in which Tenant, with Landlord's consent, incurs such expenses directly, Tenant's

Proportionate Share of Operating Costs will be calculated specially so that expenses of the same character which are incurred by Landlord for the benefit of other tenants in Building 2 shall not be prorated to Tenant. Nothing herein shall imply that Landlord will permit Tenant or any other tenant of Building 2 to incur any Operating Costs except as otherwise specifically permitted herein. Any such permission shall be in the sole discretion of the Landlord, which Landlord may grant or withhold in its sole judgment.

2.10 *"Proportionate Share of Taxes"*

means, for so long as the Premises consists of only Building 1, a fraction (converted to a percentage), the numerator of which is the Rentable Area of Building 1 and the denominator of which is the aggregate Rentable Area of Building 1 and Building 2. For any time during which the Premises consists of Building 1 and all or any portion of Building 2, "Proportionate Share of Taxes" means a fraction (converted to a percentage), the numerator of which is the Rentable Area (as defined in Section 2.15 below) of the Premises (as the same may be adjusted from time to time) and the denominator of which is the aggregate Rentable Area of Building 1 and Building 2. Tenant's Proportionate Share of Taxes may be calculated as set forth in Article 33 and specified in the Acknowledgment of Expansion, as appropriate. Proportionate Share of Taxes shall be recalculated by Landlord as may be required effective as at the commencement of any period to which the calculation is applicable in this Lease.

2.11 "*Real Estate Taxes*" or "*Taxes*"

shall mean and include all general and special taxes, assessments, fees of every kind and nature, duties and levies (excluding the Community Facility District No. 5 special tax levy or any "in-lieu" fee intended as an alternative to such Community Facility District No. 5 special tax levy), charged and levied upon or assessed by any governmental authority against the parcel(s) containing the Complex and all other improvements on such parcel(s), including the various estates in such parcel(s) and the Buildings and improvements thereon, any leasehold improvements, fixtures, installations, additions and equipment, whether owned by Landlord or Tenant or any other tenant; except that it shall exclude any taxes of the kind covered by Section 6.1 hereof to the extent Landlord is reimbursed therefor by any tenant in the Buildings. Further included in the definition of Taxes herein shall be general and special assessments, license fees, commercial rental tax, levy, or tax (other than inheritance or estate taxes or any taxes imposed on Landlord's income from all sources) imposed by any authority having the direct or indirect power to tax, as against any legal or equitable interest of Landlord in the Buildings, the Parking Garage, the Common Areas or the Complex, or, as against Landlord's right to rent or other income therefrom, or as against Landlord's business of leasing the Premises, the Buildings, the Parking Garage or the Complex, any tax, fee, or charge with respect to the possession, leasing, transfer of interest, operation, management, maintenance, alteration, repair, use, or occupancy by Tenant, of the Premises, the Buildings, the Parking Garage or the Complex, or any tax imposed in substitution, partially or totally, for any tax previously included within the definition of Taxes herein, or any additional tax, the nature of which may or may not have been previously included within the definition of Taxes.

Taxes shall also include the reasonable cost to Landlord of contesting the amount, validity, or the applicability of any Taxes. If at any time during the term of this Lease the

method of taxation or assessment of real estate or the income therefrom prevailing at the time of execution hereof shall be, or has been altered so as to cause the whole or any part of the Taxes now or hereafter levied, assessed or imposed on real estate to be levied, assessed or imposed upon Landlord, wholly or partially, as a capital levy, business tax, fee, permit or other charge, or on or measured by the rents received therefrom, then such new or altered taxes, regardless of their nature, which are attributable to the land, the Buildings, the Common Areas or to other improvements on the land shall be deemed to be included within the term Real Estate Taxes or Taxes for purposes of this Section, whether in substitution for, or in addition to any other Real Estate Taxes or Taxes, save and except that such shall not be deemed to include any enhancement of said tax attributable to other income of Landlord. With respect to any general or special assessments which may be levied upon or against the Premises, the Buildings, the Common Areas or the underlying realty, or which may be evidenced by improvement or other bonds, and may be paid in annual or semi-annual installments, only the amount of such installment, prorated for any partial year, and statutory interest shall be included within the computation of Taxes for which Tenant is responsible hereunder. The parties agree to work together in good faith in order to minimize Taxes which may be levied upon or against the Complex, or which may be evidenced by improvement or other bonds.

Notwithstanding anything to the contrary contained in the foregoing definition of Real Estate Taxes, Tenant shall not be responsible or liable for the payment of any state or federal income taxes assessed against Landlord, or any estate, succession or inheritance taxes of Landlord, or corporation franchise taxes imposed upon the corporate owner of the fee of the Building.

2.12 *"Rent"*

means Minimum Monthly Rent, "Additional Rent" (as defined in Section 6.2(b)) and all other sums required to be paid by Tenant pursuant to the terms of this Lease.

2.13 *"Rent Commencement Date"*

means the date that is the earlier of (i) Tenant's occupancy of the Premises, with applicable permits having been issued by authorities with jurisdiction for the purpose of conducting business therein, or (ii) two hundred seventy (270) days after the Tenant Access Date; provided, however, that (a) to the extent that Substantial Completion and delivery to Tenant of Floor 1 of Building 1 (for purposes of commencing construction of the Tenant Improvements therein) is delayed as a result of any Tenant Delay (as defined in Section 2(i) of the Work Letter), such 270-day period shall be reduced on a day-for-day basis for each day of Tenant Delay; and (b) to the extent Landlord fails to deliver (1) either of Floors 2 and 3 of Building 1 to Tenant (for purposes of commencing construction of the Tenant Improvements therein) within sixty (60) days after the Tenant Access Date, or (2) any of Floors 4, 5 or 6 or the roof of Building 1 to Tenant (for purposes of commencing construction of the Tenant Improvements therein or thereon) within ninety (90) days after the Tenant Access Date, such 270-day period shall be extended on a day-for-day basis for each day completion of the Tenant Improvements is delayed, calculated on a net critical path basis, as the result of such failure. The Rent Commencement Date shall be specified in the Acknowledgment of Rent Commencement Date.

2.14 *"Rent Year"*

means, as to Rent Year 1, the period commencing on the Rent Commencement Date and ending on the last day of the twelfth (12th) full calendar month thereafter, and as to each subsequent Rent Year, the twelve (12) full calendar month period commencing after the expiration of the prior Rent Year, except that the last Rent Year under this Lease shall in any event end on the expiration of this Lease.

2.15 *"Rentable Area"*

as used in the Lease shall be determined by Landlord's architects in accordance with the standards set forth as Standard For Measuring Floor Area in Office Buildings (Standard For Measuring Floor Area in Office Buildings (ANSI/BOMA 265.1, 1996) as promulgated by the Building Owners and Managers Association ("***BOMA Standard***") upon substantial completion of the Premises and the Buildings. Rentable Area shall be memorialized in the Acknowledgement of Rent Commencement Date and shall not be adjusted thereafter. Notwithstanding the foregoing, in the event of change in the size of the Premises or of the Buildings, at Landlord's or Tenant's option, Landlord may re-measure the Rentable Area of the Premises and the Buildings using the BOMA Standard (or any later standard promulgated by the Building Owners and Managers Association, if one then exists), which determination, after consultation with Tenant's architect, shall be conclusive and thereon Tenant's Proportionate Share of Operating Costs, Insurance Costs and Taxes shall be adjusted accordingly.

2.16 *"Structural"*

means any portion of the Premises, the Buildings or the Common Areas of the Complex which provides bearing support to any other integral member of the Premises, the Buildings or the Common Areas of the Complex such as, by limitation, the glass curtain walls (as to watertight construction), posts, load bearing walls, foundations, girders, floor joists, footings, and other load bearing members constructed by Landlord.

2.17 *"Tenant Work"*

shall have the meaning set forth in the Work Letter.

2.18 *"Work Letter"*

means that agreement for the construction of improvements between Landlord and Tenant attached hereto as Exhibit B.

ARTICLE 3

PREMISES AND COMMON AREAS

3.1 Lease of Premises

Landlord hereby leases to Tenant, and Tenant hires from Landlord the Premises. The Premises initially shall consist of Floors 1-6 of Building 1, and may be expanded to include

all or some portions of Building 2, in accordance with the teens of Article 33 below. Upon any such expansion, the term "Premises" shall refer to the Premises as so expanded to include Building 1 and such portion(s) of Building 2.

3.2 Reservation

Landlord reserves the area beneath the Buildings and in and under the Parking Garage and above the Buildings as well as the exterior thereof together with the right to install, maintain, use, repair and replace pipes, ducts, conduits, wires, and structural elements leading through the Premises serving other parts of the Complex, so long as such items are concealed by walls, flooring or ceilings and do not unreasonably interfere with the use and enjoyment by Tenant of the Premises. Such reservation in no way affects the maintenance obligations imposed herein. Landlord shall give Tenant reasonable advance notice of any scheduled maintenance work, construction or installations which it reasonably believes could affect Tenants use or enjoyment of the Premises. Subject to the foregoing, Landlord may change the shape, size, location, number and extent of the improvements to any portion of the Buildings (other than the Tenant Improvements) or the Common Areas and the address or name of the Buildings without the consent of Tenant; provided, however, that Landlord shall not, without the consent of Tenant, which consent shall not be unreasonably withheld, conditioned or delayed, change (i) the name of the Building 1, (ii) the name of the Complex, or (iii) the name of Building 2, solely to the extent that Tenant occupies all of Building 2; provided, further, that Landlord shall not, without first consulting with Tenant, change (a) the address of Building 1, or (b) the address of Building 2, solely to the extent that Tenant occupies all of Building 2.

3.3 Covenants, Conditions and Restrictions

The parties agree that this Lease is subject to the effect of (a) any covenants, conditions, restrictions, easements, mortgages or deeds of trust, ground leases, rights of way of record, and any other matters or documents of record, including, without limitation, any reciprocal parking easement recorded in the Official Records of the City and County of San Francisco; (b) any zoning laws of the city, county and state where the Complex is situated; (c) the Mission Bay Regulations; and (d) general and special taxes not delinquent. Tenant agrees that as to its leasehold estate, Tenant and all persons in possession or holding under Tenant will conform to and will not violate the terms of any covenants, conditions or restrictions of record which may now or hereafter encumber the Buildings or the Complex (collectively, the "***Restrictions***"). This Lease is subordinate to the Restrictions and any amendments or modifications thereto.

3.4 Common Areas

Landlord hereby grants to Tenant, for the benefit of Tenant and its employees, suppliers, shippers, customers and invitees, during the term of this Lease, the non-exclusive right to use, in common with others entitled to such use, the Common Areas as they exist from time to time, subject to any rights, powers, and privileges reserved by Landlord under the terms hereof or under the terms of any rules and regulations or restrictions governing the use of the Buildings or the Complex. Under no circumstances shall the right herein granted to use the Common Areas be deemed to include the right to store any property, temporarily or permanently, in the

Common Areas. Any such storage shall be permitted only by the prior written consent of Landlord or Landlord's designated agent, which consent may be revoked at any time. In the event that any unauthorized storage shall occur then Landlord shall have the right, without notice, in addition to such other rights and remedies that it may have, to remove the property and charge the cost to Tenant, which cost shall be immediately payable upon demand by Landlord.

(a) *Common Areas—Changes*. Landlord shall have the right, in Landlord's sole discretion, from time to time, exercisable without notice (except to the extent required by Section 3.2 above) and without liability to Tenant for damage or injury to property, person or business and without effecting an eviction, constructive or actual, or disturbance of Tenant's use or possession of the Premises or giving rise to any claim for rent abatement:

(1) To make changes and reductions to the Common Areas, including, without limitation, changes in the location, size, shape and number of driveways, entrances, parking spaces, parking areas, loading and unloading areas, ingress, egress, direction of traffic, landscaped areas and walkways;

(2) To close temporarily any of the Common Areas for maintenance purposes so long as reasonable access to the Premises remains available;

(3) To designate other land outside the boundaries of the Buildings to be a part of the Common Areas;

(4) To add additional improvements to the Common Areas;

(5) To use the Common Areas while engaged in making additional improvements, repairs or alterations to the Building or the Complex, or any portion thereof;

(6) To do and perform such other acts and make such other changes in, to or with respect to the Common Areas, the Buildings and the Complex as Landlord may, in the exercise of sound business judgment, deem to be appropriate.

(b) *Common Area Maintenance*. Landlord shall, in Landlord's sole discretion, maintain the Common Areas (subject to reimbursement pursuant to this Lease), establish and enforce reasonable rules and regulations concerning such areas, close any of the Common Areas to whatever extent required in the opinion of Landlord's counsel to prevent a dedication of any of the Common Areas or the accrual of any rights of any person or of the public to the Common Areas, close temporarily any of the Common Areas for maintenance purposes, and make changes to the Common Areas including, without limitation, changes in the location of driveways, corridors, entrances, exits, the designation of areas for the exclusive use of others, the direction of the flow of traffic or construction of additional buildings thereupon. Landlord may provide security for the Common Areas, but is not obligated to do so. Under no circumstances shall Landlord be liable or responsible for any acts or omissions of any party providing any services to the Common Areas, the Buildings or other improvements, including, without limitation, any security service, notwithstanding anything to the contrary contained in this Lease.

(c) *Parking*. Provided Tenant is not in default or breach of any term or provision of this Lease or has not vacated the Premises, Tenant is allocated and shall have the non-exclusive right on an unassigned and unreserved basis to use its allocation of parking spaces for use by Tenant's Parties, the location of which may be designated from time to time by Landlord (the "***Parking Spaces***"). It is currently anticipated that the Complex will contain parking, and Tenant's allocation of parking spaces shall be calculated, at a ratio of 1.39 spaces/1,000 Rentable Square Feet, based on anticipated life science usage. At no time may Tenant or any of Tenant's Parties be entitled under this Lease to use more than the number of Parking Spaces allocated to it, as specified above. Tenant shall pay rent for each Parking Space at the rate of Two Hundred Twenty-Five and No/100 Dollars ($225.00) per month commencing on the Rent Commencement Date. Landlord reserves the right to increase the rental rates for the Parking Spaces, provided that such increases shall not exceed two percent (2%) per year. Landlord shall design the parking spaces to allow for a parking area for bicycles.

(1) Operation. The Parking Spaces allocated to Tenant shall be located in the Parking Garage, which Parking Garage shall provide parking for both Buildings.

(2) General Procedures. The unreserved parking spaces hereunder may be provided on an unreserved valet parking basis. The Parking Spaces initially will not be separately identified; however Landlord reserves the right in its reasonable discretion to separately identify by signs or other markings the area where Tenant's Parking Spaces will be located. Landlord may arrange for the Parking Garage to be operated by an independent contractor. Tenant acknowledges that Landlord shall have no liability for claims arising through acts or omissions of such operator. Landlord shall have no obligation to monitor the use of such parking facility, nor shall Landlord be responsible for any loss or damage to any vehicle or other property or for any injury to any person. Said Parking Spaces shall be used only for parking of automobiles no larger than full size passenger automobiles, sport utility vehicles or pickup trucks. Tenant shall comply with all rules and regulations regarding parking which may be adopted by Landlord from time to time.

(3) Usage. Tenant shall not at any time use more parking spaces than the number so allocated to Tenant or park its vehicles or the vehicles of others in any portion of the Complex designated as an exclusive parking area. Tenant shall not have the exclusive right to use any specific parking space. All trucks and delivery vehicles shall be (i) parked in area designated for such vehicles, (ii) loaded and unloaded in a manner which does not interfere with the businesses of other occupants of the Complex, and (iii) permitted to remain on the Complex only so long as is reasonably necessary to complete loading and unloading. In the event Landlord elects or is required by any law to limit or control parking in the Complex, whether by validation of parking tickets or any other method of assessment, Tenant agrees to participate in such validation or assessment program under such reasonable rules and regulations as are from time to time established by Landlord.

(4) Identification. Tenant shall furnish Landlord with a list of its employees' vehicle license numbers within fifteen (15) days after occupancy of the Premises and thereafter shall notify Landlord of any changes within five (5) days after request by Landlord. Landlord also reserves the right to implement a system requiring that all employees of Tenant attach a parking sticker or parking permit to its vehicle.

(5) Remedies. Tenant acknowledges and agrees that a breach of the parking provisions by Tenant or any of Tenant and its directors, officers, employees, contractors, suppliers, agents, subtenants, licensees, occupants and invitees ("***Tenant's Parties***") may seriously interfere with Landlord's operation of the Complex and with the rights or occupancy by other tenants of the Complex. Accordingly, Landlord may suffer damages that are not readily ascertainable. Therefore, if Tenant or any of Tenant's Parties use more than the number of allocated Parking Spaces, or park other than such designated by Landlord for the Parking Spaces, or otherwise fail to comply with any of the foregoing provisions, then Landlord, in addition to any other rights or remedies available at law or in equity or under the Lease, may charge Tenant, as liquidated damages, Twenty-Five and No/100 Dollars ($25.00) per day for the first such violation and Fifty and No/l00 Dollars ($50.00) per day for each subsequent violation, and Tenant shall pay such charge within ten (10) days after request by Landlord. Each vehicle parked in violation of the foregoing provisions shall be deemed a separate violation. In addition, Landlord may immobilize and/or tow from the Complex any vehicle parked in violation hereof, and/or attach violation stickers or notices to such vehicle. The cost to remove any such vehicle shall be considered an Operating Cost, unless the vehicle is properly identified as a vehicle belonging to one of the Tenant Parties, in which case, the towing costs shall be paid by Tenant within thirty (30) days after request by Landlord.

(6) Valet Parking. In the event that Landlord elects to institute paid valet parking, then Landlord agrees that the cost of revenue generating valet parking services will be absorbed first from additional parking revenues generated by such valet services, rather than treated as an Operating Cost.

ARTICLE 4

PRINCIPAL TERM; RENT COMMENCEMENT; CONSTRUCTION

4.1 Principal Term

The Principal Term of this Lease shall commence on the Rent Commencement Date and shall be for a term of fifteen (15) years.

4.2 Acknowledgment of Rent Commencement

On the earlier of (i) Tenant's occupancy of the Premises for the purposes of conducting business therein or (ii) two hundred seventy (270) days after the Tenant Access Date (as such 270-day period may be adjusted in accordance with Section 2.13 above), Tenant shall execute a written acknowledgment of the Rent Commencement Date in the loin' attached hereto as Exhibit C-1, and by this reference it shall be incorporated herein. The failure of Tenant to execute such acknowledgment or the failure of Landlord to request such acknowledgment shall not delay or extend or otherwise affect the start of the Rent Commencement Date or any obligation of Tenant to pay any Rent or perform other obligations under this Lease.

4.3 Construction

(a) *Base Building Work*. Landlord, at Landlord's cost and expense (except as otherwise provided herein and in the Work Letter) shall construct the Base Building Work, as

that term is defined in the Work Letter. Landlord shall use commercially reasonable efforts to complete such construction within the applicable time periods set forth in the Estimated Construction Schedule as defined in Section 3(a) of the Work Letter and which is attached as Schedule 2 to the Work Letter, as such schedule may be modified from time to time in accordance with the Work Letter, and subject to the effects of any Tenant Delays (as that term is defined in the Work Letter) and any other circumstances beyond Landlord's reasonable control.

(b) *Tenant Improvements*. Tenant, at Tenant's cost and expense (except as otherwise provided in the Work Letter), shall promptly and diligently construct the Tenant Improvements as defined in and in accordance with the terms and conditions of the Work Letter. Landlord shall provide the Tenant Improvement Allowance as described in the Work Letter. The Tenant Improvements shall comply with all applicable Laws and shall be completed in conformance with the Approved Plans as defined in the Work Letter.

4.4 Failure to Take Possession

Tenant's inability or failure to commence construction of Tenant's Work contemplated by the Work Letter when delivery is tendered by Landlord or to complete construction in accordance with the time periods set forth in the Estimated Construction Schedule, shall not delay the Rent Commencement Date of the Lease (as may be adjusted in accordance with Section 2.13 above) or Tenant's obligation to pay Rent. Tenant acknowledges that Landlord shall incur significant expenses upon the execution of this Lease even if Tenant never takes possession of the Premises, including, without limitation, brokerage commissions and fees, legal or other professional fees, the costs of architectural planning and the costs of construction. Tenant acknowledges that all of said expenses, in addition to all other expenses incurred and damages suffered by Landlord, shall be included in measuring Landlord's damages should Tenant breach the terms of this Lease.

ARTICLE 5

MINIMUM MONTHLY RENT

5.1 Payment

Tenant shall pay to Landlord at the address specified in Section 1.1, or at such other place as Landlord may otherwise designate, as "***Minimum Monthly Rent***" for the Premises the amount specified in Section 1.12 hereof, payable in advance commencing on the Rent Commencement Date and continuing thereafter on the first day of each month during the Term of this Lease. If the Rent Commencement Date falls on other than the first day of a calendar month, the rent for the first partial month shall be prorated accordingly. All payments of Minimum Monthly Rent and other Rent shall be in lawful money of the United States, and payable without deduction, offset, counterclaim, prior notice or demand or, except as expressly provided in this Lease, abatement.

5.2 Advance Rent

No later than sixty (60) days prior to the Rent Commencement Date, as such date is estimated by Landlord, Tenant shall pay to Landlord the sum of Six Hundred Sixty-Nine

Thousand Three Hundred Seventy-Five and No/100 Dollars ($669,375.00) as advance rent, and such amount shall be applied by Landlord to the first Minimum Monthly Rent due hereunder.

ARTICLE 6

ADDITIONAL RENT

6.1 Personal Property, Gross Receipts, Leasing Taxes

This Section 6.1 is intended to deal with impositions or taxes directly attributed to Tenant, the Tenant Work or this transaction, as distinct from taxes attributable to the Buildings or the Common Areas of the Complex which are to be allocated among various tenants and others. Tenant shall pay before delinquency any and all taxes, assessments, license fees and public charges levied, assessed or imposed against Tenant or Tenant's estate in this Lease or the property of Tenant situated within the Premises or the improvements made by Tenant to the Premises which become due during the Term. On demand by Landlord, Tenant shall furnish Landlord with satisfactory evidence of these payments. If such taxes are included in the bill for the Real Estate Taxes for the Buildings or the Complex, then Tenant shall pay to Landlord as Additional Rent the amount of such taxes within thirty (30) days after demand from Landlord.

6.2 Operating Costs, Insurance Costs and Taxes

(a) *NNN Lease*. This Lease is intended to be a "triple net" lease, and, except as specifically provided herein, all costs of ownership, operation, maintenance of the Premises, including without limitation all Operating Costs, Insurance Costs and Taxes, are intended to be borne by Tenant. It is the further express intent of Landlord and Tenant that the obligations of Landlord and Tenant shall be separate and independent covenants and agreements and that the Minimum Monthly Rent and additional Rent, and all other charges and sums payable by Tenant hereunder, shall commence at the times provided herein and shall continue to be payable in all events unless the obligations to pay the same shall be terminated or abated pursuant to an express provision of this Lease.

(b) *Operating Costs, Insurance Costs and Taxes*. Commencing as of the Rent Commencement Date, and continuing thereafter during the Term, Tenant shall pay to Landlord, as additional Rent ("***Additional Rent***") as hereinafter provided, the following:

(1) (i) all Operating Costs for Building 1, (ii) all Insurance Costs for Building 1, (iii) all Taxes attributable to the Building 1, and (iv) Tenant's Proportionate Share of Taxes attributable to the Common Areas; and

(2) In the event the Premises is expanded to include all or any part of Building 2, (x) Tenant's Proportionate Share of Operating Costs for Building 2, (y) Tenant's Proportionate Share of Insurance Costs for Building 2, and (z) Tenant's Proportionate Share of Taxes attributable to the Building 2.

In the event that the Premises or the Common Areas are not separately assessed, Landlord shall allocate to the Premises or the Common Areas a portion of the Taxes assessed on the any parcel of which the Premises or the Common Areas are a part, based on the size of the such area, the value of

the improvements thereto, and such other factors as may be commercially reasonable and equitable, following a meeting with the Chief Financial Officer of Tenant, but solely to the extent such meeting is requested by the Chief Financial Officer of Tenant, at a mutually convenient time and place, for the purpose of reviewing and discussing Landlord's analysis of such allocation factors. Tenant acknowledges that it is not entitled to any right of consent with respect to Landlord's allocations, if any, made pursuant to the foregoing sentence.

6.3 Calculation and Payment of Additional Rent

Any Additional Rent payable by Tenant under Sections 6.1 and 6.2 hereof shall be paid as follows, unless otherwise provided:

(a) *Adjustment*. Operating Costs, Insurance Costs and Taxes for any Lease Year shall be calculated on the basis of the greater of (i) actual Operating Costs, Taxes and Insurance Costs; or (ii) what Operating Costs, Insurance Costs and Taxes would have been if the Buildings were at least one hundred percent (100%) occupied and operational for the whole of such Lease Year to take into consideration any such costs that may fluctuate with occupancy. Operating Costs, Insurance Costs and Taxes shall be calculated separately for each such category of costs.

(b) *Partial Year*. If any Lease Year of less than twelve (12) months is included within the Term, the amount payable by Tenant for such period shall be prorated on a per diem basis (utilizing a thirty (30) day month, three hundred sixty (360) day year).

(c) *Taxes*. Taxes shall be payable by Tenant as and when Taxes are due to the relevant taxing authorities. Landlord shall provide Tenant with an invoice indicating the amount of Taxes to be paid at least forty (40) days prior to the date such taxes are due, and Tenant shall remit such amounts to Landlord not later than ten (10) business days prior to the date such Taxes are due.

(d) *Operating Costs and Insurance Costs*.

(1) *Tenant Payment*. Tenant shall pay Operating Costs and Insurance Costs to Landlord monthly in advance with its payment of Minimum Monthly Rent, one-twelfth (1/12) of the amount of Operating Costs and Insurance Costs as estimated by Landlord for a twelve (12) month period in advance, in good faith, to be due from Tenant. If at any time during the course of the fiscal year, Landlord determines that Operating Costs and/or Insurance Costs are projected to vary from the then estimated respective costs for such items by more than five percent (5%), Landlord may, by written notice to Tenant, revise the estimated Operating Costs and/or Insurance Costs for the balance of such fiscal year, and Tenant's monthly installments for the remainder of such year shall be adjusted so that by the end of such fiscal year Tenant will have paid to Landlord Tenant's Proportionate Share of Operating Costs and/or Insurance Costs, as revised for such year.

(2) *Annual Reconciliation*. Annually, as soon as is reasonably possible after the expiration of each Lease Year, Landlord shall prepare in good faith and deliver to Tenant a comparative statement, setting forth (1) the Operating Costs and Insurance Costs for such Lease Year, and (2) the amount of Additional Rent as determined in accordance with the

provisions of this Article 6. Landlord agrees that, on an annual basis, Landlord's Chief Financial Officer will meet with the Chief Financial Officer of Tenant and his or her agent, at a mutually convenient time and place, for the purpose of discussing Landlord's insurance program and reviewing Landlord's summary of insurance placement describing elements of Landlord's rate negotiation with its carriers, as the same might effect Insurance Costs. If Tenant reasonably demonstrates to Landlord that Tenant has a commitment from a carrier with a rating at least as high as Landlord's carrier to provide the insurance coverage (including all endorsements) carried by Landlord for the Premises for the then current coverage period, and such commitment is for a materially lower rate for the same or better coverage, Landlord will remove Building 1 and, if then leased entirely by Tenant, Building 2, from its insurance coverage and insure the Premises with Tenant's proposed carrier for the then current coverage period. In the alternative, Tenant may elect to demonstrate to Landlord that Tenant has quotes for comparable insurance coverage from carriers with a rating at least as high as Landlord's carrier for buildings of similar age, quality of construction, size and specification, with comparable risk profiles, which quotes are at a materially lower premium for the same or better coverage provided by Landlord's carrier, in which event Landlord agrees to re-open negotiations with its carrier in a good faith effort to reduce the cost of such required insurance to a level which will match such quotes.

(3) *Adjustment*. If the aggregate amount of such estimated Additional Rent payments made by Tenant in any Lease Year should be less than the Additional Rent due for such year, then Tenant shall pay to Landlord as Additional Rent upon demand the amount of such deficiency. If the aggregate amount of such Additional Rent payments made by Tenant in any Lease Year of the Term should be greater than the Additional Rent due for such year, then should Tenant not be otherwise in default hereunder, the amount of such excess will be applied by Landlord to the next succeeding installments of such Additional Rent due hereunder; and if there is any such excess for the last year of the Term, the amount thereof will be refunded by Landlord to Tenant within sixty (60) days of the last day of the Term, provided Tenant is not otherwise in default under the terms of this Lease.

ARTICLE 7

ACCORD AND SATISFACTION

7.1 Acceptance of Payment

No payment by Tenant or receipt by Landlord of a lesser amount of Minimum Monthly Rent or any other sum due hereunder, shall be deemed to be other than on account of the earliest due rent or payment, nor shall any endorsement or statement on any check or any letter accompanying any such check or payment be deemed an accord and satisfaction, and Landlord may accept such check or payment without prejudice to Landlord's right to recover the balance of such rent or payment or pursue any other remedy available in this Lease, at law or in equity. Landlord may accept any partial payment from Tenant without invalidation of any contractual notice required to be given herein (to the extent such contractual notice is required) and without invalidation of any notice required to be given pursuant to California Code of Civil Procedure Section 1161 et seq., or of any successor statute thereto.

ARTICLE 8

SECURITY DEPOSIT

8.1 Initial Letter of Credit

(a) *Procurement*. Tenant shall deliver to Landlord concurrently with its execution of this Lease, as security for the performance of Tenant's covenants and obligations under this Lease, an original irrevocable standby letter of credit (the "***Initial Letter of Credit***") in the amount of Seven Million Two Hundred Fifty-Three Thousand Six Hundred Eighty-One and No/100 Dollars ($7,253,681.00) (the "***Initial Letter of Credit Amount***"), naming Landlord as beneficiary, which Landlord may draw upon solely upon the occurrence of an Event of Default (as defined in Section 24.1 below) under this Lease. Notwithstanding the foregoing or anything contained or implied in Section 24.1, no written notice shall be required for an Event of Default in the event of any breach under this Lease where, during the pendancy of any bankruptcy, insolvency or other action or other situation involving creditors rights, there exist circumstances under which Landlord is enjoined or is otherwise prevented by operation of law from giving to Tenant the written notice where applicable which would be necessary for such breach to constitute an Event of Default under this Lease. Landlord may draw on the Initial Letter of Credit only in those amounts reasonably approximating the amounts due to Landlord to make delinquent payments due under this Lease or to compensate Landlord for any damage Landlord incurs as a result of Tenant's failure to perform any of its covenants and obligations under this Lease. For purposes of clarification, however, Landlord shall not be entitled to draw on the Initial Letter of Credit solely as the result of the filing of a voluntary or involuntary bankruptcy petition pursuant to the provisions of Sections 24.1(g) and 26.1 below. If the amount of any such draw fully remedies the breach or default by Tenant (a "Remedied Default"), then, absent any other default or Event of Default, upon timely replenishment of the Initial Letter of Credit in accordance with the provisions hereof, the Remedied Default shall be deemed cured. Upon bankruptcy or other debtor-creditor proceedings involving Tenant, the proceeds of any draw on the Initial Letter of Credit shall be applied first to the payment of Rent and other charges due Landlord for periods prior to the filing of such proceedings. Any such draw on the Initial Letter of Credit shall not constitute a waiver of any other rights or remedies of Landlord with respect to such default or failure to perform, and any such draw, to the extent the same has not been expended on the cure of a default or to compensate Landlord for any damage occasioned by a default, shall be returned to Tenant upon replenishment or replacement of the Initial Letter of Credit as provided in Section 8.1(c) below. The Initial Letter of Credit shall be issued by a major commercial bank reasonably acceptable to Landlord, with a San Francisco, California service and claim point for the Letter of Credit, have an expiration date not earlier than the sixtieth (60th) day after the expiration date of the Lease specified in the Acknowledgment of Rent Commencement Date or any Acknowledgement of Expansion, as applicable (or, in the alternative, have a term of not less than one (1) year and be automatically renewable for an additional one (1) year period unless notice of non-renewal is given by the issuer to Landlord not later than thirty (30) days prior to the expiration thereof) and shall provide that Landlord may make partial and multiple draws thereunder, up to the face amount thereof. In addition, the Initial Letter of Credit shall provide that, in the event of Landlord's assignment or other transfer of its interest in this Lease, the Initial Letter of Credit shall be freely transferable by Landlord, without charge to Tenant and without recourse, to the assignee or transferee of such interest and the bank

shall confirm the same to Landlord and such assignee or transferee. The Initial Letter of Credit shall provide for payment to Landlord upon the issuer's receipt of a sight draft from Landlord together with a statement by Landlord that the requested sum is due and payable from Tenant to Landlord in accordance with the provisions of this Lease, shall be in the form attached hereto as Exhibit D, and otherwise be in form and content satisfactory to Landlord.

(b) *Renewal*. If the Initial Letter of Credit has an expiration date earlier than sixty (60) days after the Expiration Date, then throughout the term hereof (including any renewal or extension of the term) Tenant shall provide evidence of renewal of the Initial Letter of Credit to Landlord at least thirty (30) days prior to the date the Initial Letter of Credit expires.

(c) *Replenishment or Replacement*. If Landlord draws on the Initial Letter of Credit pursuant to the terms hereof, Landlord shall so advise Tenant in writing, and Tenant shall replenish the Initial Letter of Credit or provide Landlord with an additional letter of credit conforming to the requirement of this paragraph within seven (7) business days, so that the amount available to Landlord from the Initial Letter of Credit(s) provided hereunder is the amount specified above. Tenant's failure to deliver any replacement, additional or extension of the Initial Letter of Credit, or evidence of renewal of the Initial Letter of Credit, within the time specified under this Lease shall entitle Landlord to draw upon the Initial Letter of Credit then in effect. If Landlord liquidates the Initial Letter of Credit as provided in the preceding sentence, Landlord shall hold the funds received from the Initial Letter of Credit as security for Tenant's performance under this Lease, this Section 8.1 shall be deemed a security agreement for such purposes and for purposes of Division 9 of the California Uniform Commercial Code, Landlord shall be deemed to hold a perfected, first priority security interest in such funds, and Tenant does hereby authorize Landlord to file such financing statements or other instruments as Landlord shall deem advisable to further evidence and/or perfect such security interest. Landlord shall not be required to segregate such security deposit from its other funds and no interest shall accrue or be payable to Tenant with respect thereto. No holder of a mortgage, deed of trust or other security instrument affecting the Complex, nor any purchaser at any judicial or private foreclosure sale of the Complex or any portion thereof, shall be responsible to Tenant for such security deposit unless and only to the extent such holder or purchaser shall have actually received the same. If Tenant is not in default at the expiration or termination of this Lease, within sixty (60) days thereafter Landlord shall return to Tenant the Initial Letter of Credit or the balance of the security deposit then held by Landlord, as applicable; provided, however, that in no event shall any such return be construed as an admission by Landlord that Tenant has performed all of its covenants and obligations hereunder. Tenant hereby unconditionally and irrevocably waives the benefits and protections of California Civil Code Section 1950.7, and, without limitation of the scope of such waiver, acknowledges that Landlord may use all or any part of the Initial Letter of Credit or the proceeds thereof to compensate Landlord for damages resulting from termination of this Lease and the tenancy created hereunder (including, without limitation, damages recoverable under California Civil Code Section 1951.2).

(d) *Reduction of Initial Letter of Credit Amount*. The Initial Letter of Credit Amount shall be reduced on the anniversary of each Rent Commencement Date in the amounts indicated below, provided the following shall be true as of each such anniversary: (i) Tenant has paid each installment of Rent as and when due for the period commencing on the Rent Commencement Date and expiring on such anniversary; (ii) there does not then exist any "Event

of Default," as defined in Section 24.1, or event which, with the giving of a Default Existence Notice (as defined in Section 12.1) or the passage of time or both would constitute an Event of Default hereunder; and (iii) Tenant shall demonstrate to Landlord's reasonable satisfaction that it has at least One Hundred Million and No/00 Dollars ($100,000,000.00) in cash, cash equivalents or marketable securities ("***Cash***"). For purposes of calculating the amount of Cash held by Tenant at any given time, any Cash serving as collateral for the Initial Letter of Credit may be included.

(1) On the eighth (8th) anniversary of the Rent Commencement Date, the Initial Letter of Credit Amount shall be reduced by One Million Thirty-Six Thousand Two Hundred Forty and No/100 Dollars ($1,036,240.00), to equal Six Million Two Hundred Seventeen Thousand Four Hundred Forty-One and No/100 Dollars ($6,217,441)

(2) On the ninth (9th) anniversary of the Rent Commencement Date, the Initial Letter of Credit Amount shall be further reduced by One Million Thirty-Six Thousand Two Hundred Forty and No/100 Dollars ($1,036,240.00), to Five Million One Hundred Eighty-One Thousand Two Hundred One and No/100 Dollars ($5,181,201)

(3) On the tenth (10th) anniversary of the Rent Commencement Date, the Initial Letter of Credit Amount shall be further reduced by One Million Thirty-Six Thousand Two Hundred Forty and No/100 Dollars ($1,036,240.00), to Four Million One Hundred Forty-Four Thousand Nine Hundred Sixty One and No/100 Dollars ($4,144,961); and

(4) On the eleventh (11th) anniversary of the Rent Commencement Date, the Initial Letter of Credit Amount shall be further reduced by Two Million Seventy-Two Thousand Four Hundred Eighty and No/100 Dollars ($2,072,480.00), to Two Million Seventy-Two Thousand Four Hundred Eighty-One and No/100 Dollars ($2,072,481.00).

ARTICLE 9

USE

9.1 Permitted Use

The Premises shall be used and occupied only for the purposes specified in Section 1.13 hereof, and for no other purpose or purposes. Tenant shall promptly comply with all Laws and Regulations (including, without limitation, the Mission Bay Regulations) affecting the Premises their cleanliness, safety, occupation and use. Without limiting the generality of the foregoing, Tenant shall not use, or permit to be used, the Premises in any manner which in Landlord's reasonable judgment would: (a) cause damage to the Building or any equipment, facilities or other systems therein; (b) impair the appearance of the Building; (c) interfere with the efficient and economical maintenance, operation and repair of the Premises or the Building or the equipment, facilities or systems thereof; (d) adversely affect any service provided to, and/or the use and occupancy by, any Building tenant or occupants; (e) violate the certificate of occupancy issued for the Premises or the Buildings; (f) materially and adversely affect the first-class image of the Buildings; or (g) contravene or violate any provision of the Mission Bay Regulations. In addition, the Premises or any portion thereof may not be used for: (i) an

employment agency or similar enterprise; (ii) offices of any governmental authority or agency, any foreign government, the United Nations, or any agency or department of the foregoing, (iii) any illegal purposes or any activity constituting a nuisance, or (iv) businesses whose primary patronage arises from the generalized solicitation of the general public to visit Tenant's offices in person without a prior appointment, including (A) the business of photocopying, multilith or offset printing (except photocopying in connection with Tenant's own business); (B) a school or classroom; (C) lodging or sleeping; (D) the operation of retail facilities; (E) the operation of a savings and loan association or retail facilities of any financial, lending, securities brokerage or investment activity; (F) a payroll office; (G) a barber, beauty or manicure shop; (H) the on-site rendering of medical, dental or other therapeutic or diagnostic services requiring the presence of clients or patients as opposed to the receipt by courier or U.S. mail of items for therapeutic or diagnostic review, except as may be incident to the uses specified in Section 1.13; (1) the operation of any non-profit or charitable organization, other than as an office location which does not invite the presence of clients or patients; provided, however, that to the extent Landlord permits a third-party tenant or subtenant of the Complex to engage in any of the restricted uses described in (iv)(A)-(I) above, such restricted use(s) shall not apply to Tenant. Landlord may, in its sole discretion, waive any provision of this Section 9.1 in connection with its consent to an assignment or sublease pursuant to Article 21.

9.2 Heavy Equipment

Tenant shall not place a load upon any floor of the Premises which exceeds the weight such floor was designed to carry. Landlord's engineer shall have the right to approve how the weight and position of all equipment and heavy installations which Tenant wishes to place in the Premises is structurally support, if necessary, so as properly to distribute the weight thereof, or to require plans prepared by a qualified structural engineer at Tenant's sole cost and expense for such heavy objects. Notwithstanding the foregoing, Landlord shall have no liability for any damage caused by the installation of such heavy equipment or installations.

9.3 Machinery

Mechanical equipment belonging to Tenant which causes noise and/or vibration that may be transmitted to the structure of any Building or to any other leased space to such a degree as to be objectionable to Landlord or to any other tenants in the Complex or which may cause damage shall be placed and maintained by Tenant, at Tenant's expense, in settings of cork, rubber or spring type noise and/or vibration eliminators, and Tenant shall take such other measures as needed to eliminate vibration and/or noise or to reduce it to acceptable levels. Landlord acknowledges and agrees that the backup diesel generator to be installed by Tenant in the Parking Structure shall be exempt from the foregoing.

9.4 Waste or Nuisance

Tenant shall not commit, or suffer to be committed, any waste upon the Premises, or any nuisance, or other act or thing, including, without limitation, the release of any foul or noxious odors, which may disturb the quiet enjoyment of any other tenant or occupant of the Complex; provided, however, that Landlord acknowledges and agrees that the backup diesel generator to be installed by Tenant in the Parking Structure shall be exempt from the "release of

foul or noxious odors" prohibition set forth in this Section 9.4, provided that Tenant regularly maintains and tests such generator.

ARTICLE 10

COMPLIANCE WITH LAWS AND REGULATIONS

10.1 Compliance Obligations

Tenant shall, at its sole cost and expense, comply with all of the requirements of all municipal, state and federal authorities now in force, or which may hereafter be in force, pertaining to the Premises, and shall faithfully observe in the use or occupancy of the Premises all municipal ordinances and state and federal statutes, laws and regulations now or hereafter in force, including, without limitation, the "Environmental Laws" (as defined in Section 10.3(f) below), all Regulations (including the Mission Bay Regulations), and the Americans with Disabilities Act, 42 U.S.C. §§ 12101 12213 (and any rules, regulations, restrictions, guidelines, requirements or publications promulgated or published pursuant thereto), whether or not any of the foregoing were foreseeable or unforeseeable at the time of the execution of this Lease (collectively, "***Laws***"). Tenant's obligation to comply with and observe such Laws shall apply regardless of whether such Laws regulate or relate to Tenant's particular use of the Premises or regulate or relate to the use of premises in general, and regardless of the cost thereof. The judgment of any court of competent jurisdiction, or the admission of Tenant in any action or proceeding against Tenant, whether Landlord be a party thereto or not, that any such Law pertaining to the Premises has been violated, shall be conclusive of that fact as between Landlord and Tenant.

10.2 Condition of Premises

Subject to completion of Base Building Work as required in the Work Letter, Tenant hereby accepts the Premises in the condition existing as of the applicable Tenant Access Date for each floor of the Premises, subject to all applicable zoning, municipal, county and state laws, ordinances, rules, orders, restrictions of record, requirements, Regulations and Laws in effect during the Term or any part of the Term hereof regulating the Premises, and without representation, warranty or covenant by Landlord, express or implied, as to the condition, habitability or safety of the Premises, the suitability or fitness thereof for their intended purposes, or any other matter; provided, however, that Landlord warrants that the site upon which the Complex is to be located is zoned for Tenant's proposed use.

10.3 Hazardous Materials

(a) *Existing Environmental Conditions*. Tenant acknowledges that detectable amounts of Hazardous Materials (as defined in Section 10.3(e) below) and groundwater contaminants, including petroleum hydrocarbons, have come to be located in soils and in the ground water under or in the vicinity of the Land (the "***Existing Environmental Conditions***"). This statement is not a declaration that a hazard exists. Tenant acknowledges further that site remediation has been implemented and continues to be implemented on the Premises pursuant to the provisions of the Site Cleanup Requirements adopted by the California Regional Water

Quality Control Board (the "***Regional Board***") in Order No. R2-2005-0028, including future amendments thereto, and previous Regional Board orders. Tenant has made such investigations and inquiries as it deems appropriate to ascertain the effects, if any, of such Hazardous Materials on its operations and persons using or occupying the Premises. Landlord makes no representation or warranty with regard to the environmental condition of the Premises or the Complex. Tenant, on behalf of itself and its Tenant Parties ("***Releasors***"), herby covenants and agrees not to sue and forever releases and discharges Landlord, and its members, partners, officers, directors, affiliates, agents, contractors and employees from and against any and all claims, losses, damages, causes of action, costs, liabilities and expense, arising out of hazardous substances or groundwater contamination presently existing on, under or emanating from or to the Premises or the Complex. Tenant, on its own behalf and on behalf of all Releasors, understands and expressly waives any rights or benefits available under Section 1542 of the Civil Code of California or any similar provision in any other jurisdiction. Section 1542 provides substantially as follows: "A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which, if known by him or her, must have materially affected his or her settlement with the debtor."

(b) *Deed Restrictions*. Tenant acknowledges that as a result of the Existing Environmental Conditions, the Premises is or may become subject to deed restrictions (the "***Deed Restrictions***") in accordance with the Remedial Measures MOU. Tenant acknowledges further that the Deed Restrictions impose or will impose certain covenants, conditions, and restrictions on the use of the Premises (including, without limitation, prohibitions on residential development and certain uses of the groundwater); and that the Deed Restrictions require or will require that all owners and occupants, including without limitation, tenants, and any and all successors in interest, including heirs and assigns to such parties, to comply with the requirements and restrictions of the Risk Management Plan, including future amendments thereto. Tenant agrees that it will comply with the Deed Restrictions and that the Lease is and will be subordinate and subject to the Deed Restrictions. Tenant agrees to execute and acknowledge any documents or instruments necessary to implement such subordination and to make the Lease and the rights of any tenants hereunder subject and subordinate to the Deed Restrictions.

(c) *Risk Management Plan*. Tenant agrees to comply with all applicable requirements of the Risk Management Plan, including future amendments thereto, in connection with its use and occupancy of the Premises and the Complex. Tenant agrees further that in any and all future subleases, licenses, permits or other agreements between Tenant and any other user or occupant of the Premises, which agreement authorizes such party to undertake or to engage in activities that are subject to one or more requirements of the Risk Management Plan, Tenant shall provide a copy of the Risk Management Plan or its relevant provisions to such other user or occupant prior to execution of such agreement and shall insure that such agreement contains covenants requiring that (i) such party comply with the Risk Management Plan (to the extent applicable); (ii) such party obligate other persons or entities with which it contracts for construction, property maintenance or other activities which may disturb soil or groundwater to comply with the applicable provisions of the Risk Management Plan; and (iii) such party (and the persons or entities with which it so contracts) will refrain from interfering with Landlord's or Tenant's compliance with the requirements of the Risk Management Plan.

(d) *Mitigation*. Tenant acknowledges and agrees that the Complex, including the Premises, is subject to the Mitigation Measures. Tenant acknowledges that it has reviewed and understands the Mitigation Measures and agrees that it will comply (and cause its contractors and subcontractors, and all those users or other occupants of the Premises claiming through Tenant to comply) with and do all things necessary to comply with the requirements of the Mitigation Measures as the same relate or apply to the Premises and Tenant's use thereof.

(e) *Hazardous Materials*. As used herein, the term "***Hazardous Materials***" shall mean any wastes, materials or substances (whether in the form of liquids, solids or gases, and whether or not airborne), which are or are deemed to be (i) pollutants or contaminants, or which are or are deemed to be hazardous, toxic, ignitable, reactive, corrosive, dangerous, harmful or injurious, or which present a risk to public health or to the environment, or which are or may become regulated by or under the authority of any applicable local, state or federal laws, judgments, ordinances, orders, rules, regulations, codes or other governmental restrictions, guidelines or requirements, any amendments or successor(s) thereto, replacements thereof or publications promulgated pursuant thereto, including, without limitation, any such items or substances which are or may become regulated by any of the Environmental Laws (as defined in Section 10.3(f) below); (ii) listed as a chemical known to the State of California to cause cancer or reproductive toxicity pursuant to Section 25249.8 of the California Health and Safety Code, Division 20, Chapter 6.6 (Safe Drinking Water and Toxic Enforcement Act of 1986); or (iii) a pesticide, petroleum, including crude oil or any fraction thereof, asbestos or an asbestos-containing material, a polychlorinated biphenyl, radioactive material, or urea formaldehyde.

(f) *Environmental Laws*. As used herein, the term "***Environmental Laws***" shall be deemed to include, without limitation, 33 U.S.C. Section 1251 et seq., 42 U.S.C. Section 6901 et seq., 42 U.S.C. Section 7401 et seq., 42 U.S.C. Section 9601 et seq., and California Health and Safety Code Section 25100 et seq., and 25300 et seq., California Water Code, Section 13020 et seq., or any successor(s) thereto, all local, state and federal laws, judgments, ordinances, orders, rules, regulations, codes and other governmental restrictions, guidelines and requirements, any amendments and successors thereto, replacements thereof and publications promulgated pursuant thereto, which deal with or otherwise in any manner relate to, air or water quality, air emissions, soil or ground conditions or other environmental matters of any kind.

(g) *Tenant's Use*. Tenant shall not cause or permit any Hazardous Material to be brought upon, kept, stored or used in or about the Premises without the prior written consent of Landlord, which consent shall not be unreasonably withheld, delayed or conditioned, except that Tenant, in connection with its permitted use of the Premises as provided in Section 1.13 and 9.1, may keep, store and use materials that constitute Hazardous Materials which are customary for such permitted use, *provided* such Hazardous Materials are kept, stored and used in quantities which are customary for such permitted use and are kept, stored and used in strict compliance with this Article 10.

(1) Tenant shall comply with all applicable Laws, rules, regulations, orders, permits, licenses and operating plans of any governmental authority with respect to the receipt, use, handling, generation, transportation, storage, treatment and/or disposal of Hazardous

Materials or wastes by Tenant or Tenant's Parties on, under or about the Premises or the Complex.

(2) Tenant shall not (A) operate on or about the Premises any facility required to be permitted or licensed as a third-party, destination hazardous waste facility (as opposed to the permitted processing of Hazardous Materials generated by Tenant on site during its operations) or for which interim status as such is required, nor (B) store any hazardous wastes on or about the Premises for one hundred twenty (120) days or more, nor (C) conduct any other activities on or about the Premises that could result in the Premises being deemed to be a "hazardous waste facility" (including, but not limited to, any storage or treatment of Hazardous Materials or hazardous wastes which could have such a result).

(3) Tenant shall not install or maintain any underground storage tanks.

(4) Tenant shall not keep any trash, garbage, waste or other refuse on the Premises except in sanitary containers and shall regularly and frequently remove the same from the Premises. Tenant shall keep all incinerators, containers or other equipment used for the storage or disposal of such matter in a clean and sanitary condition. Tenant shall properly dispose of all sanitary sewage and shall not use the sewage disposal system of the Buildings for the disposal of anything except as permitted by any governmental entity.

(h) *Landlord's Inspection Rights*. At reasonable times and upon reasonable prior notice, prior to the expiration or earlier termination of the Lease Term, Landlord shall have the right to conduct (a) an annual hazardous waste investigation of the Premises and (b) if Landlord has reasonable cause to believe that any contamination exists on, in, under, or around the Buildings, the Common Areas or the Premises, such other tests as Landlord may deem necessary or desirable to demonstrate whether contamination has occurred as a result of Tenant s use of the Premises. Tenant shall be solely responsible for and shall defend, indemnify and hold the Landlord, its agents and contactors harmless from and against any and all claims, demands or actions, arising out of or in connection with any removal, clean up, restoration and materials required hereunder to return the Premises and any other property of whatever nature to their condition existing prior to the time of any such contamination caused by Tenant or Tenant's Parties. Landlord shall pay for the cost of the annual investigation and other tests of the Premises, unless it has been determined that Tenant or Tenant's Parties have caused contamination of the Premises with Hazardous Materials, in which case Tenant shall bear such costs. Tenant shall pay the reasonable costs required to perform or conduct any closure study, exit audit or similar investigation required by then applicable laws.

(i) *Surrender*. Tenant shall surrender the Premises at the expiration or earlier termination of this Lease free of *any* Hazardous Materials caused to be present by Tenant, its employees or agents and free and clear of all judgments, liens or encumbrances relating thereto and, at its own cost and expense, shall repair all damage and clean up or perform any remedial action necessary relating to any Hazardous Materials caused to be

present by Tenant, its employees or agents. Tenant, at its sole cost and expense, shall, following Landlord's request, remove any alterations or improvements that may be shown by an independent environmental consultant or laboratory to be contaminated or to contain Hazardous Materials caused to be present by Tenant, its employees or agents, or, at Landlord's option, elected in the exercise of its reasonable discretion, shall clean and restore such items in accordance with applicable law.

Prior to expiration of the Term, or upon any earlier termination of this Lease, Tenant shall obtain at Tenant's expense all appropriate environmental closure reports and certifications by appropriate governmental or regulatory authorities required or permitted by applicable Law ("***Closure Certifications***"). Tenant shall deliver copies of all Closure Certifications to Landlord. Additionally, Tenant shall provide Landlord with a Phase I environmental site assessment from a professional environmental consultant approved by Landlord stating that the site contains no Recognized Environmental Condition, as that term is defined by American Society for Testing and Materials Standard E-1527-00 other than the Existing Environmental Conditions.

10.4 Indemnity

Tenant shall indemnify, hold harmless, and, at Landlord's option (with such attorneys as Landlord may approve in advance and in writing), defend Landlord and Landlord's officers, directors, shareholders, partners, members, managers, employees, contractors, property managers, agents and mortgagees and other lien holders, from and against any and all "Losses" (as defined in this Section 10.4) arising from or related to: (a) any violation or alleged violation by Tenant or any of Tenant's Parties of any of the requirements, ordinances, statutes, regulations or other laws referred to in this Article 10, including, without limitation, the Environmental Laws; (b) any breach of the provisions of this Article 10 by Tenant or any of Tenant's Parties; or (c) any use on, about or from the Premises of any Hazardous Material permitted by this Lease or approved by Landlord under this Lease and any receipt, use handling, generation, transportation, storage, treatment, release and/or disposal of any Hazardous Material or waste or any radioactive material or radiation on or about the Premises as a proximate result of Tenant's use of the Premises or as a result of any intentional or negligent acts or omissions of Tenant or of any of Tenant's Parties. The term "***Losses***" shall mean all claims, demands, expenses, actions, judgments, damages (whether consequential, direct or indirect, known or unknown, foreseen or unforeseen), penalties, fines, liabilities, losses of every kind and nature (including, without limitation, property damage, diminution in value of Landlord's interest in the Premises or the Complex, damages for the loss or restriction on use of any space or amenity within the Buildings or the Complex, damages arising from any adverse impact on marketing space in the Complex, sums paid in settlement of claims and any costs and expenses associated with injury, illness or death to or of any person), suits, administrative proceedings, costs and fees, including, but not limited to, attorneys' and consultants' fees and expenses, and the costs of cleanup, remediation, removal and restoration, that are in any way related to any matter covered by the foregoing indemnity The provisions of this Article 10 shall survive the termination of this Lease.

Landlord shall defend, indemnify, and hold Tenant harmless from and against any cost of remediation arising from any contamination ("***Existing Contamination***") of the Premises (including the underlying land and ground water) by any Hazardous Materials existing on or about the Premises prior to any early entry by Tenant pursuant to Section 1.11 above; provided, however that this paragraph shall not apply, and Landlord's indemnity and hold harmless obligations shall be limited to take into account the extent Tenant's Hazardous Materials Activities shall have added to or effected in any way any Existing Contamination.

ARTICLE 11

SERVICES AND UTILITIES

11.1 Services and Utilities

(a) *Janitorial and Engineering Services*. Tenant shall be responsible for providing and paying for all services and utilities required by Tenant for its use and occupancy of the Premises. Without limitation, Tenant shall provide its own engineering and janitorial services, using personnel that maintain harmonious labor relations at the Complex (it being acknowledged by Landlord, however, that, if union labor is not available, after reasonable investigation, to perform the specialized janitorial services required by a GMP-certified operation in the Premises, any contract with non-union janitorial to perform such function shall not constitute a breach or violation of this Lease), and provide services in a first class manner and in such a way as the first class character of the Complex is maintained. To the extent that Tenant is responsible for a particular type of service (and such service is not provided by Landlord), the cost of such service shall not be included in Operating Costs. Landlord and Tenant shall work together in good faith to resolve any union/non-union disputes.

(b) *Utilities*. Commencing on the date Base Building Work is substantially complete and continuing thereafter throughout the Term of this Lease, Tenant shall pay, before delinquency, all charges for water, trash collection, gas, heat, electricity, power, sewer, telephone, alarm system, janitorial and other services or utilities supplied to or consumed in or with respect to the Premises (as the same may be expanded in accordance with Article 33), including any taxes on such services and utilities. If any utility service is not separately metered to the Premises, then Tenant shall pay its pro rata share of the cost of such utility service with all others served by the service not separately metered. However, if Landlord reasonably determines that Tenant is using a disproportionate amount of any utility service, then Landlord, at its election, may periodically charge Tenant, as Additional Rent, a sum equal to Landlord's reasonable estimate (supported by reasonably detailed evidence) of the cost of Tenant's excess use of such utility service, or may install, at Tenant's expense, a separate meter to measure the utility service supplied to the Premises. Tenant shall also pay its Proportionate Share of Operating Costs for all charges for water, gas, heat, electricity, power, sewer, telephone, alarm system or security, janitorial and other services or utilities supplied to or consumed in or with respect to the Common Areas.

(c) *Tenant Supplied Services*. Tenant shall be responsible for providing and paying for those services which are unique to Tenant's occupancy (as opposed to a general office space occupancy), which services shall be agreed upon by Landlord and Tenant in writing. Such services may consist of, by way of illustration and not limitation, pest control, janitorial services, HVAC maintenance and sewer and water testing.

11.2 Interruptions

(a) *Liability*. It is understood that Landlord does not warrant that any of the utilities referred to above or any services which Landlord may supply or access to the Premises will be free from interruption. Tenant acknowledges that any one or more such services may be

suspended or reduced or access may be limited by reason of repairs, alterations or improvements necessary to be made, by strikes or accidents, by any cause beyond the reasonable control of Landlord, or by orders or regulations of federal, state, county or municipal authority. Landlord shall provide reasonable prior written notice to Tenant of Landlord's expectation that an interruption or suspension of service may be forthcoming, including Landlord's estimate of the duration thereof. In the event of any interruption or suspension of water, power or other utilities, Landlord shall use commercially reasonable good-faith efforts to promptly restore such services. Any such interruption or suspension of services, access or utilities shall not be deemed an eviction or disturbance of Tenant's use and possession of the Premises or any part thereof, nor shall such interruption or suspension render Landlord liable to Tenant for damages by abatement of Rent or otherwise, including but not limited to liability for consequential damages or loss of business by Tenant, nor shall it relieve Tenant of performance of Tenant's obligations under this Lease. Landlord and Tenant intend hereby that the issues of rent abatement and termination of this Lease be governed strictly by the provisions of this Lease. Accordingly, Tenant hereby waives the provisions of any applicable existing or future Law permitting the abatement of rent or termination of the Lease due to such interruption, failure or inability. Landlord shall use its good faith efforts to minimize interruptions in utilities, services and access to the Premises, and without limitation, Landlord shall perform, upon reasonable prior notice to Tenant, any maintenance or repairs that are reasonably anticipated to give rise to any such interruption after business hours or on weekends to the extent such procedures would be followed generally by operators of Comparable Buildings (except to the extent an emergency or Law would otherwise require).

(b) *Abatement*. Notwithstanding the foregoing,

(1) if any interruption in or failure or inability to provide access to the Premises or any of the services to be provided by Landlord hereunder (such interruption, failure or inability, a "***Service Interruption***"), continues for more than the Abatement Trigger Period (as defined in Section 11.2(b)(3) below) after Tenant's written notice thereof to Landlord, and during the Abatement Trigger Period Tenant is unable to conduct and does not conduct any business in a material portion of the Premises as a result of the Service Interruption, Tenant shall be entitled to an abatement of Minimum Monthly Rent and Additional Rent, which abatement shall commence as of the first day after the expiration of the Abatement Trigger Period and shall terminate upon the earlier to occur of the cessation of such Service Interruption or one (1) year after the commencement of such Service Interruption, and which abatement shall be based on the portion of the Premises rendered inaccessible or unusable for Tenant's business by such Service Interruption; provided, however, that to the extent that Landlord is not reimbursed for the so abated Rent pursuant to Landlord's rental loss (or other) insurance (other than because Landlord failed to maintain the insurance required of it pursuant to Section 13.4), the abatement shall not be applicable to the extent Tenant is reimbursed for the applicable Rent pursuant to Tenant's business interruption (or other) insurance (or, if greater, to the extent Tenant would be reimbursed if Tenant maintained the insurance required of it pursuant to Section 13.4 with third party insurance carriers); and

(2) if any Service Interruption continues for more than two hundred seventy (270) days after Tenant's written notice thereof to Landlord, and Tenant is unable to conduct and does not conduct business in any material portion of the Premises as a result thereof

during such two hundred seventy (270) day period, Landlord and Tenant shall each have the right to terminate this Lease as respects such material portion of the Premises (or as to the entire Premises, if such material portion exceeds seventy-five percent [75%] of the entire Rentable Area of the Premises), by written notice to the other given within thirty (30) days after the expiration of the aforesaid two hundred seventy (270) day period, which termination notice shall specify a termination date that shall not be before the date of such notice nor more than sixty (60) days after the date of such notice.

(3) As used herein, the "***Abatement Trigger Period***" means: (A) in the case of a Service Interruption resulting from an On-Site cause, a period of ten (10) consecutive business days; and (B) in the case of a Service Interruption resulting from an Off-Site cause, a period of twenty (20) consecutive business days.

(4) Notwithstanding anything to the contrary contained herein, the abatement and termination provisions set forth above shall be inapplicable to any Service Interruption that is caused by (x) damage from fire or other casualty to the Complex or any portion thereof, it being acknowledged that such situation shall be governed by Article 19 (as distinguished from a Service Interruption that is caused by a fire or other casualty to an Off-Site facility, such as a utility company power station or grid, which shall be governed by this Section 11.2); or (y) the negligence or willful misconduct of Tenant or any other Tenant Party or the breach by Tenant of its obligations under this Lease.

11.3 Conservation

Tenant agrees to comply with the reasonable conservation, use and recycling policies and practices from time to time established by Landlord for the use of utilities and services supplied by Landlord (if any). Landlord may reduce the utilities supplied to the Premises and the Common Areas as required or permitted by any mandatory water, energy or other conservation statute, regulation, order or allocation or other program.

ARTICLE 12

ALTERATIONS

12.1 Consent of Landlord; Ownership

Except for Minor Alterations (defined in the second paragraph of this Section 12.1), Tenant shall not make, or suffer to be made, any alterations, additions or improvements to the Premises (individually, an "***Alteration***" and collectively, "***Alterations***"), without the written consent of Landlord first had and obtained. Any Alterations, except trade fixtures, shall, upon expiration or termination of this Lease, become a part of the realty and belong to Landlord. Provided there is then no default or event which, with the giving of a Default Existence Notice (as defined below) or the passage of time or both would become a default hereunder, and except as otherwise provided in this Lease, Tenant shall have the right to remove its trade fixtures placed upon the Premises provided that Tenant restores the Premises as indicated below. To the extent that Landlord withholds consent as a result of the existence of any default or event which, with the giving of notice or the passage of time or both would become a default hereunder,

Landlord shall notify Tenant of the existence of such default or event (a "***Default Existence Notice***"). For purposes hereof, the term "trade fixtures" shall not include fume hoods; but shall include all fermentation equipment and vessels with a capacity of less than or equal to 1,000 liters, and related exposed pipes, cold rooms, and all built-in laboratory benches, case work, and related built-in shelving. All alterations, fixtures and other items (other than trade fixtures) that are permanently affixed to the Premises shall become a part of the realty and belong to Landlord upon the expiration or earlier termination of this Lease.

Notwithstanding the foregoing, no consent shall be required for Alterations which Tenant elects to make to the Premises, so long as such Alterations meet the following conditions: (a) the replacement or installation of carpet with a carpet quality equal to or greater than the original carpets installed in the Premises; (b) the replacement of existing or installation of new wall covering with a wall covering quality equal to or greater than the original wall covering installed in the Premises; (c) the painting of the interior of the Premises in a color matching the color approved by Landlord for the original Tenant Improvements; and (d) the Alterations to the interior improvements independent of those described in clauses (a), (b), and (c) above which do not exceed, as to any particular Alteration, a total cost of $50,000 on any given floor and do not in the aggregate exceed a total cost of $150,000 for any project during any twelve (12) month period ("***Minor Alterations***"). The Alterations described in clauses (a) through (d) above may be made to the Premises without Landlord's consent, so long as all of the following is true and correct as of the date of commencement of the work of installation of such Alterations: (i) Tenant is not in default after the expiration of applicable cure periods with respect to the terms of this Lease; (ii) no liens are filed on the Premises related to such Alterations which has not been timely and statutorily removed by Tenant pursuant to applicable law; (iii) Tenant has provided Landlord with no less than ten (10) days prior written notice that such work of Alteration is scheduled; (iv) as to Alterations requiring design and/or engineering work (e.g., excluding wall and floor covering), Tenant has provided Landlord on a once-per-year basis as to all Alterations completed during the prior year, with a 1/8" scaled sepia or another electronic format reflecting the Alterations to be made by Tenant upon completion of each such Alteration (provided, however, that field grade plans shall be satisfactory if the custom and practice with respect to such work of Alteration does not call for such electronic format drawings); (v) Tenant complies with all other terms of this Lease related to Alterations and Surrender Obligations; (vi) such Alterations do not require changes to the building systems; (vii) such Alterations do not involve changes to the exterior of any Building; and (viii) such Alterations do not involve any roof penetrations or installations in any part of the Common Areas. If Tenant requests in writing such predetermination from Landlord, any consent to Alterations provided by Landlord shall specify whether Landlord shall require removal of said Alterations upon surrender of the Premises.

12.2 Requirements

Any Alteration performed by Tenant (including Minor Alterations) shall be subject to strict conformity with the following requirements:

(a) All Alterations shall be at the sole cost and expense of Tenant;

(b) Prior to commencement of any work of alteration, Tenant shall submit detailed plans and specifications, including working drawings (hereinafter referred to as "***Plans***"), of the proposed Alteration, which may be subject to the consent of Landlord in accordance with the terms of Section 12.1 above;

(c) Following approval of the Plans by Landlord (if required), Tenant shall give Landlord at least ten (10) days' prior written notice of any commencement of work in the Premises so that Landlord may post notices of non-responsibility in or upon the Premises as provided by law;

(d) No Alteration shall be commenced without Tenant having previously obtained all appropriate permits and approvals required by and of governmental agencies;

(e) All Alterations shall be performed in a skillful and workmanlike manner, consistent with the best practices and standards of the construction industry, and pursued with diligence in accordance with said Plans previously approved by Landlord and in full accord with all applicable laws and ordinances. All material, equipment, and articles incorporated in the Alterations are to be new and of recent manufacture and of the most suitable grade for the purpose intended;

(f) Tenant's contractor for any work shall maintain all of the insurance reasonably required by Landlord, including, without limitation, commercial general liability and workers' compensation; and

(g) The Alteration must be performed in a manner such that they will not interfere with the quiet enjoyment of the other tenants in the Complex.

12.3 Tenant's Costs

Tenant shall pay promptly to Landlord, upon demand, all third party out-of-pocket costs actually incurred by Landlord in connection with Tenant's Alterations, including costs incurred in connection with (a) Landlord's review of the Alterations (including review of requests for approval thereof) and (b) the provision of Building personnel during the performance of any Alteration, to operate elevators or otherwise to facilitate Tenant's Alterations. In addition, Tenant shall pay to Landlord, within thirty (30) days after request, a construction supervisory and administrative fee; provided, however, that Landlord shall provide to Tenant a written good faith estimate of its expected review costs, including its administrative fee, following any request by Tenant, and Tenant shall have a five (5) day period in which to rescind its request for approval of the proposed Alteration prior to accrual of any cost to Tenant. Such good faith estimate shall under no circumstances be deemed a ceiling on any costs payable by Tenant hereunder.

12.4 Liens

Tenant shall keep the Premises and the Complex in which the Premises are situated free from any liens arising out of any work performed, materials furnished or obligations incurred by Tenant. In the event a mechanic's or other lien is filed against the Premises, the Building or the Complex as a result of a claim arising through Tenant, Landlord may demand

that Tenant furnish to Landlord a surety bond satisfactory to Landlord in an amount equal to at least one hundred fifty percent (150%) of the amount of the contested lien claim or demand, indemnifying Landlord against liability for the same and holding the Premises free from the effect of such lien or claim. Such bond must be posted within ten (10) days following notice from Landlord. In addition, Landlord may require Tenant to pay Landlord's reasonable attorneys' fees and costs in participating in any action to foreclose such lien if Landlord shall decide it is to its best interest to do so. If Tenant fails to post such bond within said time period, Landlord after five (5) days' prior written notice to Tenant may pay the claim prior to the enforcement thereof, in which event Tenant shall reimburse Landlord in full, including attorneys' fees, for any such expense, as additional Rent, with the next due rental.

12.5 Restoration

Except as otherwise provided in this Article 12, Tenant shall return the Premises to Landlord at the expiration or earlier termination of this Lease in good and sanitary order, condition and repair, free of rubble and debris, broom clean, reasonable wear and tear excepted, and, at Landlord's election, with all Alterations made by Tenant (other than Tenant's Work) removed from the Premises and the Premises restored to their prior condition (excepting normal wear and tear), all by Tenant at Tenant's expense. All damage to the Premises caused by the removal of such trade fixtures and other personal property or Alterations that Tenant is permitted or required to remove under the terms of this Lease and/or such restoration shall be repaired by Tenant at its sole cost and expense prior to termination. Notwithstanding the foregoing, if so requested by Tenant in writing at the time Tenant requests approval for an Alteration, Landlord shall advise Tenant in writing at the time of Landlord's approval of such Alteration as to whether Landlord will waive its right to require that such Alteration be removed by Tenant from the Premises. Landlord's failure to expressly waive such requirement in writing shall preserve Landlord's right to exercise the foregoing election as respects such Alteration.

ARTICLE 13

PROPERTY INSURANCE

13.1 Use of Premises

If any of the Permitted Uses increase the existing rate of insurance upon the Buildings or the Complex or cause the cancellation of any insurance policy covering the Buildings, or any part thereof, Tenant shall be solely responsible for the payment of such increase. If any use of the Premises by Tenant is prohibited by the standard form of "All Risk" or "Special Causes of Loss" fire insurance policies, Tenant shall cease and desist such use unless and until other substitute coverage is available and is obtained that is reasonably satisfactory to Landlord and any lender of Landlord. Tenant shall be responsible for the cost of any such other coverage. Tenant shall, at its sole cost and expense, comply with any and all requirements pertaining to the Premises, of any insurance organization or company, necessary for the maintenance of reasonable property damage and commercial general liability insurance, covering the Premises, the Buildings, or the Complex.

13.2 Increase in Premiums

Tenant agrees to pay Landlord, as additional Rent, within ten (10) days after receipt by Tenant of Landlord's billing therefor, any increase in premiums for insurance policies which may be carried by Landlord on the Premises, the Buildings or the Complex resulting from any negligent or intentional act or omission of Tenant or any of its contractors, partners, officers, employees or agents.

13.3 Personal Property Insurance

Tenant shall maintain in full force and effect on all of its fixtures, furniture, equipment and other business personal property in the Premises, and specifically covering the Tenant Improvements, a policy or policies providing protection against any peril included within the classification "All Risk" or "Special Causes of Loss" to the extent of at least ninety percent (90%) of their replacement cost, or that percentage of the replacement cost required to negate the effect of a co-insurance provision, whichever is greater. No such policy shall have a deductible in a greater amount than One Hundred Thousand and No/100 Dollars ($100,000.00) unless Landlord shall expressly consent otherwise in writing. Tenant shall also insure in the same manner the physical value of all its leasehold improvements and Alterations in the Premises. During the mum of this Lease, the proceeds from any such policy or policies of insurance shall be used for the repair or replacement of the fixtures, equipment, and leasehold improvements so insured. Landlord shall have no interest in said insurance, and will sign all documents necessary or proper in connection with the settlement of any claim or loss by Tenant. All insurance specified in this Section 13.3 to be maintained by Tenant shall be maintained by Tenant at its sole cost.

13.4 Landlord's Property Insurance

In addition to any other insurance Landlord elects to maintain, Landlord agrees to maintain property insurance covering the Complex as set forth in this Section. Such insurance shall be issued in the names of Landlord and its lender, as their interests appear, and shall be for the sole benefit of such parties and under their sole control. Such insurance shall be obtained through reputable insurance underwriters utilizing standard "special form" insurance policies as such policies are in use from time to time for Comparable Buildings (excluding, at Landlord's option, perils such as earthquake, flood, terror and other standard "special form" policy form exclusions), with a deductible provision, if any, that does not materially exceed that which prudent operators of Comparable Buildings would carry from time to time in the exercise of reasonable business judgment, in an amount or amounts equal to not less than eighty percent (80%) of the full replacement value of the Buildings (excluding the land and the footings, foundations and installations below the basement level), without deduction for depreciation, including the costs of demolition and debris removal, or such other fire and property damage insurance as Landlord shall reasonably determine. Landlord shall carry a minimum of twelve (12) month loss of rental rider on such property damage insurance. Notwithstanding the foregoing, Tenant may, with Landlord's written consent, which consent shall not be unreasonably withheld, obtain property insurance in place of Landlord's property insurance for any Building in which Tenant leases one hundred percent (100%) of the Rentable Area thereof, provided that (i) such insurance is less expensive than the insurance that would

otherwise be obtained by Landlord for such Building(s), (ii) such insurance satisfies the requirements set forth above in this Section 13.4, (iii) Tenant's proposed insurer maintains a policyholders' rating and financial rating equal to or better than that of Landlord's proposed or actual insurer, (iv) such insurance maintains the same coverage amount and carries with it the same endorsements as would otherwise be obtained by Landlord, and (v) such insurance shall be issued in the names of Landlord and its lender, as their interests appear, and shall be for the sole benefit of such parties and under their sole control.

ARTICLE 14

INDEMNIFICATION, WAIVER OF CLAIMS AND SUBROGATION

14.1 Intent and Purpose

This Article 14 is written and agreed to in respect of the intent of the parties to assign the risk of loss, whether resulting from negligence of the parties or otherwise, to the party who is obligated hereunder to cover the risk of such loss with insurance. Thus, the indemnity and waiver of claims provisions of this Lease have as their object, so long as such object is not in violation of public policy, the assignment of risk for a particular casualty to the party carrying the insurance for such risk, without respect to the causation thereof.

14.2 Waiver of Subrogation

Landlord and Tenant release each other, and their respective authorized representatives, from any claims for damage to the Premises and the Building and other improvements in which the Premises are located, and to the furniture, fixtures, and other business personal property, Tenant's improvements and alterations of either Landlord or Tenant, in or on the Premises and the Building and other improvements in which the Premises are located, including loss of income, that are caused by or result from risks insured or required under the terms of this Lease to be insured against under any property insurance policies carried or to be carried by either of the parties.

14.3 Form of Policy

Each party shall cause each such insurance policy obtained by it to provide that the insurance company waives all rights of recovery by way of subrogation against either party in connection with any damage covered by such policy. Neither party shall be liable to the other for any damage caused by any peril included within the classification "All Risk" or "Special Causes of Loss" which is insured against under any property insurance policy carried under the teens of this Lease.

14.4 Indemnity

Tenant, as a material part of the consideration to be rendered to Landlord, shall indemnify, defend, protect and hold harmless Landlord against all actions, claims, demands, damages, liabilities, losses, penalties, or expenses (each, a "***Claim***") of any kind which may be brought or imposed upon Landlord or which Landlord may pay or incur by reason of (a) injury or death to person or damage to property, from whatever cause, including, without limitation, the

negligence of the parties hereto, all or in any way connected with the condition or use of the Premises, or the improvements or personal property therein or thereon, including, without limitation, any liability or injury to the person or property of Tenant, its agents, officers, employees or invitees, and (b) any injury or death to any person or damage to property caused by the negligence of Tenant or any of its officers, partners, employees or agents anywhere in the Complex. Nothing contained herein shall obligate Tenant to indemnify Landlord against the gross negligence or willful acts of Landlord or its officers, employees or agents.

Except as to injury to persons or damage to property to the extent arising from the willful misconduct or the uninsured ordinary negligence of Tenant, its agents, servants, employees, invitees, or contractors, and except for the matters for which Tenant agrees to indemnify, defend, protect and hold Landlord harmless pursuant to the foregoing paragraph, Landlord shall hold Tenant harmless from and indemnify Tenant against any Claim incurred in connection with or arising from any injury, illness, or death to any person or damage to any property to the extent (i) such injury, illness, death or damage is caused by the uninsured gross negligence or willful misconduct of Landlord or its agents or employees, and (ii) such Claim is not included within the risks insured against under the insurance that Tenant is required to carry under this Lease. Notwithstanding anything to the contrary set forth in this Section 14.4 or elsewhere in this Lease, in no event shall Landlord be liable for any consequential or remote damages, or for loss of or damage to artwork, currency, jewelry, bullion, securities or other property in the Premises, not in the nature of ordinary fixtures, furnishings, equipment and other property used in general business office activities and functions. Landlord's indemnification obligations under this Section 14.4 are subject to the provisions of Section 14.2 above.

The provisions of this Section 14.4 shall not relieve any insurance carrier from the obligations accruing under the terms of its policies with respect to this Lease and shall survive the expiration or termination of this Lease with respect to any injury, illness, death or damage occurring prior to such expiration or termination.

14.5 Defense of Claims

In the event any action, suit or proceeding is brought against Landlord by reason of any such occurrence, Tenant, upon Landlord's request, will at Tenant's expense resist and defend such action, suit or proceeding, or cause the same to be resisted and defended by counsel designated either by Tenant or by the insurer whose policy covers the occurrence and in either case approved reasonably by Landlord. The obligations of Tenant under this Section 14.5 arising by reason of any occurrence taking place during the Term shall survive any termination of this Lease.

14.6 Waiver of Claims

Tenant, as a material part of the consideration to be rendered to Landlord, hereby waives all claims against Landlord for damages or injury, as described below, from any cause arising at any time, including breach of the provisions of this Lease and the negligence of the parties hereto except to the extent such damages or injury are caused by the gross negligence or willful actions of Landlord, its agents, officers and employees:

(a) damages to goods, wares, merchandise and loss of business in, upon or about the Premises and injury to Tenant, its agents, employees, invitees or third persons, in, upon or about the Premises, the Building or the Complex; and

(b) (notwithstanding anything to the contrary contained in this Lease, including, without limitation, the definition of Operating Costs which includes security) damages to goods, wares, merchandise and loss of business, in, upon or about the Premises or the Complex, and injury to Tenant, its agents, employees, invitees or third persons in, upon or about the Premises or the Complex, where such damage or injury results from Landlord's failure to police or provide security for the Complex or Landlord's negligence in connection therewith.

14.7 References

Wherever in this Article the term Landlord or Tenant is used and such party is to receive the benefit of a provision contained in this Article, such term shall refer not only to that party but also to its shareholders, officers, directors, employees, partners, members, managers, mortgagees and agents.

ARTICLE 15

LIABILITY AND OTHER INSURANCE

15.1 Tenant's Liability Insurance

Tenant shall, at Tenant's expense, obtain and keep in force during the term of this Lease, a commercial general liability insurance policy insuring Tenant against the risks of, bodily injury and property damage, personal injury, contractual liability, completed operations, products liability, host liquor liability, owned and non-owned automobile liability arising out of the ownership, use, occupancy or maintenance of the Premises and all areas appurtenant thereto. Such insurance shall be a combined single limit policy in an amount not less than Ten Million and No/100 Dollars ($10,000,000.00) per occurrence with a Ten Million and No/100 Dollar ($10,000,000.00) annual aggregate. Landlord and any lender and any other party in interest designated by Landlord shall be named as additional insured(s). The policy shall contain cross liability endorsements with coverage for Landlord for the negligence of Tenant even though Landlord is named as an additional insured; shall insure performance by Tenant of the indemnity provisions of this Lease; shall be primary, not contributing with, and not in excess of coverage which Landlord may carry; shall provide for severability of interest; shall provide that an act or omission of one of the insured or additional insureds which would void or otherwise reduce coverage shall not void or reduce coverages as to the other insured or additional insureds; and shall afford coverage after the term of this Lease (by separate policy or extension if necessary) for all claims based on acts, omissions, injury or damage which occurred or arose (or the onset of which occurred or arose) in whole or in part during the term of this Lease. The limits of said insurance shall not limit any liability of Tenant hereunder. Not more frequently than every second year, if owners of Comparable Buildings then customarily require levels of liability insurance coverage in excess of that required by this Section 15.1, or if Landlord's lenders require additional coverage, Tenant shall promptly increase said insurance coverage as required by Landlord.

15.2 Workers' Compensation Insurance

Tenant shall carry Workers' Compensation insurance as required by law, including an employers' liability endorsement

ARTICLE 16

INSURANCE POLICY REQUIREMENTS & INSURANCE DEFAULTS

16.1 General Requirements

All insurance policies required to be carried by Tenant (except Tenant's business personal property insurance) hereunder shall conform to the following requirements:

(a) The insurer in each case shall carry a designation in "Best's Insurance Reports" as issued from time to time throughout the teen as follows: Policyholders' rating of A; financial rating of not less than VII;

(b) The insurer shall be qualified to do business in the state in which the Premises are located;

(c) The policy shall be in a form and include such endorsements as are acceptable to Landlord;

(d) Certificates of insurance shall be delivered to Landlord at commencement of the term. Tenant shall provide Landlord with evidence that insurance will be bound at least fifteen (15) days prior to the expiration of each policy, and Tenant shall further provide Landlord with certificates of renewal within fifteen (15) after the expiration of each policy;

(e) Each policy shall provide that the insurer shall endeavor to provide Landlord with written notice at least thirty (30) days prior to any cancellation or expiration of such policy, or any reduction in the amounts of insurance carried.

16.2 Tenant's Insurance Defaults

If Tenant fails to obtain any insurance required of it under the terms of this Lease, Landlord may, at its option, but is not obligated to, obtain such insurance on behalf of Tenant and bill Tenant, as additional Rent, for the cost thereof. Payment shall be due within thirty (30) days of receipt of the billing therefor by Tenant.

ARTICLE 17

ABANDONMENT OF PROPERTY

17.1 Removal of Personal Property

Tenant agrees that as at the date of termination of this Lease or repossession of the Premises by Landlord, by way of default or otherwise, it shall remove from the Premises all

personal property to which it has the right to ownership pursuant to the terms of this Lease. Any and all such property of Tenant not removed by such date shall, at the option of Landlord, irrevocably become the sole property of Landlord. Tenant waives (to the extent waivable) the protections of California Civil Code sections 1980-1991, and all rights to notice and all common law and statutory claims and causes of action which it may have against Landlord subsequent to such date as regards the storage, destruction, damage, loss of use and ownership of the personal property affected by the terms of this Article. Tenant acknowledges Landlord's need to relet the Premises upon termination of this Lease or repossession of the Premises and understands that the forfeitures and waivers provided herein are necessary to aid said reletting, and to prevent Landlord incurring a loss for inability to deliver the Premises to a prospective Tenant.

ARTICLE 18

MAINTENANCE AND REPAIRS

18.1 Landlord's Obligations

(a) Subject to the other provisions of this Lease imposing obligations in this respect upon Tenant, Landlord, at its sole cost and expense shall repair, replace and maintain, including the cost of correcting defective workmanship and materials, the Structural parts (as the term "Structural" is defined in Section 2.16 above) of the Building(s), as applicable. The cost of such repairs, maintenance and replacement shall not be included in Operating Costs.

(b) Landlord shall also repair, replace and maintain the following, and the costs of so doing will be included as Operating Costs: (i) the Common Areas of the Complex; (ii) janitor and equipment closets and shafts within the Premises (as the same may exist from time to time) designated by Landlord for use by it in connection with the operation and maintenance of the Complex; (iii) all other portions of Common Areas. In the event the Premises consists of some portion of Building 2, but less than all of the Rentable Area of Building 2, Landlord shall repair, replace and maintain (A) the nonstructural aspects of the exterior walls, roof membrane, building common areas, garage elevators of Building 2; and (B) the HVAC, plumbing, sewer, drainage, electrical, fire protection, elevator, escalator, life safety and security systems and equipment and other mechanical, electrical and communications systems and equipment (collectively, the "***Building Systems***") of Building 2, except to the extent those systems and equipment serves the Premises exclusively. The cost of repair, maintenance and replacement of the items described in clauses (A) and (B) shall be included in Operating Costs and paid by Tenant in accordance with Section 2.6 during any period during the Term when the Premises consists of some portion of Building 2, but less than all of Building 2.

(c) Landlord shall perform such repairs, replacements and maintenance with reasonable dispatch, in a good and workmanlike manner; but Landlord shall not be liable for any damages, direct, indirect or consequential, or for damages for personal discomfort, illness or inconvenience of Tenant by reason of failure of such equipment, facilities or systems or reasonable delays in the performance of such repairs, replacements and maintenance, unless caused by the gross negligence or deliberate act or omission of Landlord.

18.2 Negligence of Tenant

If the Buildings, the elevators, boilers, engines, pipes or apparatus used for the purpose of climate control of the Buildings or operating the elevators, or if the water pipes, drainage pipes, HVAC system, sprinkler or life safety system, electric, lighting or other equipment of a Building, or the roof or the outside walls of a Building become damaged or destroyed through any act, omission, neglect, or improper conduct of Tenant or any of its employees, members, partners, agents, contractors, subtenants or licensee or the moving of any of Tenant's property or deliveries into or out of the Premises, the cost of the necessary repairs, replacements or alterations shall be borne by Tenant who shall pay the same to Landlord as additional charges forthwith on demand; provided, however, that Tenant's obligations under this Section 18.2 shall be subject to Section 14.2 above.

18.3 Tenant's Obligations

(a) Except to the extent expressly Landlord's obligation under Section 18.1 above, Tenant shall, throughout the Term at its sole cost and expense, (1) keep and maintain the Premises in good order and condition, and repair and replace every part thereof, including, without limitation, the following: (A) glass, windows, window frames, window casements (including the repairing, resealing, cleaning and replacing of both interior and exterior windows) and skylights; (B) interior and exterior doors, door frames and door closers; (C) interior lighting (including, without limitation, light bulbs and ballasts); (D) Building Systems, or portions thereof, that exclusively serve the Premises (as the same may exist from time to time), including, without limitation, any specialty or supplemental Building Systems installed by or for Tenant ("***Specialty Systems***") and all HVAC systems and equipment and all electrical facilities and equipment, including lighting fixtures, lamps, fans, fume hoods, refrigeration units and any exhaust equipment and systems, electrical motors and all other appliances and equipment of every kind and nature located in, upon or about the Premises; (E) all communications systems serving the Premises; (F) all of Tenant's security systems in or about or serving the Premises; (G) Tenant's signage; and (H) interior demising walls and partitions (including painting and wallcoverings), equipment, floors, casework, laboratory benches and any roll-up doors, ramps and dock equipment, (2) furnish all expendables, including light bulbs, paper goods and soaps, used in the Premises, and (3) cause the fire alarm systems serving the Premises to be monitored by a monitoring or protective services firm reasonably approved by Landlord in writing.

(b) Tenant shall also be responsible for all pest control within the Premises, for all trash removal and disposal from the Premises, including without limitation, the safe and lawful disposal of all biohazardous materials, sharps and the like. With respect to any HVAC systems and equipment exclusively serving the Premises, Tenant shall obtain HVAC systems preventive maintenance contracts with bimonthly or monthly service in accordance with manufacturer recommendations ("***HVAC Service Contracts***"), copies of which shall be provided to Landlord, which shall provide for and include replacement of filters, oiling and lubricating of machinery, parts replacement, adjustment of drive belts, oil changes and other preventive maintenance, including annual maintenance of duct work, interior unit drains and caulking of sheet metal, and recaulking of jacks and vents on an annual basis. Tenant shall also maintain adequate maintenance records for all equipment, and shall provide such records to Landlord for review upon request.

(c) Tenant's repair, maintenance and replacement obligations shall be performed in a first class, workmanlike manner using union labor and within a reasonable period of time; provided, however, that (1) with respect to the Building Systems, or portions thereof, that exclusively serve the Premises (other than any Specialty Systems), in the event Landlord determines that Tenant's maintenance practices do not meet the standard required under this Lease, Landlord, upon prior notice to Tenant and reasonable opportunity to cure, may elect to perform all or some of the foregoing maintenance, repairs and replacement itself, at Tenant's expense, and (2) if Tenant fails to perform Tenant's Repair Obligations, Landlord may immediately perform any such work at Tenant's expense and charge Tenant an administrative fee equal to 10% of the cost of such work. Tenant shall pay to Landlord all reasonable costs and expenses incurred by Landlord and required to be paid by Tenant under this Section forthwith on demand.

18.4 Waiver

Tenant hereby waives any and all rights under and benefits of subsection 1 of Section 1932 and Sections 1941 and 1942 of the California Civil Code and any similar or successor law, statute or ordinance now or hereafter in effect regarding Tenant's right to make repairs and deduct the cost of such repairs from the Rent due under this Lease.

18.5 Acceptance

Except as to the construction obligations of Landlord, stated in the Work Letter, Tenant shall accept the Premises in "as is" condition as of the date the Premises are delivered to Tenant, and subject to any punch list items referenced in the Work Letter, Tenant acknowledges that the Premises in such condition are in good and sanitary order, condition and repair.

ARTICLE 19

DESTRUCTION

19.1 Rights of Termination

(a) In the event the Premises suffers a property loss which Landlord reasonably determines cannot be repaired within one (1) year from the date of destruction under the laws and regulations of state, federal, county or municipal authorities, or other authorities with jurisdiction, and Tenant is not legally entitled to operate its business within at least one half (1/2) of the Rentable Area of the Premises. Landlord may terminate this Lease by written notice from Landlord to Tenant within ninety (90)) days after the date of the damage stating that the time to restore will exceed such one (1) year period. Such termination shall be effective as of the date specified in Landlord's notice, which date shall be no earlier than thirty (30) days after the date of Landlord's notice and no later than ninety (90) days after the date of Landlord's notice, except in the case of total destruction of the Premises, in which case the termination shall be effective as of the date of Landlord's notice. During the period from the date of the damage until the termination date, Tenant shall be entitled to a proportionate reduction of Minimum Monthly Rent, based on the extent to which the Premises is not usable for the purposes permitted hereunder by reason of such damage.

(b) In the event of a property loss to the Premises which Landlord reasonably determines cannot be repaired within one (1) year of the occurrence thereof, Tenant shall also have the right to terminate the Lease by written notice to Landlord within thirty (30) days following notice from Landlord that the time for restoration will exceed such time period. Such termination shall be effective as of the date specified in Tenant's notice, which date shall be no earlier than thirty (30) days after the date of Landlord's notice and no later than ninety (90) days after the date of Landlord's notice, except in the case of total destruction of the Premises, in which case the termination shall be effective as of the date of Tenant's notice.

(c) In the event the Premises (including the Tenant Improvements) suffers an "uninsured property loss" (as defined in Section 19.1(e) below), Landlord may either: (i) repair such damage as soon as reasonably possible at Landlord's expense, in which event this Lease shall continue in full force and effect, or (ii) Terminate this Lease by giving written notice to Tenant within thirty (30) days after receipt by Landlord of knowledge of the occurrence of such damage if the cost of repair is reasonably estimated by Landlord's general contractor in charge of such repair to exceed Five Million and No/100 Dollars ($5,000,000.00). Such termination shall be effective sixty (60) days following the date of such notice.

(d) In the event Landlord elects to terminate this Lease, Tenant shall have the right within ten (10) days after receipt of the termination notice to give written notice to Landlord of Tenant's commitment to contribute funds to pay for the repair of such damage and continue the Lease, and shall provide Landlord with said funds or satisfactory assurance thereof within thirty (30) days after making such commitment. To the extent that Tenant exercises such right and performs its obligations hereunder, the Lease shall continue and Landlord and Tenant agree that:

(i) The first Two Million and No/100 Dollars ($2,000,000.00) of uninsured property losses shall be borne solely by Landlord;

(ii) The next Six Million and No/100 Dollars ($6,000,000.00) of uninsured property losses shall be borne equally by Landlord and Tenant;

(iii) Any uninsured property losses in excess of Eight Million and No/100 Dollars ($8,000,000.00) shall be borne solely by Tenant;

(iv) Landlord's funds shall be applied first to the repair of the core and shell of the Premises;

(v) Landlord's and Tenant's funds shall be applied to the repair of the Tenant Improvements in the same proportion as calculated during the original construction thereof;

(vi) Landlord shall proceed to make such repairs as soon as reasonably possible after the required funds are available.

(e) For purposes of this Lease, the term "***uninsured property loss***" shall mean (i) any loss arising from a peril not covered by the standard form of "All Risk" or "Special

Causes of Loss" property insurance policy, or (ii) the deductible on a policy of earthquake insurance.

19.2 Repairs

In the event of a property loss where this Lease is not terminated under the terms of Section 19.1 above or Sections 19.5 or 19.6 below, then this Lease shall continue in full force and effect and Landlord shall forthwith undertake to make such repairs to reconstitute the Premises to as near the condition as existed prior to the property loss as practicable. Such property loss shall in no way annul or void this Lease except that Tenant shall be entitled to a proportionate reduction of Minimum Monthly Rent following the property loss and until the time the Premises are restored, based on the extent to which the Premises is not usable for the purposes permitted hereunder by reason of such damage. Such reduction shall be based on the ratio that the square footage of the damaged portion of the Premises bears to the total square footage of the Premises. So long as Tenant conducts its business in the Premises, there shall be no abatement until the parties agree on the amount thereof. If the parties cannot agree within forty-five (45) days of the property loss, the matter shall be submitted to arbitration under the "fast track" rules of the American Arbitration Association. Upon the resolution of the dispute, the settlement shall be retroactive and Landlord shall within ten (10) days thereafter refund to Tenant any sums due in respect of the reduced rental from the date of the property loss. Landlord's obligations to restore shall in no way include any of Tenant's property or any construction originally performed by Tenant or subsequently undertaken by Tenant, but shall include solely that property constructed by Landlord prior to commencement of the Term hereof.

19.3 Repair Costs

The cost of any repairs to be made by Landlord, pursuant to Section 19.2 of this Lease, shall be paid by Landlord utilizing available insurance proceeds. Tenant shall reimburse Landlord, if and to the extent Landlord is entitled to reimbursement hereunder, upon completion of the repairs for any deductible for which no insurance proceeds will be obtained under Landlord's insurance policy (except to the extent the amount of such deductible is not reimbursable pursuant to any other provision of this Lease), or if other premises are also repaired, a pro rata share based on total costs of repair equitably apportioned to the Premises, and utilizing the "useful life" formula set forth in Section 2.6(a).

19.4 Waiver

Tenant hereby waives all statutory or common law rights of termination in respect to any partial destruction or property loss which Landlord is obligated to repair or may elect to repair under the terms of this Article.

19.5 Landlord's Election

In the event that the Complex or the Premises is destroyed to the extent of not less than twenty-five percent (25%) of the replacement cost thereof, Landlord may elect to terminate this Lease, whether the Premises are injured or not, in the same manner as in Section 19.1 above. In the event that the Complex or the Premises is destroyed to the extent of less than twenty-five percent (25%) of the replacement cost thereof, Tenant may elect to remain in the Premises but

solely to the extent that Tenant's presence does not impede or otherwise interfere with the repair of the Complex or the Premises, as applicable. In all events, a total destruction of the Complex or the Premises shall terminate this Lease.

19.6 Damage Near End of Term

If at any time during the last twelve (12) months of the term of this Lease there is, in Landlord's sole opinion, Substantial Damage to the Premises (as defined in this Section 19.6 below), whether or not such casualty is covered in whole or in part by insurance, Landlord may at Landlord's option terminate this Lease by giving written notice to Tenant of Landlord's election to do so within thirty (30) days after the date of occurrence of such damage and Landlord shall have no further liability hereunder. Such termination shall be effective as of the date specified in Landlord's notice, which date shall be no earlier than thirty (30) days after the date of Landlord's notice and no later than ninety (90) days after the date of Landlord's notice, except in the case of total destruction of the Premises, in which case the termination shall be effective as of the date of Landlord's notice. "***Substantial Damage***" as used in this Section 19.6 means damage that will cost over Two Million and No/100 Dollars ($2,000,000.00) to repair.

ARTICLE 20

CONDEMNATION

20.1 Definitions

(a) "***condemnation***" means (i) the exercise of any governmental power, whether by legal proceedings or otherwise, by a condemnor and/or (ii) a voluntary sale or transfer by Landlord to any condemnor, either under threat of condemnation or while legal proceedings for condemnation are pending.

(b) "***date of taking***" means the date the condemnor has the right to possession of the property being condemned.

(c) "***award***" means all compensation, sums or anything of value awarded, paid or received on a total or partial condemnation.

(d) "***condemnor***" means any public or quasi public authority, or private corporation or individual, having the power of condemnation.

20.2 Total Taking

If the Premises are totally taken by condemnation, this Lease shall terminate on the date of taking.

20.3 Partial Taking; Common Areas

(a) If any portion of the Premises is taken by condemnation, this Lease shall remain in effect, except that Tenant can elect to terminate this Lease if 33 ⅓% or more of the total number of square feet of Rentable Area in the Premises is taken, if Tenant delivers to Landlord

Tenant's written notice stating that Tenant, in its good faith judgment, will be unable to conduct its business in the Premises following such condemnation.

(b) If any part of the Common Areas of the Complex is taken by condemnation, this Lease shall remain in full force and effect so long as there is no material interference with the access to the Premises, except that if fifty percent (50%) or more of the Common Areas is taken by condemnation, Landlord or Tenant shall have the election to terminate this Lease pursuant to this Section.

(c) If fifty percent (50%) or more of the Building(s) in which the Premises are located is taken, Landlord shall have the election to terminate this Lease in the manner prescribed herein.

20.4 Termination or Abatement

If either party elects to terminate this Lease under the provisions of Section 20.3 (such party is hereinafter referred to as the "***Terminating Party***"), it must terminate by giving notice to the other party (the "***Non-terminating Party***") within thirty (30) days after the nature and extent of the taking have been finally determined (the "***Decision Period***"). The Terminating Party shall notify the Non-terminating Party of the date of termination, which date shall not be earlier than one hundred twenty (120) days after the Terminating Party has notified the Non-terminating Party of its election to terminate no later than the date of taking. If Notice of Termination is not given within the Decision Period, the Lease shall continue in full force and effect except that Minimum Monthly Rent shall be reduced by subtracting therefrom an amount calculated by multiplying the Minimum Monthly Rent in effect prior to the taking by a fraction the numerator of which is the number of square feet of Rentable Area taken from the Premises and the denominator of which is the number of square feet of Rentable Area in the Premises prior to the taking.

20.5 Restoration

If there is a partial taking of the Premises and this Lease remains in full force and effect pursuant to this Article, Landlord, at its cost, shall accomplish all necessary restoration so that the Premises is returned as near as practical to its condition immediately prior to the date of the taking, but in no event shall Landlord be obligated to expend more for such restoration than the extent of funds actually paid to Landlord by the condemnor.

20.6 Award

Any award arising from the condemnation or the settlement thereof shall belong to and be paid to Landlord exclusively, except that Tenant shall have the right to receive from Landlord's award compensation for the then unamortized cost of that portion of the Tenant Improvements paid for by Tenant (to the extent not included in any separate claim filed by Tenant pursuant to the following sentence), as allocated by the condemning authority. In addition, Tenant shall have the right to file any separate claim available to Tenant for any taking of Tenant's trade fixtures, tangible personal property, goodwill, loss of business and relocation expenses, so long as such claim is payable separately to Tenant or is otherwise separately

identifiable. Except as stated above, Landlord shall be solely entitled to all awards in respect of the real property, including the bonus value of the leasehold.

ARTICLE 21

ASSIGNMENT AND SUBLETTING

21.1 Lease is Personal

Except as specifically provided to the contrary in this Article 21, the purpose of this Lease is to transfer possession of the Premises to Tenant for Tenant's personal use in return for certain benefits, including rent, to be transferred to the Landlord. Tenant acknowledges and agrees that it has entered into this Lease in order to occupy the Premises for its own personal use and not for the purpose of obtaining the right to assign or sublet the leasehold to others.

21.2 "Transfer of the Premises" Defined

Except for transfer described in Section 21.6 hereof, the terms "***Transfer of the Premises***" or "***Transfer***" as used herein shall include any assignment of all or any part this Lease (including an assignment by operation of law), subletting of all or any part the Premises or transfer of possession, or right of possession or contingent right of possession of all or any portion of the Premises including, without limitation, concession, mortgage, deed of trust, devise, hypothecation, agency, license, franchise or management agreement, or the occupancy or use by any other person (the agents and servants of Tenant excepted) of any portion of the Premises. If Tenant is a corporation which is not deemed a public corporation, or is an unincorporated association, partnership or limited liability company or partnership, or consists of more than one party, the transfer, assignment or hypothecation of any stock or interest in such corporation, association, partnership, limited liability company or ownership interest, in the aggregate (whether in a single transaction or series of separate but related transactions over a period of time) of twenty-five percent (25%) or more, shall be deemed a Transfer of the Premises.

21.3 No Transfer Without Consent

Except for a Transfer described in Section 21.6(a) hereof or Shared Space Arrangement, Tenant shall not suffer a Transfer of the Premises or any interest therein, or any part thereof, or any right or privilege appurtenant thereto without the prior written consent of Landlord, which consent shall not be unreasonably withheld, and a consent to one Transfer of the Premises shall not be deemed to be a consent to any subsequent Transfer of the Premises. Landlord shall respond to any request for consent within ten (10) business days. Any Transfer of the Premises without such consent shall be void, and shall, at the option of Landlord, terminate this Lease. Any Transfer of the Premises without such consent (except a Transfer described in Section 21.6 or a Shared Space Arrangement) shall (i) be voidable, and (ii) terminate this Lease, in either case, at the option of Landlord. The consent by Landlord to any Transfer shall not include consent to the assignment or transferring of any lease renewal option rights or space option rights of the Premises, special privileges or extra services granted to Tenant by this Lease, or addendum or amendment thereto or letter of agreement (and such options, rights, privileges or

services shall terminate upon such assignment), unless Landlord specifically grants in writing such options, rights, privileges or services to such assignee or subtenant.

21.4 When Consent Granted

The consent of Landlord to a Transfer, if required pursuant to this Article 21, may not be unreasonably withheld, provided that it is agreed to be reasonable for Landlord to consider any of the following reasons, which list is not exclusive, in electing to deny consent:

(a) With respect to an assignment of Tenant's interest in the Lease, the financial strength of the proposed transferee at the time of the proposed assignment is not at least equal to that of Tenant at the time of execution of this Lease;

(b) With respect to a sublease of the Premises or a portion thereof, the financial strength of the proposed subtenant at the time of the proposed assignment is not sufficient, in Landlord's reasonable judgment, to allow the proposed subtenant to meet its rental obligations under the sublease along with meeting its other financial obligations;

(c) A proposed transferee whose occupation of the Premises would cause a diminution in the reputation of the Complex or the other businesses located therein;

(d) A proposed transferee whose impact or affect on the common facilities or the utility, efficiency or effectiveness of any utility or telecommunication system serving the Buildings or the Complex or the other occupants of the Complex would be adverse, disadvantageous or require improvements or changes in any utility or telecommunication capacity currently serving the Buildings or the Complex;

(e) A proposed transferee whose occupancy will require a variation in the terms of this Lease (including, without limitation, a variation in the use clause) or which otherwise adversely affects any interest of Landlord, or whose occupancy or use may violate any restrictions set forth in this Lease, or any negative covenant as to use of the Premises required by any other lease in the Building;

(f) The existence of any default by Tenant under any provision of this Lease;

(g) A proposed transferee who is or is likely to be, or whose business is or is likely to be, subject to compliance with additional laws or other governmental requirements beyond those to which Tenant or Tenant's business is subject;

(h) Either the proposed transferee, or any person or entity which directly or indirectly, controls, is controlled by, or is under common control with, the proposed transferee or an affiliate of the proposed transferee, (i) occupies space in the Complex at the time of the request for consent, or (ii) is negotiating with Landlord to lease space in the Complex at such time;

(i) The proposed Transferee is a governmental agency or unit, or a non-profit entity, or an existing tenant in the Complex; provided, however, that the foregoing restriction with respect to a governmental agency or non-profit entity shall not apply to Tenant in the event

that such governmental agency or non-profit entity is an existing tenant or subtenant in the Complex;

(j) Landlord otherwise determines that the proposed Transfer would have the effect of decreasing the value of the Building(s) or the Complex, or increasing the expenses associated with operating, maintaining and repairing the Building(s) or the Complex;

(k) If the proposed transfer is to occur during any portion of the Term during which Landlord has the ability to lease a portion of Building 2, the proposed transferee is an entity whose requirements could otherwise be satisfied or accommodated in any unleased portion of the Complex;

(l) If the proposed transfer is to occur during any portion of the Term during which Landlord has the ability to lease a portion of Building 2, the rent proposed to be charged by Tenant to the proposed transferee during the term of such Transfer, calculated using a present value analysis, is less than ninety-five percent (95%) of the rent then being quoted by Landlord, at the proposed time of such Transfer, for comparable space in the Buildings for a comparable term, calculated using a present value system; provided, however, that such threshold shall not apply with respect to any proposed transferee whose requirements could not otherwise be satisfied or accommodated in any unleased portion of the Complex;

(m) The proposed transferee may be entitled, directly or indirectly, to diplomatic or sovereign immunity, regardless of whether the Transferee agrees to waive such diplomatic or sovereign immunity.

21.5 Competitive Space

In the event that Tenant enters into discussions concerning a Transfer of the Premises with a potential transferee whose requirements could otherwise be satisfied or accommodated by any unleased portion of the Complex, Tenant agrees that it shall notify Landlord in writing and shall deem Landlord to be in letters with such proposed transferee. Tenant further agrees that Landlord shall have the right of first negotiation with respect to such proposed transferee, and to the extent that Landlord and such proposed transferee fail to enter into a lease agreement for any portion of the Complex, thereafter Landlord may, in its sole discretion, withhold its consent to any proposed Transfer of the Premises by Tenant to such proposed transferee.

21.6 Affiliated Transfers and Shared Space Arrangements

(a) **Affiliated Transfers**

Notwithstanding the foregoing, Tenant shall have the right, without the consent of Landlord, but upon at least ten (10) days' prior written notice to Landlord, to sublease the Premises or any portion thereof to a company or other entity organized or to be organized by Tenant, provided that Tenant, at the time of such sublease, owns or beneficially Controls (as defined below in the second paragraph of this Section 21.6(a)) all of the issued and outstanding shares of stock or interests of the company or other entity ("***Affiliated Transferee***"); further provided, however, that in the event that at any time following such sublease to an Affiliated

Transferee, Tenant or such Affiliated Transferee wishes to sell, mortgage, devise, hypothecate or in any other manner whatsoever transfer any portion of the ownership or beneficial control of the issued and outstanding shares in the stock or interests of such Affiliated Transferee, then such transfer shall constitute a Transfer under this Lease and subject to all provisions with respect thereto.

Notwithstanding anything to the contrary contained in this Lease, an assignment or subletting to, or use or occupancy of, all or a portion of the Premises by, any entity which at the time of initial subletting, use or occupancy of all or a portion of the Premises, is (a) an affiliate of Tenant (an entity which directly or indirectly, through one or more intermediaries, is controlled by, controls or is under common control, as such term is defined in California General Corporations Code ("CGCC") Sections 160(b) ("***Control***"), with, Tenant); (b) an entity which merges or consolidates, through one or more steps, with Tenant, or (c) a transferee of all or substantially all of the assets of Tenant, or (d) any other entity which will qualify as an "affiliate" under CGCC 150 and 5031 (the entities described in clauses (a), (b), (c) and (d) to be collectively be referred to herein as an "***Affiliate***"), may occur freely without restriction and without any need for any consents or approval by Landlord, shall not be deemed a Transfer under this Article 21, and no Transfer Premium shall be payable, and shall not result in such party being deemed or considered a proposed transferee hereunder, provided that such assignment or sublease is not undertaken in whole or in part in order for Tenant to avoid its obligations under this Lease and provided further that all of the following conditions are met: (i) at the time of such Transfer, there is then existing no default on the part of Tenant under this Lease, nor any event described in Section 24.1 which, with a Default Existence Notice (as defined in Section 12.1) or the passage of time or both would become a default; (ii) Tenant has given prior written notice to Landlord of such Transfer, including information describing the Transfer and the reasons why the transferee is an Affiliate, and (iii) the original Tenant remains fully liable under this Lease, or, to the extent that the original Tenant no longer exists, the new entity constituting the Tenant executes such documents as Landlord may reasonably request to assure that such entity is bound by the terms of this Lease.

(b) **Shared Space Arrangements**

Notwithstanding anything to the contrary in this Article 21, Tenant may from time to time permit third parties with whom Tenant is working on particular projects and with whom Tenant will share office and laboratory services to use a portion of the Premises (a "***Shared Space Arrangement***") and such use shall not be deemed to be a sublease so long as (i) no more than ten percent (10%) of the Rentable Area of the Premises (or if the third party owns at least five percent (5%) of Tenant, or if Tenant owns five percent (5%) of such third party, then, as to such third party, no more than ten percent (10%) of the Rentable Area of the Premises) is so used at any one time and (ii) the space occupied by such parties is not separately demised from the balance of the Premises (i.e. separated from the balance of the space by a wall or other constructed device and having separate entrances to the common areas) and (iii) the use of the space is not a use which increases (A) the operating costs for the Building, (B) the burden on the Building services, or (C) the foot traffic, elevator usage, parking or security concerns in the Building, or creates an increased probability of the comfort and/or safety of the Landlord and other tenants in the Building being unreasonably compromised or reduced (for example, but not exclusively, as a school or training facility, an entertainment, sports or recreation facility, retail

sales to the public, medical offices, a personnel or employment agency, or an embassy or consulate or similar office) and (iv) Tenant does not realize a profit with respect to the space so used. The rights set forth in this section are personal to the Tenant originally named in this Lease, and shall not inure to the benefit of any successor, assignee or subtenant of Tenant. Tenant shall be fully responsible for the conduct of such parties within the Premises and the Complex, and Tenant's indemnification obligations set forth in this Lease shall apply with respect to the conduct of such parties. Tenant shall supply Landlord with the terms of any such space sharing arrangement no later than ten (10) days prior to the effective date thereof.

21.7 Procedure for Obtaining Consent

With respect to a Transfer requiring Landlord's consent, Landlord need not commence its review of any proposed Transfer, or respond to any request by Tenant with respect to such, unless and until it has received from Tenant adequate descriptive information concerning the business to be conducted by the proposed transferee, the transferee's financial capacity, and such other information as may reasonably be required in order to form a prudent judgment as to the acceptability of the proposed Transfer, including, without limitation, the following:

(a) The past two years' Federal Income Tax returns of the proposed transferee (or in the alternative the past two years' audited annual Balance Sheets and Profit and Loss statements, certified correct by a Certified Public Accountant);

(b) Banking references of the proposed transferee;

(c) A resume of the business background and experience of the proposed transferee;

(d) A reasonable number of business references (not to exceed three [3]) for the proposed transferee; and

(e) An executed copy of the instrument by which Tenant proposes to effectuate the Transfer.

21.8 Recapture

By written notice to Tenant (the "***Termination Notice***") within thirty (30) days following submission to Landlord by Tenant of the information specified in Section 21.7 at any time during the Renewal Period (defined in Section 34.1(a) below), Landlord may (1) terminate this Lease in the event of an assignment of this Lease or sublet of the entire Premises, or (2) terminate this Lease as to the portion of the Premises to be sublet, if the sublet is to be of less than the entire Premises (herein, a "***Recapture***"). If Landlord elects to terminate under the provisions hereof, and the area to be terminated is less than the entire Premises, an amendment to this Lease shall be executed in which Tenant's obligations for rent and other charges shall be reduced in proportion to the reduction in the size of the Premises caused thereby by restating the description of the Premises, and its monetary obligations hereunder shall be reduced by multiplying such obligations by a fraction, the numerator of which is the Rentable Area of the Premises offered for sublease and the denominator of which is the Rentable Area of the Premises immediately prior to such termination, as determined by Landlord in its reasonable discretion.

Notwithstanding the foregoing, Landlord shall only be entitled to Recapture in the event the proposed Transfer (i) is for one or more floors of the Premises and (ii) is for a term ending no sooner than that date eighteen (18) months prior to the then scheduled expiration of the Term (without extension).

21.9 Reasonable Restriction

The restrictions on Transfer described in this Lease are acknowledged by Tenant to be reasonable for all purposes, including, without limitation, the provisions of California Civil Code (the "***Code***") Section 1951.4(b)(2). Tenant expressly waives any rights which it might otherwise be deemed to possess pursuant to applicable law, including, without limitation, Section 1997.040 of the Code, to limit any remedy of Landlord pursuant to Section 1951.2 or 1951.4 of the Code by means of proof that enforcement of a restriction on use of the Premises would be unreasonable.

21.10 Effect of Transfer

The following conditions shall apply with respect to each Transfer, whether or not requiring Landlord's consent:

(a) Each and every covenant, condition or obligation imposed upon Tenant by this Lease and each and every right, remedy or benefit afforded Landlord by this Lease shall not be impaired or diminished as a result of such Transfer.

(b) Except for Transfers to Affiliated Transferees and except in the case of a Shared Space Arrangement, Tenant shall pay to Landlord on a monthly basis, following recovery of the Deductible Costs (defined in this Section 21.10(b)) of such Transfer, fifty percent (50%) of (i) the excess of any sums of money, in particular Minimum Monthly Rent (but not Additional Rent nor any costs incurred by Tenant and passed through without markup to the transferee that would be deemed Operating Costs [as defined in Section 2.6] if such costs had been paid by Landlord), or other economic consideration received by Tenant from the proposed transferee in such month (whether or not for a period longer than one month), including higher rent, bonuses, key money, or the like, over (ii) the aggregate of the total sums which Tenant pays Landlord under this Lease in such month, or the prorated portion thereof if the Premises transferred is less than the entire Premises. For purposes of this Section, "Deductible Costs" means the aggregate cost of any subtenant improvements made in connection with the Transfer up to a maximum of $30 per square foot of Rentable Area (but in any event excluding any Tenant Improvement Allowance paid by Landlord), real estate brokerage commissions and reasonable attorneys' fees, with any such attorneys' fees not to exceed $5,000. The amount so derived shall be paid with Tenant's payment of Minimum Monthly Rent.

(c) No Transfer, whether or not consent of Landlord is required hereunder, shall relieve Tenant of its primary obligation to pay Rent and to perform all other obligations to be performed by Tenant hereunder. The acceptance of Rent by Landlord from any person shall not be deemed to be a waiver by Landlord of any provision of this Lease or to be a consent to any Transfer of the Premises.

(d) If Landlord consents to a sublease, such sublease shall not extend beyond the expiration of the Term of this Lease.

(e) No Transfer shall be valid and no transferee shall take possession of the Premises or any part thereof unless, Tenant shall deliver to Landlord, at least ten (10) days prior to the effective date of such Transfer, a duly executed duplicate original of the Transfer instrument in form satisfactory to Landlord which provides that (i) the transferee assumes Tenant's obligations for the payment of rent and for the full and faithful observance and performance of the covenants, terms and conditions contained herein, (ii) such transferee will, at Landlord's election, attorn directly to Landlord in the event Tenant's Lease is terminated for any reason on the terms set forth in the instrument of transfer, (iii) such instrument of transfer contains such other assurances as Landlord reasonably deems necessary, and (iv) in the case of any Transfer that requires Landlord's consent, Tenant and the transferee execute and deliver to Landlord Landlord's consent document.

21.11 Costs

Tenant shall reimburse Landlord as additional Rent for Landlord's reasonable attorneys' fees and costs incurred in conjunction with the processing and documentation of any proposed Transfer of the Premises, whether or not consent is required or granted, and Tenant shall also reimburse Landlord as additional Rent for Landlord's internal processing and administrative costs (not to exceed Seven Hundred Fifty and No/100 Dollars [$750.00] per Transfer) in connection with any proposed Transfer, whether or not consent is required or granted.

21.12 Collection of Rent

If, without Landlord's consent when required under this Article 21, this Lease is assigned, or any part of the Premises is sublet or occupied by anyone other than Tenant or this Lease is encumbered (by operation of law or otherwise), Landlord may collect rent from the assignee, subtenant or occupant, and apply the net amount collected to the Rent herein reserved. No such collection shall be deemed a waiver of the provisions of this Article 21, an acceptance of the assignee, subtenant or occupant as tenant, or a release of Tenant from the performance of Tenant's covenants hereunder, and in all cases Tenant shall remain fully liable for its obligations under this Lease.

21.13 Notice of Risk Management Plan

Notwithstanding anything to the contrary contained herein, in any future Transfer agreement between Tenant and any transferee approved by Landlord in accordance with this Article 21, which Transfer agreement authorizes such transferee to undertake or to engage in activities that are subject to one or more requirements set forth in the Risk Management Plan, Tenant shall provide a copy of the Risk Management Plan or its relevant provisions to such transferee prior to execution of the Transfer agreement and shall ensure that such Transfer agreement contains covenants that (a) such transferee will comply with the Risk Management Plan (to the extent the Risk Management Plan applies to the transferee's activities); (b) such transferee will obligate other entities with which it contracts for construction, property

maintenance or other activities which may disturb soil or groundwater to comply with the applicable provisions of the Risk Management Plan; and (c) such transferee (and the entities with which it so contracts) will refrain from interfering with Landlord's or Tenant's compliance with the Risk Management Plan.

ARTICLE 22

ENTRY BY LANDLORD

22.1 Rights of Landlord

Subject to Tenant's reasonable restricted area requirements relating, by way of example, to areas of the Premises such as "clean rooms," the vivarium facility and areas in any secured area or which manufacturing occurs, where special clothing and secured entry procedures are required, and subject to prior written notice to Tenant, except in the case of emergency, Tenant shall permit Landlord and Landlord's agents and any mortgagee under a mortgage or beneficiary under a deed of trust encumbering the Building(s) containing the Premises and such party's agents to enter the Premises at all reasonable times, and upon reasonable advance written notice (provided that no advance notice need be given if an emergency [as determined by Landlord in its good faith judgment] necessitates an immediate entry or prior to entry to provide routine janitorial services), for the purpose of (a) inspecting the same, (b) maintaining the Building(s), (c) making repairs, replacements, alterations or additions to any portion of the Building(s), including the erection and maintenance of such scaffolding, canopies, fences and props as may be required, (d) posting notices of non-responsibility for alterations, additions or repairs, (e) placing upon the Building(s) any usual or ordinary "for sale" signs and showing the space to prospective purchasers, investors and lenders, without any rebate of rent and without any liability to Tenant for any loss of occupation or quiet enjoyment of the Premises thereby occasioned, and (f) placing on the Premises any "to let" or "to lease" signs and marketing and showing the Premises to prospective tenants at any time within twenty-four (24) months prior to the expiration of this Lease. This Section 22.1 in no way affects the maintenance obligations of the parties hereto.

ARTICLE 23

SIGNS

23.1 Approval, Installation and Maintenance

Tenant shall not place on the Premises or on the Building(s) or the Common Areas of the Complex, any exterior signs or advertisements nor any interior signs or advertisements that are visible from the exterior of the Premises, without Landlord's prior written consent, which Landlord reserves the right to withhold for any aesthetic or other reason in its reasonable discretion. The cost of installation and regular maintenance of any such signs approved by Landlord shall be at the sole expense of Tenant. At the termination of this Lease, or any extension thereof, Tenant shall remove all its signs, and all damage caused by such removal shall be repaired at Tenant's expense.

23.2 Directory

Tenant shall be entitled to have its name listed in the directory of Building 2, to the extent part of the Premises is located in Building 2 and Building 2 is a multiple tenant building.

ARTICLE 24

DEFAULT

24.1 Definition

The occurrence of any of the events listed below shall constitute a material default and breach of this Lease by Tenant. The occurrence of such an event, following notice and passage of any cure period (if notice and a cure period are specifically required) is sometimes referred to herein as an "Event of Default."

(a) *Payment*. Any failure by Tenant to pay the rent or to make any other payment required to be made by Tenant hereunder when due, following five (5) business days' written notice as to scheduled rental obligations and ten (10) days' written notice as to non-scheduled payment obligations stating that Tenant has failed to make such payment;

(b) *Transfer*. Tenant shall have sublet the Premises or assigned its interest in the Lease or otherwise entered into a Transfer in breach of the Article 21 hereof; or

(c) *Required Documents*. Tenant shall have failed to deliver documents required of it pursuant to Article 31 or Article 32 hereof within the time periods specified therein, following an additional five (5) days written notice of such failure;

(d) *Letters of Credit*. With respect to any letter of credit given by Tenant as security for the performance of its covenants and obligations hereunder, Tenant shall have failed to renew, replenish or reinstate such letter of credit in the manner and within the time required, or Landlord shall have received notice from the issuer of such letter of credit, that such issuer will not renew such letter of credit and Tenant shall have failed, with the time required, to provide Landlord with a replacement letter of credit.

(e) *Other Covenants*. A failure by Tenant to observe and perform any other provision of this Lease to be observed or performed by Tenant, where such failure continues for thirty (30) days after written notice thereof by Landlord to Tenant; provided, however, that if the nature of the default is such that the same cannot reasonably be cured within the thirty (30) day period allowed, Tenant shall not be deemed to be in default if Tenant shall, within such thirty (30) day period, commence to cure and thereafter diligently prosecute the same to completion; or

(f) *Receivership*. Either (1) the appointment of a receiver (except a receiver appointed at the instance or request of Landlord) to take possession of all or substantially all of the assets of Tenant, or (2) a general assignment by Tenant for the benefit of creditors or other state insolvency or other statutory proceeding relating to creditors' rights generally; or

(g) *Bankruptcy*. The filing of any voluntary petition in bankruptcy by Tenant, or the filing of an involuntary petition or proceeding by Tenant's creditors, which involuntary petition or proceeding remains undischarged or undismissed sixty (60) days after the institution thereof. In the event that, under applicable law, the trustee in bankruptcy or Tenant has the right to affirm this Lease and continue to perform the obligations of Tenant hereunder, such trustee or Tenant shall, in such time period as may be permitted by the bankruptcy court having jurisdiction, cure all defaults of Tenant hereunder outstanding as of the date of the affirmance of this Lease and provide to Landlord such adequate assurances as may be necessary to ensure Landlord of the continued performance of Tenant's obligations under this Lease. Specifically, without limiting the generality of the foregoing, such adequate assurances must include assurances that the Premises continue to be operated only for the use permitted hereunder. The provisions hereof are to assure that the basic understandings between Landlord and Tenant with respect to Tenant's use of the Premises and the benefits to Landlord therefrom are preserved, consistent with the purpose and intent of applicable bankruptcy laws; or

(h) *Multiple Defaults*. The occurrence of more than three (3) Events of Default, shall constitute, at the option of Landlord, a separate and non-curable default.

ARTICLE 25

REMEDIES UPON DEFAULT

25.1 Termination and Damages

In the event of any Event of Default, then in addition to any other remedies available to Landlord herein or at law or in equity, Landlord shall have the immediate option to terminate this Lease and all rights of Tenant hereunder by giving written notice of such intention to terminate. In the event that Landlord shall elect to so terminate this Lease, then Landlord shall be entitled to recover damages from Tenant as provided in California Civil Code Section 1951.2 or any other applicable existing or future laws providing for recovery of damages for such breach, including but not limited to the following:

(a) The worth at the time of award (as defined in Section 25.2 below) of any unpaid rent which had been earned at the time of such termination; plus

(b) The worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss Tenant proves could have been reasonably avoided; plus

(c) The worth at the time of award of the amount by which the unpaid rent for the balance of the term after the time of award exceeds the amount of such rental loss that Tenant proves could be reasonably avoided; plus

(d) Any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of events would be likely to result therefrom, including, without limitation, attorneys' fees; and

(e) At Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by the applicable law in the state in which the Premises are located.

25.2 Definition

As used in subsections 25.1(a) and (b) above, the "worth at the time of award" is computed by allowing interest at the rate of ten percent (10%) per annum. As used in subsection 25.1(c) above, the "worth at the time of award" is computed by discounting such amount at the discount rate of the Federal Reserve Bank for the region in which the Complex is located at the time of award plus one percent (1%).

25.3 Personal Property

In the event of any Event of Default, Landlord shall also have the right and option, with or without terminating this Lease, to do any one or combination of the following:

(a) to reenter the Premises and remove all persons and property from the Premises;

(b) to have all of Tenant's fixtures, furniture, equipment, improvements, additions, alterations and other personal property remain upon the Premises during the length of any default by Tenant or a lesser period (subject to any prior rights of lienholders or equipment lessors consented to by Landlord in the ordinary course of business pursuant to customary lien waivers lien waivers); or

(c) to require Tenant to forthwith remove such property.

(d) Landlord shall have the sole right to take exclusive possession of such property (subject to any prior rights of lienholders or equipment lessors consented to by Landlord in the ordinary course of business pursuant to customary lien waivers lien waivers) and to use it, rent, or charge free, until all defaults are cured. If Landlord shall remove property from the Premises, Landlord may, in its sole and absolute discretion, store such property in the Complex, in a public warehouse or elsewhere. All costs incurred by Landlord under this section, including, without limitation, those for removal and storage (including, without limitation, charges imposed by Landlord for storage within the Complex), shall be at the sole cost of and for the account of Tenant. The rights stated herein are in addition to Landlord's rights described in Article 17.

25.4 Recovery of Rent; Reletting

(a) In the event of the vacation or abandonment of the Premises by Tenant or in the event that Landlord shall elect to reenter as provided in Section 25.3 above, or shall take possession of the Premises pursuant to legal proceeding or pursuant to any notice provided by law, then if Landlord does not elect to terminate this Lease as provided in Section 25.1 above, this Lease shall continue in effect for so long as Landlord does not terminate Tenant's right to possession, and Landlord may enforce all its rights and remedies under this Lease, including, without limitation, Landlord's right from time to time, without terminating this Lease, to either recover all rental as it becomes due or relet the Premises or any part thereof for such term or

term's and at such rental or rentals and upon such other tennis and conditions as Landlord may deem advisable with the right to make alterations and repairs to the Premises. Acts of maintenance or preservation or efforts to relet the Premises or the appointment of a receiver upon initiation of Landlord or other legal proceeding granting Landlord or its agent possession to protect Landlord's interest under this Lease shall not constitute a termination of Tenant's right to possession.

(b) In the event that Landlord shall elect to so relet, then rentals received by Landlord from such reletting shall be applied: first, to the payment of any indebtedness other than rent due hereunder from Tenant to Landlord; second, to the payment of any cost of such reletting; third, to the payment of the cost of any alterations and repairs to the Premises; fourth, to the payment of rent due and unpaid hereunder; and the residue, if any, shall be held by Landlord and applied in payment of future rent as the same may become due and payable hereunder. Should that portion of such rentals received from such reletting during any month, which is applied by the payment of rent hereunder, be less than the rent payable during that month by Tenant hereunder, then Tenant shall pay such deficiency to Landlord immediately upon demand therefor by Landlord. Such deficiency shall be calculated and paid monthly. Tenant shall also pay to Landlord, as soon as ascertained, any costs and expenses incurred by Landlord in such reletting or in making such alterations and repairs not covered by the rentals received from such reletting.

(c) No reentry or taking possession of the Premises or any other action under this section shall be construed as an election to terminate this Lease unless a written notice of such intention is given to Tenant or unless the termination thereof is decreed by a court of competent jurisdiction. Notwithstanding any reletting without termination by Landlord because of any default by Tenant, Landlord may at any time after such reletting elect to terminate this Lease for any such default

(d) Landlord has the remedy described in California Civil Code Section 1951.4 (Landlord may continue Lease in effect after Tenant's breach and abandonment and recover rent as it becomes due, if Tenant has right to sublet or assign, subject only to reasonable limitations).

(e) *Tenant's Subleases*. Whether or not Landlord elects to terminate this Lease on account of any default by Tenant, Landlord may:

(1) Terminate any sublease, license, concession, or other consensual arrangement for possession entered into by Tenant and affecting the Premises or any portion thereof; or

(2) Choose to succeed to Tenant's interest in such an arrangement. If Landlord elects to succeed to Tenant's interest in such an arrangement, Tenant shall, as of the date of notice by Landlord of that election, have no further right to, or interest in, the Rent or other consideration receivable under that arrangement.

25.5 No Waiver

Efforts by Landlord to mitigate the damages caused by Tenant's default in this Lease shall not constitute a waiver of Landlord's right to recover damages hereunder, nor shall Landlord have any obligation to mitigate damages hereunder.

25.6 Curing Defaults

If Tenant defaults in the performance of its obligations under this Lease, Landlord, without waiving such default, may perform such obligation at Tenant's expense: (a) immediately, and without notice, in the case of emergency or if the default (i) materially interferes with the use by any other tenant of the Building, (ii) materially interferes with the efficient operation of the Building, (iii) results in a violation of any federal, state or local law, rule, ordinance or regulation, or (iv) results or will result in a cancellation of any insurance policy maintained by Landlord, and (b) in any other case if such default continues after ten (10) days from the date Landlord gives notice of Landlord's intention to perform the defaulted obligation. All costs and expenses incurred by Landlord in connection with any such performance by it and all costs and expenses, including reasonable counsel fees and disbursements, incurred by Landlord in any action or proceeding (including any unlawful detainer proceeding) brought by Landlord to enforce any obligation of Tenant under this lease and/or right of Landlord in or to the Premises, shall be paid by Tenant to Landlord on demand, with interest thereon at the rate provided in this Lease for past due sums from the date incurred by Landlord. Except as expressly provided to the contrary in this Lease, all costs and expenses in connection with such obligation which, pursuant to this Lease are incurred by Landlord and payable to Landlord by Tenant, and all charges, amounts and sums payable to Landlord by Tenant for any property, material, labor, utility or other services which, pursuant to this Lease or at the request and for the account of Tenant, are provided, furnished or rendered by Landlord, shall become due and payable by Tenant to Landlord in accordance with the tern's of the bills rendered by Landlord to Tenant.

25.7 Cumulative Remedies

The various rights, options, election powers, and remedies of Landlord contained in this Article and elsewhere in this Lease shall be construed as cumulative and no one of them exclusive of any others or of any legal or equitable remedy which Landlord might otherwise have in the event of breach or default, and the exercise of one right or remedy by Landlord shall not in any way impair its right to any other right or remedy.

ARTICLE 26

BANKRUPTCY

26.1 Bankruptcy Events

If at any time during the term of this Lease there shall be filed by or against Tenant in any court pursuant to any statute either of the United States or of any state a petition in bankruptcy or insolvency or for reorganization or for the appointment of a receiver or trustee of all or a portion of Tenant's property, or if a receiver or trustee takes possession of any of the

assets of Tenant, or if the leasehold interest herein passes to a receiver, or if Tenant makes an assignment for the benefit of creditors or petitions for or enters into an arrangement (any of which are referred to herein as a "***bankruptcy event***"), then the following provisions shall apply:

(a) *Assume or Reject*. At all events any receiver or trustee in bankruptcy or Tenant as debtor in possession ("***debtor***") shall either expressly assume or reject this Lease within the earlier of sixty (60) days following the entry of an "Order for Relief' or such earlier period of time provided by law.

(b) *Cure*. In the event of an assumption of the Lease by a debtor, receiver or trustee, such debtor, receiver or trustee shall immediately after such assumption (1) cure any default or provide adequate assurances that defaults will be promptly cured; and (2) compensate Landlord for actual pecuniary loss or provide adequate assurances that compensation will be made for actual pecuniary loss; and (3) provide adequate assurance of future performance.

(c) *Adequate Assurance*. For the purposes of Section 26.1(b), adequate assurance of future performance of all obligations under this Lease shall include, but is not limited to:

(1) written assurance that rent and any other consideration due under the Lease shall first be paid before any other of Tenant's costs of operation of its business in the Premises is paid;

(2) written agreement that assumption of this Lease will not cause a breach of any provision hereof including, but not limited to, any provision relating to use or exclusivity in this or any other Lease, or agreement relating to the Premises, or if such a breach is caused, the debtor, receiver or trustee will indemnify Landlord against such loss (including costs of suit and attorneys' fees), occasioned by such breach;

(d) *Landlord's Obligation*. Where a default exists under the Lease, the party assuming the Lease may not require Landlord to provide services or supplies incidental to the Lease before its assumption by such trustee or debtor, unless Landlord is compensated under the terms of the Lease for such services and supplies provided before the assumption of such Lease.

(e) *Assignment*. The debtor, receiver, or trustee may assign this Lease only if adequate assurance of future performance by the assignee is provided, whether or not there has been a default under the Lease. Any consideration paid by any assignee in excess of the rental reserved in the Lease shall be the sole property of, and paid to, Landlord. Upon assignment by the debtor or trustee, the obligations of the Lease shall be deemed to have been assumed, and the assignee shall execute an assignment agreement on request of Landlord.

(f) *Fair Value*. Landlord shall be entitled to the fair market value for the Premises and the services provided by Landlord (but in no event less than the rental reserved in the Lease) subsequent to the commencement of a bankruptcy event.

(g) *Reservation of Rights*. Landlord specifically reserves any and all remedies available to Landlord in Article 25 hereof or at law or in equity in respect of a bankruptcy event by Tenant to the extent such remedies are permitted by law.

ARTICLE 27

SURRENDER OF LEASE

27.1 No Merger

The voluntary or other surrender of this Lease by Tenant, or a mutual cancellation thereof, shall not work as a merger, and shall, at the option of Landlord, terminate all or any existing subleases or subtenancies, or may, at the option of Landlord, operate as an assignment to it of any or all such subleases or subtenancies.

ARTICLE 28

LANDLORD'S EXCULPATION

28.1 Limited Liability

In the event of default, breach, or violation by Landlord (which term includes Landlord's partners, members, managers, co-venturers, co-tenants, officers, directors, employees, agents, or representatives) of any Landlord's obligations under this Lease, Landlord's liability to Tenant shall be limited to its ownership interest in the Premises (or its interest in the Building, if applicable) or the proceeds of a public sale of such interest pursuant to foreclosure of a judgment against Landlord. Landlord (as defined in Section 28.1) shall not be personally liable for any deficiency beyond its interest in the Premises.

28.2 Landlord's Liability

Subject to the reciprocal indemnity provisions of Section 14.4 above, any employee of Landlord to whom any property shall be entrusted by or on behalf of Tenant shall be deemed to be acting as Tenant's agent with respect to such property and neither Landlord nor its agents shall be liable for any damage to such property, or for the loss of or damage to any property of Tenant by theft or otherwise. Landlord, its property manager and Landlord's lender shall not be liable for any injury or damage to persons or property or interruption of Tenant's business resulting from fire or other casualty, any damage caused by other tenants or persons in the Building(s), the Parking Garage, the Common Areas or the Complex, or by construction of any private, public or quasi-public work.

ARTICLE 29

ATTORNEYS' FEES

29.1 Attorneys' Fees

In the event of any litigation or arbitration (if each party in its sole and absolute discretion elects to use arbitration) proceeding between the parties with respect to this Lease, then all costs and expenses, including, without limitation, all reasonable professional fees such as appraisers', accountants' and attorneys' fees, incurred by the prevailing party therein shall be paid or reimbursed by the other party. The "prevailing party" means the party determined by the

court or arbitrator (if the parties elected to use arbitration) to have most nearly prevailed, even if such party did not prevail in all matters, not necessarily the one in whose favor a judgment is rendered.

ARTICLE 30

NOTICES

30.1 Writing

All notices, demands and requests required or permitted to be given or made under any provision of this Lease shall be in writing and shall be given or made by personal service or by mailing same by registered or certified mail, return receipt requested, postage prepaid, or overnight by Fed Ex or reputable courier which provides written evidence of delivery or other means of confirmation of delivery (such as computer confirmation by Fed Ex), or by facsimile with facsimile confirmation that the notice was sent and successfully received, addressed to the respective party at the address set forth in Section 1.2 or Section 1.3 of this Lease or at such other address as the party may from time to time designate, by a written notice sent to the other in the manner aforesaid.

30.2 Effective Date

Any such notice, demand or request ("***notice***") shall be deemed given or made on the third day after the date so mailed. Notwithstanding the foregoing, notice given by personal delivery or by fax to the party at its address or fax number as aforesaid shall be deemed given on the day on which delivery is made or the fax is sent, respectively. Notice given overnight by a reputable courier service which provides written evidence of delivery shall be deemed given on the business day immediately following deposit with the courier service.

30.3 Authorization to Receive

Each person and/or entity whose signature is affixed to this Lease as Tenant or as guarantor of Tenant's obligations ("***obligor***") designates such other obligor its agent for the purpose of receiving any notice pertaining to this Lease or service of process in the event of any litigation or dispute arising from any obligation imposed by this Lease.

ARTICLE 31

SUBORDINATION AND FINANCING PROVISIONS

31.1 Priority of Encumbrances

This Lease is subordinate to any ground lease, mortgage, deed of trust or any other hypothecation for security now or hereafter placed upon the real property of which the Premises are a part and to any and all advances made on the security thereof and to all renewals, modifications, consolidations, replacements and extensions thereof. Notwithstanding such subordination, Tenant's right to quiet possession of the Premises shall not be disturbed if Tenant is not in default and so long as Tenant shall pay the rent and observe and perform all the

provisions of this Lease, unless this Lease is otherwise terminated pursuant to its terms. If any mortgagee, trustee or ground lessor shall elect to have this Lease prior to the lien of its mortgage, deed of trust or ground lease, and shall give written notice thereof to Tenant, this Lease shall be deemed prior to such mortgage, deed of trust or ground lease, whether this Lease is dated prior or subsequent to the date of said mortgage, deed of trust or ground lease or the date of recording thereof.

31.2 Non-Disturbance Agreement

Upon the request of Tenant, Landlord shall, at Tenant's sole expense, use commercially reasonable efforts to secure a subordination, non-disturbance and attornment agreement executed by the holder of any deed of trust or mortgage upon or affecting the Premises, or any part thereof, which is prior or superior to the rights of Tenant hereunder.

31.3 Execution of Documents

Tenant agrees to execute any commercially reasonable documents required to further effectuate such subordination or to make this Lease prior to the lien of any mortgage, deed of trust or ground lease, as the case may be, if requested by Landlord or any lender. It is understood by all parties that Tenant's failure to execute the subordination documents referred to above may cause Landlord serious financial damage by causing the failure of a financing or sale transaction.

31.4 Attornment

If the holder of any ground lease, mortgage, deed of trust or security described above (or its successor-in-interest), enforces its remedies provided by law or under the pertinent mortgage, deed of trust or security instrument and succeeds to Landlord's interest in the Premises, Tenant shall, upon request of any person succeeding to the interest of such lender as result of such enforcement, automatically become the Tenant of said successor-in-interest without change in the terms or other provisions of this Lease; provided, however, that said successor-in-interest shall not be (i) bound by any payment of rent for more than thirty (30) days in advance, except prepayment in the nature of security for the performance by Tenant of its obligations under this Lease, (ii) liable for any act or omission of any previous landlord (including Landlord), (iii) subject to any offset, defense, recoupment or counterclaim that Tenant may have given to any previous landlord (including Landlord), or (iv) liable for any deposit that Tenant may have given to any previous landlord (including Landlord) that has not, as such, been transferred to said successor-in-interest. Within ten (10) days after receipt of request by said successor-in-interest, Tenant shall execute and deliver an instrument or instruments confirming such attornment, including a non-disturbance, attornment and subordination agreement in a form required by any such successor-in-interest.

31.5 Notice and Right to Cure Default

Tenant agrees to give any mortgagee(s) and/or trust deed holders, by registered mail, a copy of any notice of default served upon Landlord, provided that prior to such notice Tenant has been notified, in writing (by way of Notice of Assignment of Rents and Leases, or otherwise), of the address of such mortgagees and/or trust deed holders. Tenant further agrees

that if Landlord shall have failed to cure such default within the time provided for in this Lease, then the mortgagees and/or trust deed holders shall have an additional thirty (30) days within which to cure such default or, if such default cannot be cured within that time, then such additional time as may be necessary if, within such thirty (30) days, any mortgagee and/or trust deed holder has commenced and is diligently pursuing the remedies necessary to cure such default (including, but not limited to, commencement of foreclosure proceedings, if necessary to effect such cure), in which event this Lease shall not be terminated while such remedies are being so diligently pursued.

31.6 Reasonable Accommodations

In connection with any financing of the Complex, Tenant shall consent to any reasonable modifications of this Lease requested by any lending institution, provided such modifications do not increase the Rent or other financial provisions contained herein, materially increase the obligations, or materially and adversely affect the rights of Tenant under this Lease.

ARTICLE 32

ESTOPPEL CERTIFICATES

32.1 Execution by Tenant

Within ten (10) business days after receipt of written request by Landlord, Tenant shall execute and deliver to Landlord an estoppel certificate acknowledging such facts regarding this Lease as Landlord may reasonably require, including, without limitation, that to the extent of Tenant's knowledge (i) this Lease is in full force and effect, binding and enforceable in accordance with its terms and unmodified (or if modified, specifying the written modification documents); (ii) no default exists on the part of Landlord or Tenant under this Lease; (iii) there are no events which with the passage of time, or the giving of a Default Existence Notice, or both, would create a default under this Lease; (iv) no rent in excess of one month's rent has been paid in advance; (v) Tenant has not received any written notice of any other sale, assignment, transfer, mortgage or pledge of this Lease or the rent due hereunder; and (vi) Tenant has no defense, setoff, recoupment or counterclaim against Landlord. Any such estoppel certificate may be relied upon by Landlord, any lender and any prospective purchaser of the Building(s) or the Complex or any interest therein. Failure to comply with this Article after five (5) business days' written notice of such failure, shall be a material breach of this Lease by Tenant giving Landlord all rights and remedies under this Lease, as well as a right to damages caused by the loss of a loan or sale which may result from such failure by Tenant.

32.2 Financing

If Landlord desires to finance or refinance the Premises, or any part thereof, or the Building, Tenant hereby agrees to deliver to any lender designated by Landlord such financial statements of Tenant as may be reasonably required by such lender, provided that such lender has been informed of the requirements of this Section 32.2 and has agreed to maintain the confidentiality of such information for a period of not less than three (3) years, and Landlord shall endeavor to obtain lender's agreement in writing.

Such statements shall include the past three (3) years' financial statements of Tenant. All such financial statements shall be received by Landlord and such lender in confidence and shall be used only for the purposes herein set forth.

ARTICLE 33

EXPANSION OPTIONS

33.1 First Expansion Option

(a) So long as FibroGen, Inc. (or an Affiliated Transferee or the third party under a Shared Space Arrangement) is the Tenant hereunder, Tenant shall have the option (the "***First Expansion Option***") to lease from Landlord all or a portion of Building 2 (the "***First Expansion Space***") upon the terms and conditions set forth in this Lease, subject to the following conditions:

(1) The First Expansion Option shall be exercised by written notice of Tenant's irrevocable election to exercise the First Expansion Option substantially in the form of Exhibit C-2 attached hereto (the "***First Exercise Notice***") given by Tenant to Landlord at any time prior to, but no later than, the date thirty (30) calendar months following the Rent Commencement Date (the "***First Extension Deadline***").

(2) The First Expansion Space shall consist of Floors 1-3 of Building 2 plus any contiguous floors of Building 2 (but no partial floors) which Tenant may designate.

(3) There shall be then no uncured default existing under this Lease on the date Tenant gives the First Exercise Notice.

(4) No portion of Building 1 in excess of one complete floor has been subleased (not including, in any case, any Transfers to Affiliated Transferees or to third parties under a Shared Space Arrangement) for a period terminating on a date which is later than that date eighteen (18) months prior to expiration of the Term and Tenant (or its Affiliated Transferees or third parties under a Shared Space Arrangement) continues to occupy all other portions of Building 1.

(5) Tenant intends to occupy the First Expansion Space.

(b) Immediately upon Tenant's giving the First Exercise Notice, (i) the First Expansion Space shall be deemed added to the Premises, (ii) the Principal Term shall be adjusted to extend for an additional period (the "***First Extension Period***"), so that this Lease shall expire fifteen (15) calendar years following the date of the First Exercise Notice (or, at the election of Tenant made at the time of delivery of the Exercise Notice, fifteen [15] calendar years following the last day of the First Extension Deadline) and (iii) Tenant shall have access to the First Expansion Space.

(c) Notwithstanding the expansion of the Premises to include the First Expansion Space upon Tenant's giving the First Exercise Notice, Minimum Monthly Rent with respect to the First Expansion Space shall not commence and Tenant's Proportionate Share of Operating Costs, Taxes and Insurance shall not be adjusted until the earlier to occur of (i) the

date Tenant occupies such additional portion of the Premises to conduct its business or (ii) three hundred (300) days following the date Tenant gives the First Exercise Notice (the "***First Expansion Rent Commencement Date***"). Commencing on the First Expansion Space Rent Commencement Date, (x) Minimum Monthly Rent for the Premises shall be adjusted to include payments allocable to the First Expansion Space at the rate then applicable to the balance of the Premises and (y) Minimum Monthly Rent for the Principal Term (as extended for the First Extension Period) shall continue to be increased by two percent (2%) per year commencing on the anniversary of the First Exercise Notice and continuing throughout the Principal Term. Promptly following the First Expansion Space Rent Commencement Date, Landlord shall prepare and the parties shall execute an Acknowledgement of Expansion in the font' attached hereto as Exhibit C-3

(d) Upon exercise of the First Expansion Option, Landlord shall make available to Tenant an additional construction allowance (the "***First Expansion Space TI Allowance***") to be applied to the cost of improving the First Expansion Space in an amount not to exceed the sum of One Hundred Thirty-Six and 50/100 Dollars ($136.50) per square foot of Rentable Area of the First Expansion Space, on and subject to the same terms and conditions as are contained in the Work Letter; provided, however, that in the event the First Exercise Notice is given by Tenant on or before the expiration of the twenty-fourth (24th) full calendar month following the Rent Commencement Date, the First Expansion Space TI Allowance shall be in an amount not to exceed One Hundred Forty-Six and 50/100 Dollars ($146.50) per square foot of Rentable Area.

(e) Upon exercise of the First Expansion Option, Tenant shall deliver to Landlord an additional letter of credit in an amount equal to seven (7) times the average Minimum Monthly Rent to be paid by Tenant during the Principal Term for the First Expansion Space (the "***First Expansion Letter of Credit***"). The First Expansion Letter of Credit shall be in the same form as and shall otherwise comply with the provisions of Section 8.1 applicable to the Initial Letter of Credit. The amount of the First Expansion Letter of Credit shall be reduced: (i) on each of the eighth (8th), ninth (9th) and tenth (10th) anniversaries of the First Expansion Rent Commencement Date by an amount equal to one (1) times the average Minimum Monthly Rent to be paid by Tenant during the Principal Term for the First Expansion Space; and (ii) on the eleventh (11th) anniversary of the First Expansion Rent Commencement Date by an amount equal to two (2) times the average Minimum Monthly Rent to be paid by Tenant during the Principal Term for the First Expansion Space; provided, however, that no reduction shall be permitted on any anniversary unless the conditions described in Section 8.1(d)(i)-(iii) have been satisfied as of such anniversary.

33.2 First Expansion Option Payment

In the event Tenant fails for any reason to timely exercise the First Expansion Option, Tenant shall pay to Landlord a one-time payment of Five Million and No/100 Dollars ($5,000,000.00) (the "***First Expansion Option Payment***") on the thirty-first (31st) full calendar month following the Rent Commencement Date, and Tenant shall thereafter have no additional rights to lease any portion of Building 2. Tenant may elect to pay the First Expansion Option Payment in equal monthly installments over the remainder of the Principal Term, together with interest at the rate of ten percent (10%) per annum.

33.3 Second Expansion Option

(a) So long as FibroGen, Inc. (or a Permitted Transferee) is the Tenant hereunder, and Tenant shall have timely exercised the First Expansion Option, Tenant shall have the option (the "***Second Expansion Option***") to lease from Landlord the remaining space in Building 2 (the "***Second Expansion Space***") upon the terms and conditions set forth in this Lease, subject to the following conditions:

(1) The Second Expansion Option shall be exercised by written notice of Tenant's irrevocable election to exercise the Second Expansion Option substantially in the form of Exhibit C-2 attached hereto (the "***Second Exercise Notice***") given by Tenant to Landlord at any time prior to, but no later than, the date twelve (12) calendar months following the First Expansion Rent Commencement Date (the "***Second Extension Deadline***").

(2) The Second Expansion Space shall consist of all of the remaining rentable area of Building 2.

(3) There shall be then no uncured default existing under this Lease on the date Tenant gives the Second Exercise Notice.

(4) No portion of the existing Premises in excess of one complete floor (not including, in any case, any space Transferred to Affiliated Transferees or to third parties under a Shared Space Arrangement) has been subleased for a period terminating on a date which is later than that date eighteen (18) months prior to expiration of the Term and Tenant (or Affiliated Transferees or third parties under a Shared Space Arrangement) continues to occupy all other portions of the existing Premises.

(5) Tenant intends to occupy the Second Expansion Space.

(b) Immediately upon Tenant's giving the Second Exercise Notice, (i) the Second Expansion Space shall be deemed added to the Premises, (ii) the Principal Term shall be adjusted to extend for an additional period (the "***Second Extension Period***"), so that this Lease shall expire fifteen (15) years following the Second Exercise Notice (or, at the election of Tenant made at the time of delivery of the Second Exercise Notice, fifteen [15] calendar years following the last day of the Second Extension Deadline) and (iii) Tenant shall have access to the Second Expansion Space.

(c) Notwithstanding the expansion of the Premises to include the Second Expansion Space upon Tenant's giving the Second Exercise Notice, Minimum Monthly Rent with respect to the Second Expansion Space shall not commence and Tenant's Proportionate Share of Operating Costs, Taxes and Insurance shall not be adjusted until the earlier to occur of (i) the date Tenant occupies the Second Expansion Space to conduct its business or (ii) one hundred eighty (180) days following the date Tenant gives the Second Exercise Notice (the "***Second Expansion Rent Commencement Date***"); provided, however, that Landlord, upon the written request of Tenant, in recognition of the fact that Tenant requires all of said 180-day period for its work of construction of the improvements to the Second Expansion Space, will cooperate with Tenant with the plan approval process and the process of obtaining the applicable building permits for such work, prior to the date that Tenant delivers the Second Expansion

Notice; provided further, that if Tenant does not exercise the Second Expansion Option Tenant shall reimburse Landlord for all costs and expenses incurred by Landlord in connection with such cooperation. Commencing on the Second Expansion Space Rent Commencement Date, (x) Minimum Monthly Rent for the Premises shall be adjusted to include payments allocable to the Second Expansion Space at the rate then applicable to the balance of the Premises and (y) Minimum Monthly Rent for the Principal Term (as extended for the Second Extension Period) shall continue to be increased by two percent (2%) per year commencing on the anniversary of the Second Exercise Notice and continuing throughout the Principal Term. Promptly following the Second Expansion Space Rent Commencement Date, Landlord shall prepare and the parties shall execute an Acknowledgement of Expansion in the form attached hereto as Exhibit C-3

(d) Upon exercise of the Second Expansion Option, Landlord shall make available to Tenant an additional construction allowance (the "***Second Expansion Space TI Allowance***") to be applied to the cost of improving the First Expansion Space in an amount not to exceed the sum of One Hundred Sixteen and 50/100 Dollars ($116.50) per Square foot of Rentable Area of the Second Expansion Space, on and subject to the same terms and conditions as are contained in the Work Letter.

(e) Promptly upon exercise of the Second Expansion Option, Tenant shall deliver to Landlord an additional letter of credit in an amount equal to seven (7) times the average Minimum Monthly Rent to be paid by Tenant during the Principal Term for the Second Expansion Space (the "***Second Expansion Letter of Credit***"). The Second Expansion Letter of Credit shall be in the same form as and shall otherwise comply with the provisions of Section 8.1 applicable to the Initial Letter of Credit and the First Expansion Letter of Credit. The amount of the Second Expansion Letter of Credit shall be reduced: (i) on each of the eighth (8th), ninth (9th) and tenth (10th) anniversaries of the Second Expansion Rent Commencement Date by an amount equal to one (1) times the average Minimum Monthly Rent to be paid by Tenant during the Principal Term for the Second Expansion Space; and (ii) on the eleventh (11th) anniversary of the Second Expansion Rent Commencement Date by an amount equal to two (2) times the average Minimum Monthly Rent to be paid by Tenant during the Principal Term for the Second Expansion Space; provided, however, that no reduction shall be permitted on any anniversary unless the conditions described in Section 8.1(d)(i)-(iii) have been satisfied as of such anniversary.

33.4 Second Increment Option Payment

In the event Tenant exercises the First Expansion Option, but fails for any reason to timely exercise the Second Expansion Option, Tenant shall pay to Landlord a one-time payment equal to Twenty-Four and No/100 Dollars ($24.00) per square foot of Rentable Area of the Second Expansion Space (the "***Second Expansion Option Payment***"), on the first day of the fifty-first (51st) full calendar month following the Rent Commencement Date. Tenant may elect to pay the First Expansion Option Payment in equal monthly installments over the remainder of the Principal Term, together with interest at the rate of ten percent (10%) per annum.

ARTICLE 34

OPTION TO EXTEND TERM

34.1 Option to Extend

(a) *Option to Renew*. Tenant shall have the option to renew this Lease: (i) as to Building 1 and Building 2 (but not less than both, if Tenant leases the entirety of each); or (ii) as to all of Building 1 (but not less than all) and, at Tenant's election, such portion of Building 2 as it then leases (but not less than all of such portion), if Tenant leases all of Building 1 and a portion of, but not all, of Building 2, for one (1) additional term of ten (10) years, commencing upon the expiration of the Principal Term of the Lease (such ten-year period being referred to herein as a "***Renewal Period***"). The renewal option must be exercised, if at all, by written notice given by Tenant to Landlord not later than twenty-four (24) months prior to expiration of the Principal Term of this Lease. Notwithstanding the foregoing, at Landlord's election, this renewal option shall be null and void and Tenant shall have no right to renew this Lease if any of the following conditions is met: (i) as of the date immediately preceding the commencement of the Renewal Period, the Tenant originally named herein (or an Affiliate or third party subject to a Shared Space Arrangement) (a) is not in occupancy of at least all of the entire Premises then demised hereunder, except for no more than two (2) complete floors (in the event that the Premises then consists of Building 1 and half of Building 2) or three (3) complete floors, (in the event that the Premises then consists of both Building 1 and Building 2), or (b) does not intend to continue to occupy the Premises (but intends to assign this Lease or sublet the space in whole or in part); or (ii) on the date Tenant exercises the renewal option or on the date immediately preceding the commencement date of the Renewal Period Tenant is in default of any of its obligations under this Lease, or there has occurred any event which, with the giving of a Default Existence Notice or the passage of time or both would be a default by Tenant hereunder.

(b) *Terms and Conditions*. If Tenant exercises the renewal option, then during the Renewal Period all of the terms and conditions set forth in this Lease as applicable to the Premises during the Principal Term shall apply during the renewal term, except that (i) Tenant shall have no further right to renew this Lease, (ii) Tenant shall take the Premises in their then "as-is" state and condition, (iii) the Minimum Monthly Rent payable by Tenant for the Premises shall be the then-fair market rent for Comparable Buildings, (iv) there shall be no Expansion Options, (v) Landlord shall not provide any tenant improvement allowance and the letter of credit serving as security deposit for the lease obligations pursuant to Section 8.1 (a) shall be reduced to an amount equal to the average of one (1) month of Minimum Monthly Rent for the Renewal Period. Fair market rent shall include the periodic rental increases, if any, that would be included for space leased for the period of the renewal term. For purposes of this Section 34.1, the term "fair market rent" shall mean the rental rate that would be applicable for a lease term commencing on the commencement date of the renewal term and that would be payable in any arms length negotiations for the Premises in their then as-is condition, for the renewal term, which rental rate may be established by reference to rental terms actually negotiated for comparable space under primary lease (and not sublease), taking into consideration the location of the Building(s) and such amenities as existing improvements, view, floor on which the Premises are situated and the like, situated in Comparable Buildings, in similar physical and economic condition as the Building(s), engaged in then-prevailing ordinary

rental market practices with respect to tenant concessions (if any) (e.g. not offering extraordinary rental, promotional deals and other concessions to tenants in an effort to alleviate cash flow problems, difficulties in meeting loan obligations or other financial distress, or in response to a greater than average vacancy rate in a particular building) and taking into account then market concessions (including, but not limited to, any construction allowances and/or rent abatement) and brokerage fees. The fair market rent shall be mutually agreed upon by Landlord and Tenant in writing within the thirty (30) calendar day period commencing six (6) months prior to commencement of the renewal period. If Landlord and Tenant are unable to agree upon the fair market monthly rent within such thirty (30)-day period, then the fair market rent shall be established by appraisal in accordance with the procedures set forth in Section 31.1(c) below.

(c) *Appraisal*. Within fifteen (15) days after the expiration of the thirty (30)-day period for the mutual agreement of Landlord and Tenant as to the fair market rent, each party hereto, at its cost, shall engage a real estate appraiser to act on its behalf in determining the fair market rent. The appraisers each shall have at least ten (10) years' experience with leases in Comparable Buildings and shall submit to Landlord and Tenant in advance for Landlord's and Tenant's reasonable approval the appraisal methods to be used. If a party does not appoint an appraiser within said fifteen (15)-day period but an appraiser is appointed by the other respective party, the single appraiser appointed shall be the sole appraiser and shall set the fair market rent. If the two appraisers are appointed by the parties as stated in this paragraph, such appraisers shall meet promptly and attempt to set the fair market rent. If such appraisers are unable to agree within thirty (30) days after appointment of the second appraiser, the appraisers shall elect a third appraiser meeting the qualifications stated in this paragraph within ten (10) days after the last date the two appraisers are given to set the fair market rent. Each of the parties hereto shall bear one-half (1/2) the cost of appointing the third appraiser and of the third appraiser's fee. The third appraiser shall be a person who has not previously acted in any capacity for either party.

The third appraiser shall conduct his own investigation of the fair market rent, and shall be instructed not to advise either party of his determination of the fair market rent except as follows: When the third appraiser has made his determination, he shall so advise Landlord and Tenant and shall establish a date, at least five (5) days after the giving of notice by the third appraiser to Landlord and Tenant, on which he shall disclose his determination of the fair market rent. Such meeting shall take place in the third appraiser's office unless otherwise agreed by the parties. After having initialed a paper on which his determination of fair market rent is set forth, the third appraiser shall place his determination of the fair market rent in a sealed envelope. Landlord's appraiser and Tenant's appraiser shall each set forth their determination of fair market rent on a paper, initial the same and place them in sealed envelopes. Each of the three envelopes shall be marked with the name of the party whose determination is inside the envelope.

In the presence of the third appraiser, the determination of the fair market rent by Landlord's appraiser and Tenant's appraiser shall be opened and examined. If the higher of the two determinations is one hundred five percent (105%) or less of the amount set forth in the lower determination, the average of the two determinations shall be the fair market rent, the envelope containing the determination of the fair market rent by the third appraiser shall be destroyed and the third appraiser shall be instructed not to disclose his determination. If either

party's envelope is blank, or does not set forth a determination of fair market rent, the determination of the other party shall prevail and be treated as the fair market rent. If the higher of the two determinations is more than one hundred five percent (105%) of the amount of the lower determination, the envelope containing the third appraiser's determination shall be opened. If the value determined by the third appraiser is the average of the values proposed by Landlord's appraiser and Tenant's appraiser, the third appraiser's determination of fair market rent shall be the fair market rent. If such is not the case, fair market rent shall be the rent proposed by either Landlord's appraiser or Tenant's appraiser which is closest to the determination of fair market rent by the third appraiser.

(d) *Delay in Determination of Monthly Minimum Rent*. If the fair market rent is not established prior to the commencement of the renewal period, then Tenant shall continue to pay as Monthly Minimum Rent and Additional Rent the sums in effect as of the last day of the Principal Term of the Lease and, as soon as the fair market rent is determined, Tenant shall immediately pay to Landlord any deficiency in the amount paid by Tenant during such period, or, if Tenant paid excess Monthly Minimum Rent during such period, Landlord shall credit such excess payments to the Monthly Minimum Rent amounts next due

ARTICLE 35

MISCELLANEOUS PROVISIONS

35.1 Effect of Waiver

The waiver by Landlord or Tenant of any breach of any Lease provision by the other party shall not be deemed to be a waiver of such Lease provision or any subsequent breach of the same or any other term, covenant or condition therein contained. The subsequent acceptance of rent hereunder by Landlord shall not be deemed to be a waiver of any preceding breach by Tenant of any provision of this Lease, other than the failure of Tenant to pay the particular rental so accepted, regardless of Landlord's knowledge of such preceding breach at the time of acceptance of such rent. Any failure by Landlord or Tenant to insist upon strict performance by the other of this Lease of any of the terms and provisions of the Lease or any guaranty of this Lease shall not be deemed to be a waiver of any of the terms or provisions of the Lease or such guaranty, and Landlord or Tenant, as the case may be, shall have the right thereafter to insist upon strict performance by the other of any and all of them.

35.2 Month-to-Month Tenancy on Acceptance

If Tenant should remain in possession of the Premises after the expiration of the Term and without executing a new Lease, then, upon acceptance of rent by Landlord, such holding over shall be construed as a tenancy from month-to-month, subject to all the conditions, provisions and obligations of this Lease as existed during the last month of the term hereof, so far as applicable to a month to month tenancy, except that the Minimum Monthly Rent shall be equal two hundred percent (200%) of the greater of (a) the Minimum Monthly Rent payable immediately prior to the expiration or sooner termination of the Lease, or (b) the then fair market rent; provided, however, that Tenant shall also be liable for any and all damages suffered or sustained by Landlord as a result of such holdover, including, without limitation, any loss of

rental income from any other tenant that was interested in leasing all or any portion of the Premises, brokerage commissions, design fees and any other damages as a result. Additionally, in the event that upon termination of the Lease, Tenant has not fulfilled its obligation with respect to repairs and cleanup of the Premises or any other Tenant obligations as set forth in this Lease, then Landlord shall have the right to perform any such obligations as it deems necessary at Tenant's sole cost and expense, and any time required by Landlord to complete such obligations shall be considered a period of holding over and the terms of this section shall apply.

35.3 Binding Effect

The covenants and conditions herein contained shall, subject to the provisions as to assignment, apply to and bind the heirs, successors, executors, administrators and assigns of all of the parties hereto; and all of the parties hereto shall be jointly and severally liable hereunder.

35.4 Time of the Essence

Time is of the essence of this Lease with respect to each and every article, section and subsection hereof.

35.5 Release of Landlord

If, during the term of this Lease, Landlord shall sell its interest in the Buildings or the Complex of which the Premises form a part, or the Premises, then from and after the effective date of the sale or conveyance, and provided that Landlord advises Tenant in writing that the purchaser of such interest agrees in writing to assume all of Landlord's obligations under this Lease, Landlord shall be released and discharged from any and all obligations and responsibilities under this Lease, except those already accrued.

35.6 Rules and Regulations

Landlord or such other person(s) as Landlord may appoint shall have the exclusive control and management of the Common Areas and shall have the right, from time to time, to establish, modify, amend and enforce reasonable rules and regulations with respect thereto, subject to the provisions of this Lease which shall control in the event of any conflict with such rules and regulations. Tenant agrees to abide by and conform to all such rules and regulations, and to cause its employees, suppliers, shippers, customers, and invitees to so abide and conform. Landlord shall not be responsible to Tenant for the non-compliance with said rules and regulations by other tenants of the Buildings or the Complex.

35.7 Transfer to Purchaser

If any security be given by Tenant to secure the faithful performance of all or any of the covenants of this Lease on the part of Tenant, Landlord may transfer and/or deliver the security, as such, to the purchaser of the reversion, in the event that the reversion be sold, and thereupon Landlord shall be discharged from any further liability in reference thereto.

35.8 Late Charges

Tenant acknowledges that late payment by Tenant to Landlord of rent or any other payment due hereunder will cause Landlord to incur costs not contemplated by this Lease, the exact amount of such costs being extremely difficult and impractical to fix. Such costs include, without limitation, processing and accounting charges, and late charges that may be imposed on Landlord by the terms of any encumbrance and note secured by any encumbrance covering the Premises. Therefore, if any installment of rent, or any other payment due hereunder from Tenant is not received by Landlord when due, Tenant shall pay to Landlord an additional sum of ten percent (10%) of such rent or other charge as a late charge. The parties agree that this late charge represents a fair and reasonable estimate of the cost that Landlord will incur by reason of late payment by Tenant. Acceptance of any late charge shall not constitute a waiver of Tenant default with respect to the overdue amount, or prevent Landlord from exercising any other rights or remedies available to Landlord. Notwithstanding the foregoing, Landlord shall give Tenant notice of non-payment of any Minimum Monthly Rent, Additional Rent or other payments required of Tenant under this Lease one (1) time in each calendar year before assessing a late charge, and any late charge assessed for the first infraction (after the payment corresponding to the first notice) under this Lease shall be in the lesser amount of five percent (5%) of the delinquent rent or other charge.

35.9 Interest

Any amount owed by Tenant to Landlord which is not paid when due shall bear interest at the lesser of ten percent (10%) per annum or the maximum rate of interest permitted to be contracted for by law. However, interest shall not be payable on late charges to be paid by Tenant under this Lease. The payment of interest on such amounts shall not excuse or cure any default by Tenant under this Lease.

35.10 Authorization to Execute

If Tenant is a corporation, limited liability company, partnership or other entity, each individual executing this Lease on behalf of said organization represents and warrants that he is duly authorized to execute and deliver this Lease on behalf of said organization in accordance with a duly adopted resolution or other applicable authorization of said organization, and that this Lease is binding upon said organization in accordance with its terns. Further, Tenant shall, within thirty (30) days after execution of this Lease, deliver to Landlord a certified copy of a resolution or other applicable authorization of said organization authorizing or ratifying the execution of this Lease.

35.11 Captions

The captions of this Lease are for convenience only and are not a part of this Lease and do not in any way limit or amplify the terms and provisions of this Lease.

35.12 Number and Gender

Whenever the singular number is used in this Lease and when required by the context, the same shall include the plural, the plural shall include the singular, and the masculine

gender shall include the feminine and neuter genders, and the word "***person***" shall include corporation, firm or association. If there be more than one Tenant, the obligations imposed under this Lease upon Tenant shall be joint and several.

35.13 Modifications

This instrument, including the exhibits hereto, contains all of the agreements, conditions and representations made between the parties to this Lease and may not be modified orally or in any other manner than by an agreement in writing signed by all of the parties to this Lease.

35.14 Payments

Except as otherwise expressly stated, each payment required to be made by Tenant shall be in addition to and not in substitution for other payments to be made by Tenant.

35.15 Severability

The invalidity of any provision of this Lease, as determined by a court of competent jurisdiction, shall in no way affect the validity of any other provision hereof.

35.16 No Offer

The preparation and submission of a draft of this Lease by either party to the other shall not constitute an offer, nor shall either party be bound to any terms of this Lease or the entirety of the Lease itself until both parties have fully executed a final document and an original signature document has been received by both parties. Until such time as described in the previous sentence, either party is free to terminate negotiations with no obligation to the other.

35.17 Light, Air and View

If at any time any windows of the Premises are temporarily darkened or covered over by reason of any repair, maintenance or restoration work, or any of such windows are permanently darkened or covered over due to any applicable governmental law or requirement or there is otherwise a diminution of light, air or view by another structure which may hereinafter be erected (whether or not by Landlord), Landlord shall not be liable for any damages and Tenant shall not be entitled to any compensation or abatement of any Rent, nor shall the same release Tenant from its obligations hereunder or constitute an actual or constructive eviction.

35.18 Joint and Several Liability

Should Tenant consist of more than one person or entity, they shall be jointly and severally liable on this Lease.

35.19 Survival of Obligations

All obligations of Tenant which may accrue or arise during the term of this Lease or as a result of any act or omission of Tenant during said term shall, to the extent they have not been fully performed, satisfied or discharged, survive the expiration or earlier termination of this Lease.

35.20 Real Estate Brokers

Landlord and Tenant each represents and warrants to the other party that it has not authorized or employed, or acted by implication to authorize or employ, any real estate broker or salesman to act for it in connection with this Lease, except for the Broker(s) identified in Article 1. Landlord and Tenant shall each indemnify, defend and hold the other party harmless from and against any and all claims by any real estate broker or salesman whom the indemnifying party authorized or employed, or acted by implication to authorize or employ, to act for the indemnifying party in connection with this Lease; provided, however, that Landlord agrees to pay the commission owed to Tenant's Broker in connection with this Lease as set forth in a separate agreement between Tenant and the Broker.

35.21 Waiver of California Code Sections

In this Lease, numerous provisions have been negotiated by the parties, some of which provisions are covered by statute. Whenever a provision of this Lease and a provision of any statute or other law cover the same matter, the provisions of this Lease shall control. Therefore, Tenant waives (for itself and all persons claiming under Tenant) the provisions of Civil Code Sections 1932(2) and 1933(4) with respect to the destruction of the Premises; Civil Code Sections 1941 and 1942 with respect to Landlord's repair duties and Tenant's right to repair; Code of Civil Procedure Section 1265.130, allowing either party to petition the Superior Court to terminate this Lease in the event of a partial taking of the Premises by condemnation as herein defined in Section 20.1(a) above; and any right of redemption or reinstatement of Tenant under any present or future case law or statutory provision (including Code of Civil Procedure Sections 473 and 1179 and Civil Code Section 3275) in the event Tenant is dispossessed from the Premises for any reason. This waiver applies to future statutes enacted in addition to or in substitution for the statutes specified herein.

35.22 Quiet Enjoyment

So long as Tenant pays all of the Minimum Monthly Rent, all Additional Rent and other sums and charges under the Lease and otherwise performs all of its obligations in the Lease, Tenant shall have the right to possession and quiet enjoyment of the Premises free from any unreasonable disturbance or interference, subject to the terms and provisions of the Lease. Landlord represents and warrants that it has the full right and power to execute and perform this Lease and to grant the estate demised herein.

35.23 Counterparts

This Lease may be executed in one or more counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one agreement.

35.24 Mission Bay Requirements

(a) *X-4 Owner's Participation Agreement*. The parties agree that the OPA contains requirements relating to the design and construction of structures, infrastructure, and other improvements to the Land and the Complex. Tenant acknowledges that it has received and reviewed the OPA and agrees that it will take all actions, including, without limitation, maintaining of such records and documents, as may be necessary to comply with the requirements contained in the OPA pertaining to construction of the Tenant Improvements or other alterations to the Premises or generally in connection with its use of the Premises, or that may otherwise be reasonably required of Tenant to assist Landlord and its affiliates in complying with the OPA.

(b) *Program in Diversity/Economic Development*. Tenant acknowledges that it has received and reviewed the Program in Diversity/Economic Development Program. Without limiting the generality of the covenants contained in Section 35.24(a) above, Tenant agrees comply with, and shall cause its contractors, subtenants and any others occupying or using the Premises through Tenant (herein, "***Tenant's Contractors***"), all applicable provisions of the Equal Opportunity Program, including, but not limited to all requirements relating to prevailing wages and various submission, notice and review provisions associated with Minority- and Women-Owned Business participation. Tenant acknowledges that the Premises and the Complex is covered by the City-wide First Source Hiring Program ("***FSHP***") adopted by the City and County of San Francisco August 3, 1998 and codified at San Francisco Administrative Code Sections 83.1-83.1(8). The FSHP is designed to identify entry-level positions associated with employees engaged in construction work for certain commercial development projects and to provide first interview opportunity to graduates of city-sponsored training programs. Tenant acknowledges that its contractors' activities and those of Tenant's Contractors, are or may be subject to the FSHP and that Landlord may have certain obligations under the FSHP that require Tenant's Contractors' good faith cooperation and assistance. Tenant acknowledges that the FSHP may impose obligations on Tenant's Contractors, including good faith efforts to meet requirements and goals regarding interviewing, recruiting, hiring and retention of individuals. Tenant agrees to cause its Tenant's Contractors to comply with any applicable FSHP requirements and Tenant further agrees to cause Tenant's Contractors to take all actions that Landlord may reasonably require to assist Landlord in its compliance with obligations in connection with the FSHP.

(c) *Non-Discrimination*. Tenant and Tenant's contractors shall not discriminate against any employee or applicant for employment because of sex, *race*, creed, color, national origin, age, ancestry, religion, marital status or handicap. Tenant "shall take affirmative action to ensure that applicants are employed and treated during employment without regard to their sex, race, creed, color, national origin, age, ancestry, religion, marital status or handicap. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay, or other forms of compensation; and selection for training, including apprenticeship. Tenant shall post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this Section 35.24(c).

35.25 Right of First Negotiation

Provided that there then exists no Event of Default under this Lease, nor any event which with notice or the passage of time or both would become an Event of Default, if Landlord desires to sell Building 1, Building 2 or the entire Complex (as applicable, the "*Space*"), Landlord shall so notify Tenant in writing (a "*Sale Notice*"), which Sale Notice shall specify the proposed purchase price for the Space and the terms and conditions for the proposed sale, including, without limitation, (i) that the purchase and sale shall be made on an "as is-where is" basis, (ii) that following the purchase, the Space shall be used and occupied by Tenant and (iii) that upon execution of a binding purchase agreement, Tenant shall provide a nonrefundable deposit in an amount of four percent (4%) of the purchase price, which terms and conditions shall be included in Landlord's standard purchase and sale agreement (a "*Purchase Contract*"). Following Tenant's receipt of a Sale Notice, Tenant shall notify Landlord if Tenant desires to purchase the Space for its own use (and not for purposes of speculating in real estate) and shall have thirty (30) days after Tenant's receipt of the Sale Notice to execute the Purchase Contract. During such 30-day period, Landlord shall refrain from marketing the Space and from entering into any negotiations with any parties other than Tenant. If, for any reason, Tenant does not execute the Purchase Contract within such period, Landlord shall be free to market and sell the Space to another party on such terms and conditions as it shall see fit; provided, however, that if Landlord fails to consummate a sale of the Space within nine (9) months after Landlord is permitted by this Section 35.25 to sell the Space to another party, or if before or after such nine (9) month period, Landlord desires to sell the Space for a purchase price which is less than ninety percent (90%) of the purchase price set forth in Landlord's Sale Notice, Landlord shall again be required to comply with the provisions of this Section 35.25 prior to selling the Space.

[Signature Page Follows]

IN WITNESS WHEREOF, Landlord and Tenant have executed this Lease as of the day and year first written above.

LANDLORD:

X-4 DOLPHIN LLC,
a Delaware limited liability company

By Shorenstein Realty Investors Seven, LP

By: /s/ [Illegible Signature]
Name: [Illegible Name]

Title:

TENANT:

FIBROGEN, INC.,
a Delaware corporation

By: /s/ Thomas B. Neff

Name: Thomas B. Neff

Title: CEO

By:

Name:

Title:

EXHIBIT A-1

LAND

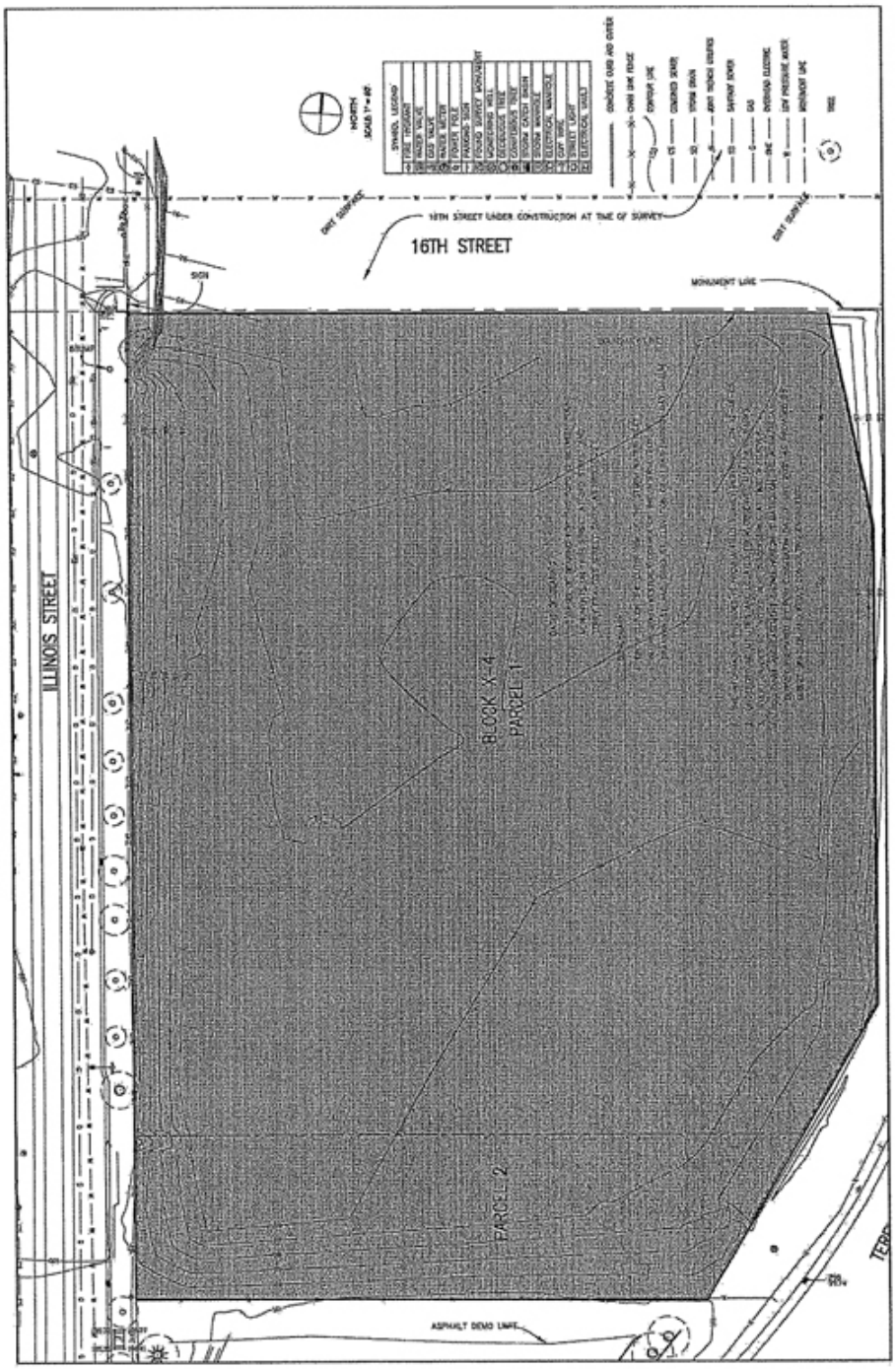

EXHIBIT A-2

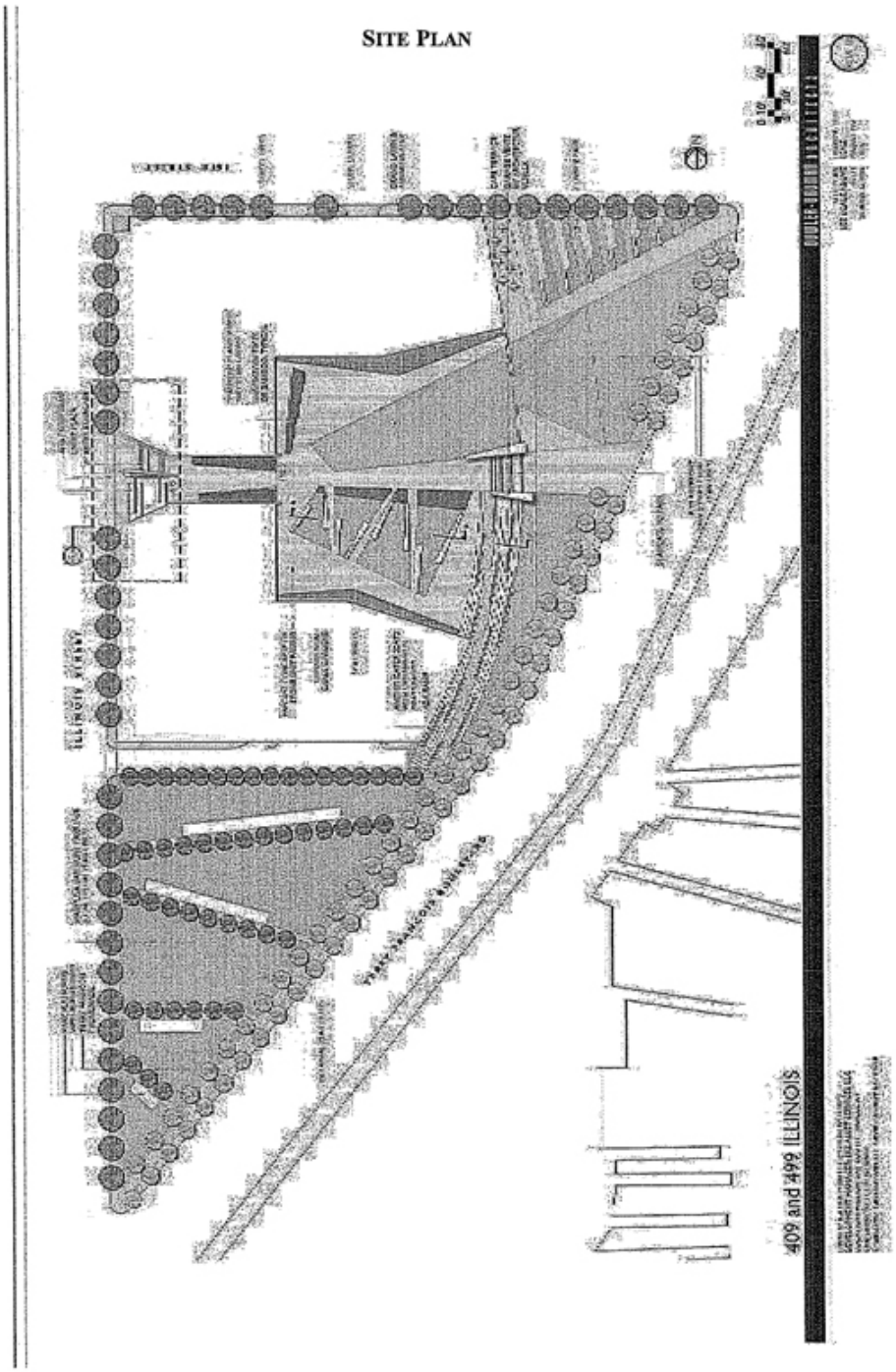

EXHIBIT B

WORK LETTER AGREEMENT

This Work Letter Agreement ("***Agreement***") is being entered into as of September 22, 2006 between X-4 DOLPHIN LLC, a Delaware limited liability company ("***Landlord***"), and FIBROGEN, INC., a Delaware corporation ("***Tenant***"), in connection with the execution of the Lease Agreement between Landlord and Tenant of even date herewith ("***Lease***"), who hereby agree as follows:

1. General.

(a) The purpose of this Agreement is to describe the process for construction of the shell and core of the Buildings (the "***Base Building Work***," as hereinafter defined) and to set forth how the tenant improvements in the Premises (the "***Tenant Improvements***," as hereinafter defined) are to be constructed, who will undertake the construction of the Tenant Improvements and the Base Building Work, who will pay for the construction of the Tenant Improvements, and the time schedule for completion of the construction of the Base Building Work and the Tenant Improvements.

(b) Except as defined in this Agreement to the contrary, all terms utilized in this Agreement shall have the same meaning ascribed to them in the Lease.

(c) The provisions of the Lease, except where clearly inconsistent or inapplicable to this Agreement, are incorporated into this Agreement.

2. Definitions

(a) Base Building Work: Construction of the building shell and core for Building 1 and Building 2, as described in Schedule 1.

(b) Improvements: The Base Building Work, Site Improvements, Tenant Improvements and other improvements shown on the Approved Plans from time to time and to be constructed on the Complex pursuant to the Lease and this Work Letter.

(c) Landlord's Contractor: Hathaway Dinwiddie

(d) Site Improvements: The parking areas, driveways, landscaping and other improvements to the Common Areas of the Complex.

(e) Tenant's Contractor: tentatively (subject to final negotiations).

(f) Tenant's Architect: tentatively (subject to final negotiations).

(g) Tenant Improvements. All of the Improvements other than those constituting Base Building Work, and such other materials and improvements as Tenant deems necessary or appropriate for Tenant's use and occupancy of the Premises to be constructed by Tenant pursuant to the Approved Plans.

(h) Landlord Delay:

(i) Any actual delay in completion of the Tenant Improvements, which delay shall be calculated on a net-critical-path basis, resulting from the failure of Landlord to provide any approvals, responses or notices within the time frameworks required by Section 4 below.

(ii) Any actual delay in the completion of the Tenant Improvements, which delay shall be calculated on a net-critical-path basis, resulting from the failure of Landlord to deliver (1) either of Floors 2 and 3 of Building 1 to Tenant (for purposes of commencing construction of the Tenant Improvements therein) within sixty (60) days after the Tenant Access Date, or (2) any of Floors 4, 5 or 6 or the roof of Building 1 to Tenant (for purposes of commencing construction of the Tenant Improvements therein or thereon) within ninety (90) days after the Tenant Access Date.

(i) Tenant Delay: Any of the following types of delay in the completion of construction of the Base Building Work:

(i) Any actual delay, calculated on a net-critical-path basis, resulting from Tenant's failure to furnish, in a timely manner, information requested by Landlord or by Landlord's Contractor or Landlord's architect for Base Building Work in connection with the design or construction of the Base Building Work, or from Tenant's failure to approve in a timely manner any matters requiring approval by Tenant;

(ii) Any actual delay, calculated on a net-critical-path basis, resulting from Tenant change orders, including any delay resulting from the need to revise any drawings or obtain further governmental approvals as a result of any change order;

(iii) Any actual delay, calculated on a net-critical-path basis, resulting from any early entry to the Premises by Tenant or Tenant's Parties allowed prior to the Tenant Access Date; or

(iv) Any material and actual delay, calculated on a net-critical-path basis, of any other kind or nature caused by Tenant or Tenant's Parties.

3. Base Building Work

(a) Landlord shall, at Landlord's sole cost and expense, cause Landlord's Contractor to perform the Base Building Work and the Site Improvements. Landlord shall use commercially reasonable efforts to complete such construction with the applicable time periods set forth in the Estimated Construction Schedule attached hereto as Schedule 2, as the same may be modified from time to time (the "***Estimated Construction Schedule***").

(b) A portion of the Base Building Work may be performed concurrently with the construction by Tenant's Contractor of the Tenant Improvements. Landlord and Tenant acknowledge and agree that during the time the Tenant's Contractor and the Landlord's Contractor are working concurrently onsite, the Landlord's contractor should have priority over the scheduling of work until such time as the Base Building Work (including work on all floors) is Substantially Complete. Tenant further acknowledges that, as the result of the timing of work on the Base Building, Site Improvements and Tenant Improvements, changes and modifications to the Base Building and Site Improvements may occur during construction that require Tenant to make modifications to its plans or timing of construction of the Tenant Improvements. Landlord shall not be responsible for any increased costs to Tenant resulting from such modifications or from timing changes or delays, except for increased costs resulting from a "Landlord Delay" or from material design changes following approval of the Final Construction Drawings (as defined in Section 4(d) below) which require Tenant to substantially revise its plans.

4. TI Plan and Construction Drawings.

(a) *Preliminary TI Plan*. Within forty-five (45) days after the execution of the Lease, Tenant shall submit to Landlord for approval a conceptual construction plan ("***Preliminary TI Plan***") for construction of the Tenant Improvements in the Premises prepared by Tenant's Architect and/or Process Engineer, which shall include, without limitation, the general location of doors, corridors, entrances, exits, partitions, basic building systems, heavy floor loads and other special requirements, and the location of all offices, conference rooms, laboratories, the vivarium, the pilot plant, and the hazardous materials storage area. Landlord agrees to cooperate with Tenant and its design representatives in connection with the preparation of the Preliminary TI Plan. Within fifteen (15) days after receipt by Landlord of the Preliminary TI Plan, Landlord (i) shall give its written approval with respect thereto, which approval shall include a notice to Tenant of the Preliminary TI Plan's estimated impact on costs and/or time, which impact shall be incorporated into the applicable budget or schedule ("***Cost/Time Modifications***"), or (ii) shall notify Tenant in writing of its disapproval and state with specificity the grounds for such disapproval and the revisions or modifications necessary in order for Landlord to give its approval. Within fifteen (15) days following Tenant's receipt of Landlord's disapproval, Tenant shall submit to Landlord for approval the requested revisions or modifications. Within fifteen (15) days following receipt by Landlord of such revisions or modifications, Landlord shall give its written approval with respect thereto or shall request other revisions or modifications therein (but relating only to the extent Tenant has failed to comply with Landlord's earlier requests). The preceding sentence shall be implemented repeatedly until Landlord gives its approval to Preliminary TI Plan. Tenant shall have seven (7) days from receipt of Landlord's notice regarding Cost/Time Modifications to accept or reject in writing such Cost/Time Modifications. To the extent that Tenant rejects such Cost/Time Modifications within the 7-day period, Landlord and Tenant shall work together to determine the Cost/Time Modifications. To the extent that Tenant fails to deliver its notice of acceptance or rejection of the Cost/Time Modifications within the 7-day period, such Cost/Time Modifications shall be deemed to be approved by Tenant.

(b) *Final TI Plan*. Within forty-five (45) days after approval by Landlord of the Preliminary TI Plan, Tenant shall prepare a final TI Plan based on the Preliminary TI Plan (the "***Final TI Plan***"). The Final TI Plan shall be in sufficient detail to locate, identify and describe the aspects of the proposed Tenant Improvements so as to enable Tenant's Architect to prepare

complete construction plans and engineering drawings. Within fifteen (15) days after receipt by Landlord of the Final TI Plan, Landlord (i) shall give its written approval with respect thereto, which approval shall include a notice to Tenant of the Cost/Time Modifications resulting from the Final TI Plan, or (ii) shall notify Tenant in writing of its disapproval and state with specificity the grounds for such disapproval and the revisions or modifications necessary in order for Landlord to give its approval. Within fifteen (15) days following Tenant's receipt of Landlord's disapproval, Tenant shall submit to Landlord for approval the requested revisions or modifications. Within fifteen (15) days following receipt by Landlord of such revisions or modifications, Landlord shall give its written approval with respect thereto or shall request other revisions or modifications therein (but relating only to the extent Tenant has failed to comply with Landlord's earlier requests). The preceding sentence shall be implemented repeatedly until Landlord gives its approval to Final TI Plan. Tenant shall have seven (7) days from receipt of Landlord's notice regarding Cost/Time Modifications to accept or reject in writing such Cost/Time Modifications. To the extent that Tenant rejects such Cost/Time Modifications within the 7-day period, Landlord and Tenant shall work together to determine the Cost/Time Modifications. To the extent that Tenant fails to deliver its notice of acceptance or rejection of the Cost/Time Modifications within the 7-day period, such Cost/Time Modifications shall be deemed to be approved by Tenant.

(c) *Architect/Construction Drawings*. Following Landlord's approval of the Final TI Plan, Tenant's Architect shall prepare all plans and engineering drawings relating to the structural, mechanical, electrical, plumbing, HVAC, telecommunications, computer cabling, life safety, and sprinkler and other work in the Premises. The plans and specifications to be prepared by Architect hereunder shall reflect only the improvements described on the Final TI Plan and shall be known collectively as the "***Construction Drawings***." Tenant and Architect shall verify, in the field, the dimensions of the Premises and the conditions at the Premises. Landlord's review of the Construction Drawings are for its sole benefit and Landlord shall have no liability to Tenant arising out of or based on Landlord's review. Accordingly, notwithstanding that any Construction Drawings are reviewed by Landlord or its contractor, architect, engineers and consultants, and notwithstanding any advice or assistance which may be rendered to Tenant by Landlord or Landlord's contractor, architect, engineers and consultants, Landlord shall have no liability whatsoever in connection therewith and shall not be responsible for any omissions or errors arising therefrom.

(d) *Preparation of Final Construction Drawings*. Tenant shall promptly cause the Architect to complete the Construction Drawings which shall be comprised of a fully coordinated set of architectural, structural, mechanical, electrical and plumbing working drawings in a form which will allow Tenant to obtain all applicable permits (collectively, the "***Final Construction Drawings***") and shall submit three (3) copies of the Final Construction Drawings to Landlord for Landlord's approval, which shall not be unreasonably withheld, conditioned or delayed. Landlord shall advise Tenant within forty-five (45) days after Landlord's receipt of the Final Construction Drawings for the Premises if the same are unsatisfactory or incomplete in any respect, or if such Final Construction Drawings are estimated to result in any Cost/Time Modifications. If Tenant is advised that the Final Construction Drawings are unsatisfactory or incomplete, Tenant shall immediately revise the Final Construction Drawings to reflect Landlord's comments. Tenant shall have seven (7) days from receipt of Landlord's notice regarding Cost/Time Modifications to accept or reject in writing such Cost/Time Modifications. To the extent that Tenant rejects such Cost/Time Modifications within the 7-day period, Landlord and Tenant shall work together to

determine the Cost/Time Modifications. To the extent that Tenant fails to deliver its notice of acceptance or rejection of the Cost/Time Modifications within the 7-day period, such Cost/Time Modifications shall be deemed to be approved by Tenant.

(e) *Permits and Changes*. The Final Construction Drawings shall be approved by Landlord prior to the commencement of construction of the Tenant Improvements. Simultaneous with submittal of the Final Construction Drawings for Landlord review, Tenant may submit the same to the appropriate governmental authority in order to obtain all applicable building permits. Tenant hereby agrees that neither Landlord nor Landlord's consultants shall be responsible for obtaining any building permits with respect to the Tenant Improvements or a certificate of occupancy for the Premises and that obtaining the same shall be Tenant's sole responsibility; provided, however, that Landlord shall cooperate with Tenant in executing permit applications and performing other ministerial acts reasonably necessary to enable Tenant to obtain any such permits or certificate of occupancy and shall use commercially reasonable efforts to assist Tenant in obtaining such permits and certificate of occupancy, as requested from time to time. No material changes, modifications or alterations in the Final Construction Drawings may be made without the prior written consent of Landlord, which consent shall not be unreasonably withheld or delayed.

(f) *Tenant and Landlord Delay*. Landlord and Tenant agree that scheduling and the current status of any Landlord Delay or Tenant Delay shall be a permanent agenda item and shall be discussed at all regularly scheduled meetings of the parties to discuss construction and shall be noted in the minutes of such meetings.

5. Construction of Tenant Improvements.

(a) Tenant's Selection of Contractors.

(i) Tenant's Contractor. Tenant's Contractor shall be a union contractor licensed in the State of California and approved by Landlord. The Tenant Improvements shall be constructed by Tenant's Contractor.

(ii) Tenant's Subcontractors and Materialmen. All mechanical, electrical, fire protection and plumbing subcontractors, laborers, materialmen, and suppliers used by Tenant shall be union and shall be properly licensed in the State of California and shall be experienced in performing the work they have agreed to perform in similar buildings. Tenant shall submit a written list of its mechanical, electrical, fire protection and plumbing subcontractors, laborers, materialmen, and suppliers to Landlord prior to commencing construction of the Tenant Improvements.

(b) *Construction of Tenant Improvements*.

(i) Commencement; Tenant Access Date. Tenant shall be permitted access to the Premises for purposes of commencing construction of the Tenant Improvements to Building 1 on a floor by floor basis, upon substantial completion of the Building Work on each floor of the Premises. For purposes of this Work Letter, Building Work on a floor shall be deemed "***Substantially Complete***" as of the date that Landlord's general contractor in charge of construction of the Base Building Work certifies to Landlord that the Base Building Work relating to such floor is substantially completed pursuant to the permitted working drawings relating to such

floor, including installation of the exterior perimeter wall system complete with the exterior windows; and Building 1 shall be deemed "***Substantially Complete***" as of the date that Landlord's general contractor in charge of construction of the Base Building work certifies to Landlord that the Base Building Work relating to Building 1 is substantially completed pursuant to the permitted working drawings relating to Building 1, including installation of all exterior perimeter wall systems and exterior windows and watertight roof. The "***Tenant Access Date***" with respect to Building 1 shall be the date the Building Work on the first floor of Building 1 is Substantially Complete and Tenant is given access to the first floor of Building 1. Tenant shall be permitted access to the First Expanded Premises and the Second Expanded Premises for purposes of commencing construction of the Tenant Improvements to such portions of the Premises in accordance with the provisions of Article 33 of the Lease.

(ii) Tenant's Contractor.

(1) Indemnity. Tenant's indemnification set forth in the Lease shall also apply with respect to any and all damages, cost, loss or expense (including attorneys fees) resulting from any act or omission of Tenant or Tenant's Contractor, or anyone directly or indirectly employed by any of them, or in connection with Tenant's non-payment of any amount arising out of the Tenant Improvements (except to the extent relating to nonpayment or any delay in payment by Landlord of amounts to be paid or contributed by Landlord pursuant to the terms hereof). By way of example, and not limitation, Tenant shall indemnify and defend Landlord from any damages to the Premises caused by the actions of the persons constructing the Tenant Improvements for or on behalf of Tenant.

(2) Warranty. Tenant's subcontractors, laborers, materialmen and suppliers shall warrant to Tenant and for the benefit of Landlord that the portion of the Tenant Improvements for which they are responsible shall be free from any defects in workmanship and materials for a period of not less than one (1) year from date the Tenant Improvements are Substantially Complete. The correction of any defective work shall include, without additional charge, all additional expenses and damages incurred in connection with the removal or replacement of all or any part of the Tenant Improvements, and/or any other building improvements that may be damaged or disturbed thereby. All such warranties shall be contained in the applicable contract or subcontract and shall inure to the benefit of both Landlord and Tenant. Tenant covenants to give to Landlord any assignment or other assurances as may be requested by Landlord to effect such right of direct enforcement.

(c) *Insurance Requirements*.

(i) General Coverages. Tenant's Contractor shall carry worker's compensation insurance covering all of its respective employees, and shall also carry commercial general liability insurance, including property damage, in such form and include such endorsements as are reasonably acceptable to Landlord and with companies carrying a designation in "Best's Insurance Reports" as issued from time to time throughout the Term as follows: Policyholders' rating of A; financial rating of not less than VII, with coverage in the amount of Twenty-Five Million and No/100 Dollars ($25,000,000). Tenant's Contractor shall not be entitled to satisfy their insurance obligations through self-insurance.

(ii) Special Coverages. Tenant shall carry such other insurance as Landlord may reasonably require, including without limitation course of construction insurance on the Tenant Improvements, it being understood and agreed that the Tenant Improvements shall be insured by Tenant during the construction period and throughout the term of the Lease. Such insurance shall be in amounts and shall include such extended coverage endorsements as may be reasonably required by Landlord.

(iii) General Terms. Certificates for all insurance carried pursuant to this section for Tenant, Tenant's Contractor and each of Tenant's vendors shall be delivered to Landlord before such parties commence work or any of their equipment is moved onto the site. All such policies of insurance shall name Landlord and any other parties designated by Landlord as additional insureds and shall contain a provision that the company writing the policy will endeavor to give Landlord thirty (30) days prior written notice of any cancellation or lapse of the effective date or any reduction in the amounts of such insurance. Tenant's Contractor shall maintain all of the foregoing insurance coverage in force until all of the Tenant Improvements are fully completed, including the completion of all punch list items. All insurance, except Worker's Compensation, maintained by Tenant's Contractor shall preclude subrogation claims by the insurer against Landlord or Tenant. Such insurance shall provide that it is primary insurance as respects Landlord and that any other insurance maintained by Landlord is excess and noncontributing with the insurance required hereunder. The requirements for the foregoing insurance shall not limit Tenant's indemnification obligations under this Work Letter.

(d) *Compliance*. The Tenant Improvements shall comply with all applicable Laws and Regulations (as those terms are defined in the Lease), including without limitation any applicable provisions of the Mission Bay Regulations and specifically the terms and conditions of that certain Owner Participation Agreement by and between the San Francisco Redevelopment Agency and Esprit de Corps, a California corporation (the predecessor in interest to Landlord) dated as of April 17, 2001.

(e) *Inspection by Landlord*. Landlord shall have the right to inspect the Tenant Improvements at all reasonable times, provided however, that Landlord's inspection of the Tenant Improvements shall not constitute Landlord's approval of the Tenant Improvements. Should Landlord reasonably disapprove any portion of the Tenant Improvements because they are not in compliance with the Final Construction Drawings, Landlord shall notify Tenant in writing of such disapproval and shall specify the items disapproved and the reasons for its disapproval. Any defects in the Tenant Improvements shall be rectified by Tenant at no expense to Landlord.

(f) *Notice of Non-Responsibility*. Not less than five (5) days prior to the date Tenant intends to first commence construction of the Tenant Improvements, Tenant shall provide Landlord with written notice of its intention to commence construction. Landlord shall have the right from time to time to post notices of non-responsibility at the Premises.

(g) *Notice of Completion; Copy of Record Set of Plans*. Within ten (10) days after completion of construction of the Tenant Improvements, and, at the election of Landlord, as a condition to Landlord's final disbursement of the Tenant Improvement Allowance (as defined below), Tenant shall cause a Notice of Completion to be recorded in the county in which the Premises are located or such other instruments as may be required by applicable law, and shall

furnish a copy thereof to Landlord upon such recordation. If Tenant fails to do so, Landlord may execute and file the same on behalf of Tenant as Tenant's agent for such purpose, at Tenant's sole cost and expense. At the conclusion of construction, and, at the election of Landlord, as a condition to Landlord's final disbursement of the Tenant Improvement Allowance, Tenant shall cause the Architect and Contractor (i) to update the Final Construction Drawings as necessary to reflect all changes made to the Final Construction Drawings during the course of construction, (ii) to certify to the best of their knowledge that the "record-set" of as-built drawings are true and correct and (iii) to deliver to Landlord two (2) sets of copies of such record set of drawings and one (1) set in electronic format (on disk). At Landlord's request, Tenant shall deliver to Landlord a copy of all warranties, guaranties, and operating manuals and information relating to the improvements, equipment, and systems in the Premises.

6. Completion.

Tenant hereby covenants and agrees to cause the Tenant Improvements to be completed as soon as reasonably possible following the Tenant Access Date. Tenant shall be primarily obligated to complete the construction of the Tenant Improvements, and the failure of Tenant's Contractor, subcontractors, laborers, materialmen or suppliers to perform their obligations with respect to the construction of the Tenant Improvements shall not relieve Tenant of its obligation to complete the construction of the Tenant Improvements.

7. Tenant Improvement Allowance.

(a) *Allowance for Building 1*. Landlord shall provide Tenant with an allowance equal to One Hundred Forty and 50/100 Dollars ($140.50) per square foot of Rentable Area ("***RSF***") of Building 1 (the "***Initial Tenant Improvement Allowance***") to be applied toward the cost of the design and construction of the Tenant Improvements in Building 1 (including, without limitation, Tenant's Contractor's fee and the Alteration Operations Fee described in Section 6 below); provided, however, that not more than Fifteen and No/100 Dollars ($15.00) per RSF of the Initial Tenant Improvement Allowance may be applied to Tenant's costs of design, space planning, consultants and construction drawings for the Tenant Improvements. No portion of the Initial Tenant Improvement Allowance may (A) be applied to the cost of equipment, trade fixtures (other than fermentation equipment and vessels with a capacity of less than or equal to 1,000 liters, and related exposed pipes, cold rooms, and all built-in laboratory benches, case work, and related built-in shelving), furniture, moving expenses, signage or free rent, (B) be used to prepare any portion of Building 1 for a unique use by a proposed subtenant or assignee which would not be expected to be utilized by Tenant if and when such sublease terminates or (C) be applied to the cost of any alterations or improvements to Building 2. The Initial Tenant Improvement Allowance shall be applied toward the construction of Tenant Improvements throughout the entire Building and not in such a manner that would leave any portion of Building 1 in an unimproved or unfinished state. Further, Tenant shall not be entitled to receive (and Landlord shall have no obligation to disburse) all or any portion of the Initial Tenant Improvement Allowance if Tenant is in default under the Lease at the time Tenant requests such disbursement. Notwithstanding anything to the contrary herein, the Initial Tenant Improvement Allowance shall be available for disbursement up to and including the one (1) year period following the Rent Commencement Date (the "***Building Allowance Availability Period***") commencing on such date as Tenant notifies Landlord in writing that Tenant has incurred costs with respect to the construction of the Tenant Improvements, as

evidenced by paid written invoices for such costs, which Landlord acknowledges may occur prior to the Tenant Access Date. Accordingly, if any portion of the Alterations Allowance has not been utilized (and Tenant has not submitted to Landlord invoices evidencing such costs) prior to expiration of the Allowance Availability Period, such unused portion shall be forfeited by Tenant.

(b) *Allowance for Building 2 (First Expansion)*. To the extent that Tenant exercises the First Expansion Option during the first twenty-four (24) months following the Rent Commencement Date, Landlord shall provide Tenant with an additional allowance equal to One Hundred Forty-Six and 50/100 Dollars ($146.50) per RSF of the First Expansion Space (the "***First Expansion Tenant Improvement Allowance***") to be applied toward the cost of the design and construction of the Tenant Improvements in the portion of Building 2 that is the subject of the First Expansion Option (including, without limitation, Tenant's Contractor's fee and the Alteration Operations Fee); provided, however, that should Tenant elect to exercise the First Expansion Option at any point following such 24-month period, the First Expansion Tenant Improvement Allowance shall be reduced to One Hundred Thirty-Six and 50/100 Dollars ($136.50) per RSF. No more than Fifteen and No/100 Dollars ($15.00) per RSF of the First Expansion Tenant Improvement Allowance may be applied to Tenant's costs of design, space planning, consultants and construction drawings for the Tenant Improvements. No portion of the First Expansion Tenant Improvement Allowance may (A) be applied to the cost of equipment, trade fixtures, furniture, moving expenses, signage or free rent, (B) be used to prepare any portion of Building 2 for a unique use by a proposed subtenant or assignee which would not be expected to be utilized by Tenant if and when such sublease terminates or (C) be applied to the cost of any alterations or improvements to Building 1 or any portion of Building 2 that is not the subject of the First Expansion Option. The First Expansion Tenant Improvement Allowance shall be applied toward the construction of Tenant Improvements throughout each floor of the First Expansion Space and not in such a manner that would leave any portion of the First Expansion Space in an unimproved or unfinished state. Further, Tenant shall not be entitled to receive (and Landlord shall have no obligation to disburse) all or any portion of the First Expansion Tenant Improvement Allowance if Tenant is in default under the Lease at the time Tenant requests such disbursement. Notwithstanding anything to the contrary herein, the First Expansion Tenant Improvement Allowance shall be available for disbursement pursuant to the terms hereof up to and including the one (1) year period following the First Expansion Rent Commencement Date (the "***First Expansion Allowance Availability Period***") commencing on such date as Tenant notifies Landlord in writing that Tenant has incurred costs with respect to the construction of the Tenant Improvements for Building 2, as evidenced by paid written invoices for such costs, which Landlord acknowledges may occur prior to the date Tenant exercises the First Expansion Option. Accordingly, if any portion of the First Expansion Alterations Allowance has not been utilized (and Tenant has not submitted to Landlord invoices evidencing such costs) prior to expiration of the First Expansion Allowance Availability Period, such unused portion shall be forfeited by Tenant.

(c) *Allowance for Building 2 (Second Expansion)*. To the extent that Tenant exercises the Second Expansion Option during the first twelve (12) months following the First Expansion Rent Commencement Date, Landlord shall provide Tenant with an additional allowance equal to One Hundred Sixteen and 50/100 Dollars ($116.50) per RSF of the Second Expansion Space (the "***Second Expansion Tenant Improvement Allowance***") to be applied toward the cost of the design and construction of the Tenant Improvements in the portion of Building 2 that is the subject of the Second Expansion Option (including, without limitation, Tenant's Contractor's fee and the

Alteration Operations Fee); provided, however, that not more than Fifteen and No/100 Dollars ($15.00) per RSF of the Second Expansion Tenant Improvement Allowance may be applied to Tenant's costs of design, space planning, consultants and construction drawings for the Tenant Improvements. No portion of the Second Expansion Tenant Improvement Allowance may (A) be applied to the cost of equipment, trade fixtures, furniture, moving expenses, signage or free rent, (B) be applied to any portion of Building 2 which is then the subject of a sublease, (C) be used to prepare any portion of Building 2 for a unique use by a proposed subtenant or assignee which would not be expected to be utilized by Tenant if and when such sublease terminates for a proposed subtenant or assignee (D) be applied to the cost of any alterations or improvements to Building 1 or the portion of Building 2 that is the subject of the First Expansion Option. The Second Expansion Tenant Improvement Allowance shall be applied toward the construction of Tenant Improvements throughout each floor of Building 2 leased by Tenant and not in such a manner that would leave any floor of Building 2 leased by Tenant in an unimproved or unfinished state. Further, Tenant shall not be entitled to receive (and Landlord shall have no obligation to disburse) all or any portion of the Second Expansion Tenant Improvement Allowance if Tenant is in default under the Lease at the time Tenant requests such disbursement. Notwithstanding anything to the contrary in this Section 6, the Second Expansion Tenant Improvement Allowance shall be available for disbursement pursuant to the terms hereof up to and including the one (1) year period following the Second Expansion Rent Commencement Date (the "***Second Expansion Allowance Availability Period***") commencing on such date as Tenant notifies Landlord in writing that Tenant has incurred costs with respect to the construction of Tenant Improvements for the theretofore unimproved portion of Building 2, as evidenced by paid written invoices for such costs, which Landlord acknowledges may occur prior to the date Tenant exercises the Second Expansion Option. Accordingly, if any portion of the Second Expansion Alterations Allowance has not been utilized (and Tenant has not submitted to Landlord invoices evidencing such costs) prior to expiration of the Second Expansion Allowance Availability Period, such unused portion shall be forfeited by Tenant.

(d) *Disbursements*. Landlord shall disburse the Initial Tenant Improvement Allowance, the First Expansion Tenant Improvement Allowance and the Second Expansion Tenant Improvement Allowance (collectively, the "***Tenant Improvement Allowance***"), as applicable, for the Tenant Improvements directly to Tenant's Contractor, or subcontractors, or to Tenant as Landlord and Tenant may agree, in monthly installments. Landlord's disbursements shall be conditioned upon Landlord's receipt of (i) invoices of Tenant's Contractor furnished to Landlord by Tenant covering work actually performed, construction in place and materials delivered to the site (as may be applicable) describing in reasonable detail such work, construction and/or materials, (ii) conditional lien waivers executed by Tenant's Contractor, subcontractors or suppliers, as applicable, for their portion of the work covered by the requested disbursement, and (iii) unconditional lien waivers executed by Tenant's Contractor and the persons and entities performing the work or supplying the materials covered by Landlord's previous disbursement for the work or materials covered by such previous disbursements (all such waivers to be in the form prescribed by California law). Payment will be made for materials or supplies not on site if Tenant had committed to pay for such off-site materials and supplies in connection with the Tenant Improvements and provides Landlord with evidence that such materials and supplies are covered by applicable insurance, and if Tenant provides evidence of the invoice therefor to Landlord, which payment by Landlord will be conditioned upon the payment by Tenant of its pro rata portion of such invoice. Landlord may withhold the amount of any and all retention percentages provided for

in original contracts or subcontracts until expiration of the applicable lien periods or receipt of unconditional lien waivers and full releases upon final payment (in the form prescribed by California law) from Tenant's Contractor, subcontractors or suppliers, as applicable.

(e) *Excess Cost*. Tenant shall pay for all costs of the construction of the Tenant Improvements in excess of the Tenant Improvement Allowance (the "***Excess Cost***"). Based on the estimated cost of the construction of the Tenant Improvements, as shown on Tenant's budget for the construction of the Tenant Improvements (as reasonably approved by Landlord and Tenant) (the "***Estimated Costs***"), the pro rata share of the Estimated Costs payable by Landlord and Tenant shall be determined and an appropriate percentage share established for each (a "***Share of Costs***"). Tenant and Landlord shall fund the cost of the construction (including the applicable portion of the applicable fees) as the same is performed, in accordance with their respective Share of Costs for the construction, with such payments being made directly to Tenant's Contractor. At such time as the Tenant Improvement Allowance has been entirely disbursed, Tenant shall pay the remaining Excess Cost, if any, which payments shall be made in installments as construction progresses directly to Tenant's Contractor or the subcontractors or suppliers involved. Tenant shall furnish to Landlord copies of receipted invoices for payments made directly by Tenant for the costs of the Tenant Improvements and such waivers of lien rights as Landlord may reasonably require.

(f) *Allocation for Alteration Operations Fee*. Notwithstanding anything to the contrary above, at the time Landlord makes any disbursement of the Tenant Improvement Allowance for application to the Tenant Improvements, Landlord shall retain from the Tenant Improvement Allowance, as a partial payment of the Alteration Operations Fee (defined below), a proportionate amount of the Alteration Operations Fee based upon Landlord's reasonable estimation of the amount required to be withheld from each disbursement in order to amortize the entire Alteration Operations Fee over the course of construction of the Tenant Improvements. At such time as the Tenant Improvement Allowance has been entirely disbursed, Tenant shall, within fifteen (15) days of written demand, pay to Landlord the remainder, if any, of the Alteration Operations Fee not yet paid to Landlord.

8. Alteration Operations Fee.

Landlord shall receive a fee of One Hundred Thousand Dollars ($100,000.00), plus Landlord's actual out-of-pocket costs, in connection with Landlord's review and supervision of the Tenant Improvements to Building 1, which fee shall be payable in the manner described in Section 7(f) above. To the extent applicable, Landlord shall receive separate fees in an amount equal to One Dollar ($1.00) per square foot for the First Expansion Space and, if applicable, the Second Expansion Space, leased by Tenant (subject to a maximum of One Hundred Thousand Dollars ($100,000.00) in the event the First Expansion Space consists of all of Building 2), plus Landlord's actual out-of-pocket costs, in connection with Landlord's review and supervision of the Tenant Improvements to the First Expansion Space and the Second Expansion Space (as appropriate), which fee shall be payable the manner described in Section 7(f) above. For avoidance of doubt, to the extent the First Expansion Space consists of less than all of Building 2 and Tenant subsequently exercises the Second Expansion Option to lease the remaining space in Building 2, the $100,000 cap described in the preceding sentence shall not apply.

9. Work Performed by Landlord.

In the event that Landlord performs at the request of Tenant any work for Tenant in connection with the Tenant Improvements, Landlord shall be paid an amount equal to the actual costs reasonably incurred by Landlord in performing such work.

10. Miscellaneous.

(a) *Tenant's Representative*. Tenant has designated Wilbert Lee as its sole representative with respect to the matters set forth in this Work Letter, and, until further notice to Landlord, Tenant's representative shall have full authority and responsibility to act on behalf of the Tenant as required in this Work Letter.

(b) *Landlord's Representative*. Landlord has designated Dan Kingsley of SKS as its sole representative with respect to the matters set forth in this Work Letter Agreement, and until further notice to Tenant, Landlord's representative shall have full authority and responsibility to act on behalf of the Landlord as required in this Work Letter.

(c) *Time of the Essence*. Unless otherwise indicated, all references herein to a "number of days" shall mean and refer to calendar days. If any item requiring approval is timely disapproved by Landlord, the procedure for preparation of the document and approval thereof shall be repeated until the document is approved by Landlord.

(d) *Tenant's Default*. Notwithstanding any provision to the contrary contained in the Lease, if Tenant commits a default as defined in the Lease, and fails to cure such default during any applicable cure period, then, in addition to all other rights and remedies granted to Landlord pursuant to the Lease, Landlord shall have the right to withhold payment of all or any portion of the Tenant Improvement Allowance, and Landlord shall have no other obligations under the terms of this Work Letter until such time as such default is cured pursuant to the terms of the Lease. The default provisions of the Lease shall apply to this Work Letter.

[Signature page follows]

IN WITNESS WHEREOF, the parties have entered into this Agreement as of the date first written above.

LANDLORD:

X-4 DOLPHIN LLC,
a Delaware limited liability company

By Shorenstein Realty Investors Seven, LP

By: /s/ [Illegible Signature]
Name: [Illegible Name]
Title:

TENANT:

FIBROGEN, INC.,
a Delaware corporation

By: /s/ Thomas B. Neff
Name: Thomas B. Neff
Title: CEO

By:
Name:
Title:

[SIGNATURE PAGE TO
WORK LETTER AGREEMENT]

EXHIBIT C-1

ACKNOWLEDGMENT OF RENT COMMENCEMENT DATE

_____

_____

_____

Re: Lease Agreement dated as of September 22, 2006 (the "***Lease***") between X-4 Dolphin LLC, a Delaware limited liability company ("***Landlord***") and FibroGen, Inc., a Delaware corporation ("***Tenant***"), for premises located on Floors 1-6 of the building located at 409 Illinois Street, San Francisco, California.

Ladies and Gentlemen:

This letter is given pursuant to Section 4.2 of the Lease. Capitalized terns not otherwise defined herein are used herein as defined in the Lease.

The Rent Commencement Date under the Lease with respect the Premises occurred on , which is [the date Tenant occupied the Premises] [two hundred seventy (270) days after the Tenant Access Date, as such 270-day period may be adjusted in accordance with Section 2.13 of the Lease]. Accordingly, the expiration date under the Lease is , which is the last day of the full calendar month following the Rent Commencement Date.

Please sign and return the enclosed copy of this letter evidencing your agreement with the foregoing. If we do not receive the countersigned letter from you within ten (10) days of the date hereof, or your letter disagreeing with the foregoing with such ten (10) day period, you will be deemed to have agreed to the matters set forth in this letter.

X-4 Dolphin, LLC
a Delaware limited liability company

By: _____

Name: _____

Title: _____

AGREED

FibroGen, Inc.,
a Delaware corporation

By: _____

Name: _____

Title: _____

EXHIBIT C-2

[FIRST] [SECOND] EXERCISE NOTICE

_____

_____

_____

Re: Lease Agreement dated as of September 22, 2006 (the "***Lease***") between X-4 Dolphin LLC, a Delaware limited liability company ("***Landlord***") and FibroGen, Inc., a Delaware corporation ("***Tenant***"), for premises located on Floors 1-6 of the building located at 409 Illinois Street, San Francisco, California.

Ladies and Gentlemen:

This notice is given pursuant to Section [33.1] [33.3] of the Lease. Capitalized terms not otherwise defined herein are used herein as defined in the Lease.

Tenant hereby notifies Landlord of its irrevocable election to exercise the [First] [Second] Expansion Option under the Lease with respect to Floors [ ] of Building 2. Tenant warrants and represents to Landlord that as of the date hereof: (i) there is no uncured default existing under the Lease; (ii) no more than of Building 1 [or the First Expansion Space] has been sublet (not counting Transfers to Affiliates and Shared Space Arrangements]; (iii) Tenant continues to occupy Building 1 [and the First Expansion Space]; and (iv) Tenant intends to occupy the [First] [Second] Expansion Space.

The Term of the Lease shall be extended so that the Lease expire fifteens (15) calendar years following [the date of the First (or Second) Exercise Notice] or [the last day of the First (or Second) Extension Deadline], which will be .

Please sign and return the enclosed copy of this notice evidencing your receipt thereof and acknowledging your agreement as to the Term extension.

FibroGen, Inc.,
a Delaware corporation

By: _____

Name: _____

Title: _____

AGREED

X-4 Dolphin, LLC
a Delaware limited liability company

By: _____

Name: _____

Title: _____

EXHIBIT C-3

ACKNOWLEDGEMENT OF EXPANSION

_____

_____

_____

Re: Lease Agreement dated as of September 22, 2006 (the "***Lease***") between X-4 Dolphin LLC, a Delaware limited liability company ("***Landlord***") and FibroGen, Inc., a Delaware corporation ("***Tenant***").

Ladies and Gentlemen:

This letter is given pursuant to Section [33.1][33.3] of the Lease. Capitalized tern's not otherwise defined herein are used herein as defined in the Lease.

The [First][Second] Expansion Rent Commencement Date occurred on , which is [the date Tenant occupied the (First)(Second) Expansion Space] [three hundred (300) days after the (First)(Second) Exercise Notice]. The expiration date under the Lease is , which is the date specified and agreed to in the [First][Second] Notice of Expansion.

Tenant's Proportionate Share of Operating Costs is .

Tenant's Proportionate Share of Insurance Costs is .

Tenant's Proportionate Share of Taxes is .

Minimum Monthly Rent for the Term is as set forth in the attached Schedule 1.

Please sign and return the enclosed copy of this letter evidencing your agreement with the foregoing. If we do not receive the countersigned letter from you within ten (10) days of the date hereof, or your letter disagreeing with the foregoing with such ten (10) day period, you will be deemed to have agreed to the matters set forth in this letter.

X-4 Dolphin, LLC
a Delaware limited liability company

By: _____

Name: _____

Title: _____

AGREED

FibroGen, Inc.,
a Delaware corporation

By: _____

Name: _____

Title: _____

EXHIBIT D

FORM OF LETTER OF CREDIT

Wells Fargo Bank, N.A.
Trade Services Division, Northern California
One Front Street, 21st Floor
San Francisco, California 94111
Contact Phone: 1(800) 798-2815 (Option 1)
E-mail: sftrade@wellsfargo.com

Irrevocable Standby Letter of Credit Number

Issuance Date: September , 2006

X-4 Dolphin LLC
c/o Shorenstein Company LLC
555 California Street, 49th Floor
San Francisco, California 94104
Attention: Corporate Secretary

Ladies and Gentlemen:

At the request and for the account of Fibrogen, Inc., 225 Gateway Blvd., South San Francisco, CA 94080, we hereby establish our Irrevocable Letter of Credit in your favor in the amount of Seven Million Two Hundred Fifty Three Thousand Six Hundred Eighty One United States Dollars (US$7,253,681.00) available with us at our above office by payment of your draft(s) drawn on us at sight accompanied by your signed and dated statement worded as follows with the instructions in brackets therein complied with:

"The undersigned, an authorized representative of the beneficiary (the "Beneficiary") of Wells Fargo Bank, N.A. Letter of Credit Number (the "Wells Credit"), hereby certifies that the amount drawn under the Wells Credit is due and payable to Beneficiary in accordance with the provisions of that certain Lease Agreement dated [insert date], between X-4 Dolphin LLC and Fibrogen, Inc."

Partial drawings are permitted under this Letter of Credit. Each draft must be marked "Drawn under Wells Fargo Bank, N.A. Letter of Credit Number ".

Each draft must also be accompanied by the original of this Letter of Credit for our endorsement on this Letter of Credit of our payment of such draft. Unless this Letter of Credit is

fully exhausted, the Letter of Credit will be returned to your above address (or such other address of Beneficiary changed from the address above by means of an amendment to this Letter of Credit or transfer of this Letter of Credit) with our endorsement evidencing the payment of such draft.

Except as stated herein, this undertaking is not subject to any condition or qualification. Our obligation under this Letter of Credit shall be our individual obligation, in no way contingent upon reimbursement with respect thereto.

This Letter of Credit expires at our above office on September , 2007, but shall be automatically extended, without written amendment, to September in each succeeding calendar year unless we have sent written notice to you at your address above (or such other address of Beneficiary changed from the address above by means of an amendment to this Letter of Credit or transfer of this Letter of Credit) by registered mail or receipted express courier that we elect not to renew this Letter of Credit beyond the date specified in such notice which date will be September , 2007 or any subsequent September and be at least sixty (60) calendar days after the date we send you such notice. Upon our sending you such notice of the nonrenewal of the expiration date of this Letter of Credit, you may draw under this Letter of Credit the full unused balance of this Letter of Credit by presentation to us at our above address, on or before the expiration date specified in such notice, of your draft drawn on us at sight accompanied by your signed and dated statement worded as follows:

> "The undersigned, an authorized representative of the beneficiary (the "Beneficiary") of Wells Fargo Bank, N.A. Letter of Credit Number (the "Wells Credit"), hereby certifies that we received a notice from Wells Fargo Bank, N.A. that the Wells Credit will not be extended for any additional period."

If any instructions accompanying a drawing under this Letter of Credit request that payment is to be made by transfer to an account with us or at another bank, we and/or such other bank may rely on an account number specified in such instructions even if the number identifies a person or entity different from the intended payee.

This Letter of Credit is transferable one or more times, but in each instance to a single transferee and only in the full amount available to be drawn under the Letter of Credit at the time of such transfer. Any such transfer may be effected only through ourselves upon presentation to us at our above-specified office of a duly executed instrument of transfer in the format attached hereto as Exhibit A together with the original of this Letter of Credit and provided that such transfer would not violate any rule, order or regulation applicable to us and such transfer request is otherwise in compliance with the terms of this Letter of Credit. Each transfer shall be evidenced by our endorsement on the reverse of the original of this Letter of Credit, and we shall deliver the original of this Letter of Credit so endorsed to the transferee.

All banking charges in connection with this Letter of Credit other than transfer fees, if any, are for applicant's account Transfer fees are for the Beneficiary's account

If at any time Beneficiary or its authorized transferee is not in possession of the original of this Letter of Credit (together with all amendments, if any) because such original has been delivered to us as required hereunder for a draw thereon or transfer thereof, our obligations as set forth in this Letter of Credit shall continue in full force and effect as if Beneficiary or such authorized transferee still held such original, and any previous delivery to us, without return by us, of such original shall be deemed to have satisfied any requirement that such original be delivered to us for a subsequent draw hereunder or transfer hereof.

Except as otherwise provided in this Letter of Credit, this Letter of Credit is subject to the Uniform Customs and Practice for Documentary Credits (1993 Revision), International Chamber of Commerce Publication Number 500. If this Letter of Credit expires during an interruption of business as described in article 17 of Publication 500, we hereby specifically agree to effect payment if this Letter of Credit is drawn against within 30 days after the resumption of business.

We hereby agree with you that drafts drawn under and in compliance with the teens of this Letter of Credit will be duly honored if presented to the our above-mentioned office, Wells Fargo Bank, N.A. at One Front Street, 21st Floor, San Francisco, California 94111 on or before 5:00PM California time on September , 2007, or such later expiration date to which this Letter of Credit is extended pursuant to the terms hereof.

Very truly yours

Wells Fargo Bank, N.A.

By: _____
Name:
Title:

Exhibit A to
Wells Fargo Bank, N.A.
Letter of Credit No.

Date:

Wells Fargo Bank, NA.
Trade Services Division, Northern California
One Front Street, 21st Floor
San Francisco, California 94111

Subject: Wells Fargo Bank, N.A. Letter of Credit Number

Ladies and Gentlemen:

For value received, we hereby irrevocably assign and transfer all our rights under the above-captioned Letter of Credit, as heretofore and hereafter amended, extended or increased, to:

_____
[insert name of transferee]

_____

_____
[insert address]

By this transfer, all of our rights in the Letter of Credit are transferred to the transferee, and the transferee shall have sole rights as beneficiary under the Letter of Credit, including sole rights relating to any amendments, whether increases or extensions or other amendments, and whether now existing or hereafter made. You are hereby irrevocably instructed to advise future amendment(s) of the Letter of Credit to the transferee without our consent or notice to us.

Enclosed are the original Letter of Credit and the original of all amendments to this date. Also enclosed is $ in payment of your transfer commission (1/4% of the amount transferred, minimum $250.00 maximum $2,500.00). Please notify the transferee of this transfer and of the terms and conditions of the Letter of Credit as transferred. This transfer will not become effective until the transferee is so notified. This transfer request for transfer does not change the place of expiration from your above office and would not cause you to violate any rule, order or regulation applicable to you.

Very truly yours,

[insert name of transferor]

By: _____
Name: _____
Title: _____

Signature of Transferor Guaranteed
[insert name of bank]

By: _____
Name: _____
Title: _____

FIRST AMENDMENT TO LEASE
(Partial Deletion of Building 1 Premises and Modification of Lease)

THIS FIRST AMENDMENT TO LEASE (this "Amendment") is executed as of the 10th day of October, 2007, between X-4 DOLPHIN LLC, a Delaware limited liability company ("Landlord") and FIBROGEN, INC., a Delaware corporation ("Tenant").

RECITALS

A. Landlord and Tenant entered into a lease, dated as of September 22, 2006 (the "Lease"), pursuant to which Tenant leased from Landlord the building (the "Building 1") to be constructed and commonly known as 409 Illinois Street, San Francisco California. Capitalized terms not otherwise defined herein shall have the meanings in the Lease.

B. By reason of certain requirements not anticipated by the parties with respect to obtaining the permits and approvals for the construction and occupancy Of Building 1, Landlord is required to designate certain portions of the floor 1 of Building 1 as retail space, and Tenant does not desire to lease such designated retail space.

C. Landlord and Tenant presently desire to amend the Lease to (i) delete from the premises demised to Tenant under the Lease the portion of the floor 1 of Building 1 that is designated as retail space, (ii) modify the Rent payable by Tenant under the Lease, and otherwise modify the Lease, to take into account the reduced area of the premises demised to Tenant under the Lease and to recognize that Tenant will no longer be the sole tenant of Building 1 as presently contemplated by the Lease, and (iii) otherwise modify the Lease, all upon and subject to the terms and conditions contained herein.

NOW, THEREFORE, in consideration of the foregoing, the parties hereto agree as follows:

1. Revised Premises. The term "Premises" as defined in Section 1.4 of the Lease, is hereby modified to be as follows, and Exhibit E attached to this Amendment is hereby added to the Lease as Exhibit E thereto (the so revised Premises is estimated to be approximately 234,249 square feet of Rentable Area, which includes an estimated 2,000 square feet of Rentable Area of the Ground Floor Interior Premises (as delineated on said Exhibit E) but the actual Rentable Area of the revised Premises (including the Ground Floor Interior Premises) shall be subject to determination as set forth in Section 2.15 of the Lease):

"**1.4 *"Premises***"

The portion of floor 1 of Building 1 shown outlined on Exhibit E attached hereto (including the interior portion of floor 1 of Building I delineated on Exhibit E as the "Ground Floor Interior Premises"), all of floors 2-6 of Building 1, and any portion of Building 2 Tenant may from time to time lease in accordance with Article 33 hereof."

2. Minimum Monthly Rent for Revised Premises. The estimated Minimum Monthly Rent schedule set forth in Section 1.12 of the Lease is hereby deleted and the schedule set forth on

Schedule 1 attached hereto is substituted in its place. The parties acknowledge that (i) the portion of the Minimum Monthly Rent attributable to the Ground Floor Interior Premises, as shown in the applicable column on Schedule 1, reflects a 45% reduction in Minimum Monthly Rent relative to the balance of the Premises (the "Premises Balance"), and (ii) the Minimum Monthly Rent for the first thirteen (13) months following the Rent Commencement Date, as shown on Schedule 1, shall be calculated on the basis of 175,000 square feet of Rentable Area of the Premises Balance.

3. Insurance Costs, Operating Costs, and Taxes.

a. Insurance Costs. Section 2.8 of the Lease is hereby amended to read in its entirety as follows:

"**2.8 "*Proportionate Share of Insurance Costs***" means a fraction (converted to a percentage), the numerator of which is the Rentable Area (as defined in Section 2.15 below) of the Premises (as the same may be adjusted from time to time) and the denominator of which is the aggregate Rentable Area of Building 1 and Building 2. Tenant's Proportionate Share of Insurance Costs may be calculated as set forth in Article 33 and specified in the Acknowledgement of Expansion, as appropriate. Proportionate Share of Insurance Costs shall be recalculated by Landlord as may be required effective as at the commencement of any period to which the calculation is applicable in this Lease."

b. Operating Costs. Section 2.9 of the Lease shall not be modified from the terms presently set forth in the Lease, and "Tenant's Proportionate Share of Operating Costs" with respect to Building 1 shall remain one hundred percent (100%), but the definition of "Operating Costs" in Section 2.6 of the Lease shall be modified by adding the following at the end of Section 2.6(b) as an exclusion from Operating Costs:

"(30) Any costs or expenses properly allocable to the retail portions of Building 1, including costs of services properly allocable to such retail space."

c. Taxes. Section 2.10 of the Lease is hereby amended to read in its entirety as follows:

"**2.10 "*Proportionate Share of Taxes***" means a fraction, (converted to a percentage), the numerator of which is the Rentable Area (as defined in Section 2.15 below) of the Premises (as the same may be adjusted from time to time) and the denominator of which is the aggregate Rentable Area of Building 1 and Building 2. Tenant's Proportionate Share of Taxes may be calculated as set forth in Article 33 and specified in the Acknowledgement of Expansion, as appropriate. Proportionate Share of Taxes shall be recalculated by Landlord as may be required effective as at the commencement of any period to which the calculation is applicable in this Lease."

4. Rent Commencement Date. Section 2.13 of the Lease is hereby modified by (A) deleting the reference to "two hundred seventy (270) days" set forth in clause (ii) thereof, and inserting in its place a reference to "two hundred ninety three (293) days", and (B) deleting the reference to "such 270-day period" in clause (ii)(a) thereof, and inserting in its place a reference to "such 293-day period".

5. Approval of Retail Uses; Retail Lease Requirements.

a. Jeopardizing Uses. Landlord agrees that it shall not lease any retail space in Building 1 for a use (a "Jeopardizing Use") that would interfere with Tenant's business operation of its facilities in the Premises. Prior to entering into any lease for retail space in Building 1, Landlord shall give Tenant written notice of the proposed permitted uses of such space. In the event that Tenant shall reasonably determine that such proposed use would constitute a Jeopardizing Use, Tenant shall give Landlord notice thereof within seven (7) days after Tenant's receipt of Landlord's notice, specifying in reasonable detail the reasons for Tenant's determination. Tenant's failure to give such notice to Landlord within such seven (7) day period shall constitute a waiver by Tenant of its right to object to the use set forth in Landlord's notice. If Tenant shall timely give Landlord notice of Tenant's reasonable determination that the proposed use specified in Landlord's notice would constitute a Jeopardizing Use, Landlord shall not enter into a lease permitting such Jeopardizing Use in the applicable retail space.

b. Retail Lease Requirements. In the event that Landlord allows any retail tenants to store trash in the Parking Garage, the applicable leases shall require that the tenants cause the trash to be collected from the Parking Garage on a daily basis. In no event shall retail tenants be permitted to (i) use the Parking Garage for storage purposes (which shall not be deemed to include parking cars on a daily basis) except as approved by Landlord and Tenant, or (ii) use any Hazardous Materials which may impair Tenant's ability to maintain, for Tenant's exclusive use, four "control areas" (as defined in the 2007 California Uniform Building Code) on floor 1 of Building 1. All retail leases shall require the tenants thereunder to maintain at least the following insurance coverages: (A) workers' compensation insurance in statutory amounts, and (B) commercial general liability insurance with a minimum coverage of One Million Dollars ($1,000,000.00) per occurrence combined single limit for bodily injury and property damage, with a Two Million Dollars ($2,000,000.00) general aggregate limit. The insurance pursuant to clause (B) above shall, in addition to any requirements with respect to Landlord or other parties designated by Landlord, name Tenant as an additional insured. During such time as retail space shall be vacant, Landlord shall cause decorative window coverings to be placed upon all exterior windows, and the cost thereof shall not be allocated to Tenant, either as an Operating Expense or otherwise.

c. Ground Floor Modifications. Landlord shall notify Tenant of all regulatory agency approvals relating to the modifications to floor 1 of Building 1 by reason of the retail space within seven (7) business days after receipt by Landlord of such approvals.

7. Parking. Landlord hereby confirms that the parking ratio set forth in Section 3.4(c) of the Lease shall remain applicable and the parking spaces provided to Tenant pursuant to the Lease shall continue to be calculated on the basis thereof, notwithstanding the retail space in Building 1 and the parking required to be allocated thereto. Tenant acknowledges that, as set forth in Section 3.4(c)(2) of the Lease, the parking spaces allocated to Tenant on the basis of such ratio may be provided to Tenant on an unreserved valet parking basis, but in such event Landlord agrees that the incremental costs of providing Tenant with its parking allocation on an unreserved valet parking basis (over the costs of a self-park basis) shall be excluded from Operating Costs. The foregoing shall not preclude Landlord from including in Operating Costs the costs of providing valet parking to Tenant for parking in excess of Tenant's aforesaid parking allocation, subject, however, to Section 3.4.(c)(6) of the Lease.

The last sentence of Section 3.4(c)(5) of the Lease is amended to read in its entirety as follows: "In no event shall Tenant be responsible (as an Operating Cost or otherwise) for the costs to tow from the Complex any vehicle, unless the vehicle is properly identified as a vehicle belonging to one of the Tenant Parties, in which case, the towing costs shall be paid by Tenant within thirty (30) days after request by Landlord."

8. Work Letter Modifications.

a. Base Building Work. The definition of "Base Building Work", as set forth in Section 2(a) of the Work Letter, is hereby modified to include (i) the ground floor modification work outlined in the PCR & Bulletin 014 narrative dated May 21, 2007 (consisting of pages 1 — 12) and the PCR & Bulletin 014 narrative dated May 29, 2007 (consisting of pages 1 -3), collectively attached hereto as Exhibit A, and any amendment thereto, including plan check requirements, received by Tenant prior to June 30, 2007, (ii) stubbing base building mechanical, electrical, plumbing, sprinkler and life safety systems to the retail space on floor 1 of Building 1, and (iii) installation of sub-meters or similar devices sufficient to measure the electricity (and, to the extent practicable, water and gas) furnished to the retail space on floor 1 of Building 1. In addition to paying the cost of the Base Building Work, as supplemented pursuant to the foregoing, Landlord shall reimburse Tenant for its reasonable costs of architectural, engineering and legal services (including legal services in connection with this Amendment) on account of the reconfiguration of Building 1 for retail space on floor l of Building 1, but in no event shall Landlord's be required to reimburse Tenant for aggregate costs in excess of One Hundred Thousand Dollars ($100,000.00). In addition, in the event that Landlord retains a consultant to evaluate whether further changes in the Base Building Work are advisable to take into account security concerns raised by the retail space in Building 1, the cost of such consultant shall be Landlord's sole responsibility.

b. Landlord Delay. The definition of "Landlord Delay", as set forth in Section 2(h) of the Work Letter, is hereby modified by adding the following clause (iii) to the end thereof:

"(iii) Any actual delay in the completion of the Tenant Improvements, which delay shall be calculated on a net-critical-path basis, resulting from the additional Base Building Work required of Landlord pursuant to the First Amendment to this Lease by reason of the designation of retail space on floor 1 of Building 1, specifically including the additional Base Building Work set forth in clauses (ii) and (iii) of Paragraph 8.a. of said First Amendment. The cost of a Landlord Delay described in this Section 2.h.(iii) shall include any increase in the cost of completion of the Tenant Improvements payable by Tenant by reason of such a Landlord Delay."

c. Tenant Improvement Allowance. Landlord and Tenant recognize and agree that the Initial Tenant Improvement Allowance set forth in Section 7(a) of the Work Letter shall be calculated on the basis of the revised Rentable Area of the portion of the Premises located in Building 1, after taking into account the deletion of the retail space from the Premises as set forth in this Amendment.

9. Real Estate Brokers. Landlord and Tenant each represents and warrants to the other party that it has not authorized or employed, or acted by implication to authorize or to employ, any real estate broker or salesman to act for it in connection with this Amendment, other than Shorenstein Management, Inc. ("SMI") acting on behalf of Landlord. Landlord and Tenant shall each indemnify, defend and hold the other party harmless from and against any and all claims by any real estate broker or salesman whom the indemnifying party authorized or employed, or acted by implication to authorize or employ, to act for the indemnifying party in connection with this Amendment. Landlord shall pay any commission, finder's fee or other compensation payable to SMI in connection with this Amendment.

10. No Offer. Submission of this instrument for examination and signature by Tenant does not constitute an offer to amend the Lease or a reservation of or option to amend the Lease, and this

instrument is not effective as a lease amendment or otherwise until executed and delivered by both Landlord and Tenant.

11. Authority. Tenant and each person executing this Amendment on behalf of Tenant hereby covenants and warrants that (a) Tenant is duly incorporated or otherwise established or formed and validly existing under the laws of its state of incorporation, establishment or formation, (b) Tenant has and is duly qualified to do business in the state in which Building 1 is located, (c) Tenant has full corporate, partnership, trust, association or other appropriate power and authority to enter into this Amendment and to perform all Tenant's obligations hereunder, and (d) each person (and all of the persons if more than one signs) signing this Amendment on behalf of Tenant is duly and validly authorized to do so.

12. Lease in Full Force and Effect. Except as provided above, the Lease is unmodified hereby and remains in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date and year first above written.

LANDLORD:

X-4 DOLPHIN LLC,
a Delaware limited liability company

By Shorenstein Realty Investors Seven, LP

By: /s/ Paul W. Grafft

Name: Paul W. Grafft

Title: Vice President

TENANT:

FIBROGEN, INC.,
a Delaware corporation

By: /s/ Thomas B. Neff

Name: Thomas B. Neff

Title: CEO

Schedule 1

	Estimated Minimum Monthly Rent, Premises Balance (Bldg. 1)	Minimum Annual Rent PSF (Bldg. 1 and Bldg. 2)
Rent Commencement Date - Month 12	$ 669,375.00	$ 45.90
Month 13	$ 682,762.50	$ 46.82
Month 14-24	$ 906,119.47	$ 46.82
Month 25-36	$ 924,241.86	$ 47.75
Month 37-48	$ 942,726.70	$ 48.71
Month 49-60	$ 961,581.23	$ 49.68
Month 61-72	$ 980,812.86	$ 50.68
Month 73-84	$ 1,000,429.12	$ 51.69
Month 85-96	$ 1,020,437.70	$ 52.72
Month 97-108	$ 1,040,846.45	$ 53.78
Month 109-120	$ 1,061,663.38	$ 54.85
Month 121-132	$ 1,082,896.65	$ 55.95
Month 133-144	$ 1,104,554.58	$ 57.07
Month 145-156	$ 1,126,645.67	$ 58.21
Month 157-168	$ 1,149,178.59	$ 59.38
Month 169-180	$ 1,172,162.16	$ 60.56

	Estimated Minimum Monthly Rent, Ground Floor Interior Premises (Bldg. 1)	Minimum Annual Rent PSF
Rent Commencement Date - Month 12	$ 0.00	$ 25.25
Month 13	$ 0.00	$ 23.60
Month 14-24	$ 4,291.65	$ 23.60
Month 25-36	$ 4,377.48	$ 26.26
Month 37-48	$ 4,465.03	$ 26.79
Month 49-60	$ 4,554.33	$ 27.33
Month 61-72	$ 4,645.42	$ 27.87
Month 73-84	$ 4,738.33	$ 28.43
Month 85-96	$ 4,833.09	$ 29.00
Month 97-108	$ 4,929.76	$ 29.58
Month 109-120	$ 5,028.35	$ 30.17
Month 121-132	$ 5,128.92	$ 30.77
Month 133-144	$ 5,231.50	$ 31.39
Month 145-156	$ 5,336.13	$ 32.02
Month 157-168	$ 5,442.85	$ 32.66
Month 169-180	$ 5,551.71	$ 33.31

	Estimated Minimum Monthly Rent, Premises Balance (Bldg. 1)	Estimated Minimum Monthly Rent, Ground Floor Interior Premises (Bldg. 1)	Estimated Minimum Monthly Rent, Premises Balance + Ground Floor Interior Premises
Rent Commencement Date - Month 12	$ 669,375.00	$ 0.00	$ 669,375.00
Month 13	$ 682,762.50	$ 0.00	$ 682,762.50
Month 14-24	$ 906,119.47	$ 4,291.65	$ 910,411.12
Month 25-36	$ 924,241.86	$ 4,377.48	$ 928,619.35
Month 37-48	$ 942,726.70	$ 4,465.03	$ 947,191.73
Month 49-60	$ 961,581.23	$ 4,554.33	$ 966,135.57
Month 61-72	$ 980,812.86	$ 4,645.42	$ 985,458.28
Month 73-84	$ 1,000,429.12	$ 4,738.33	$ 1,005,167.44
Month 85-96	$ 1,020,437.70	$ 4,833.09	$ 1,025,270.79
Month 97-108	$ 1,040,846.45	$ 4,929.76	$ 1,045,776.21
Month 109-120	$ 1,061,663.38	$ 5,028.35	$ 1,066,691.73
Month 121-132	$ 1,082,896.65	$ 5,128.92	$ 1,088,025.57
Month 133-144	$ 1,104,554.58	$ 5,231.50	$ 1,109,786.08
Month 145-156	$ 1,126,645.67	$ 5,336.13	$ 1,131,981.80
Month 157-168	$ 1,149,178.59	$ 5,442.85	$ 1,154,621.44
Month 169-180	$ 1,172,162.16	$ 5,551.71	$ 1,177,713.87

EXHIBIT E

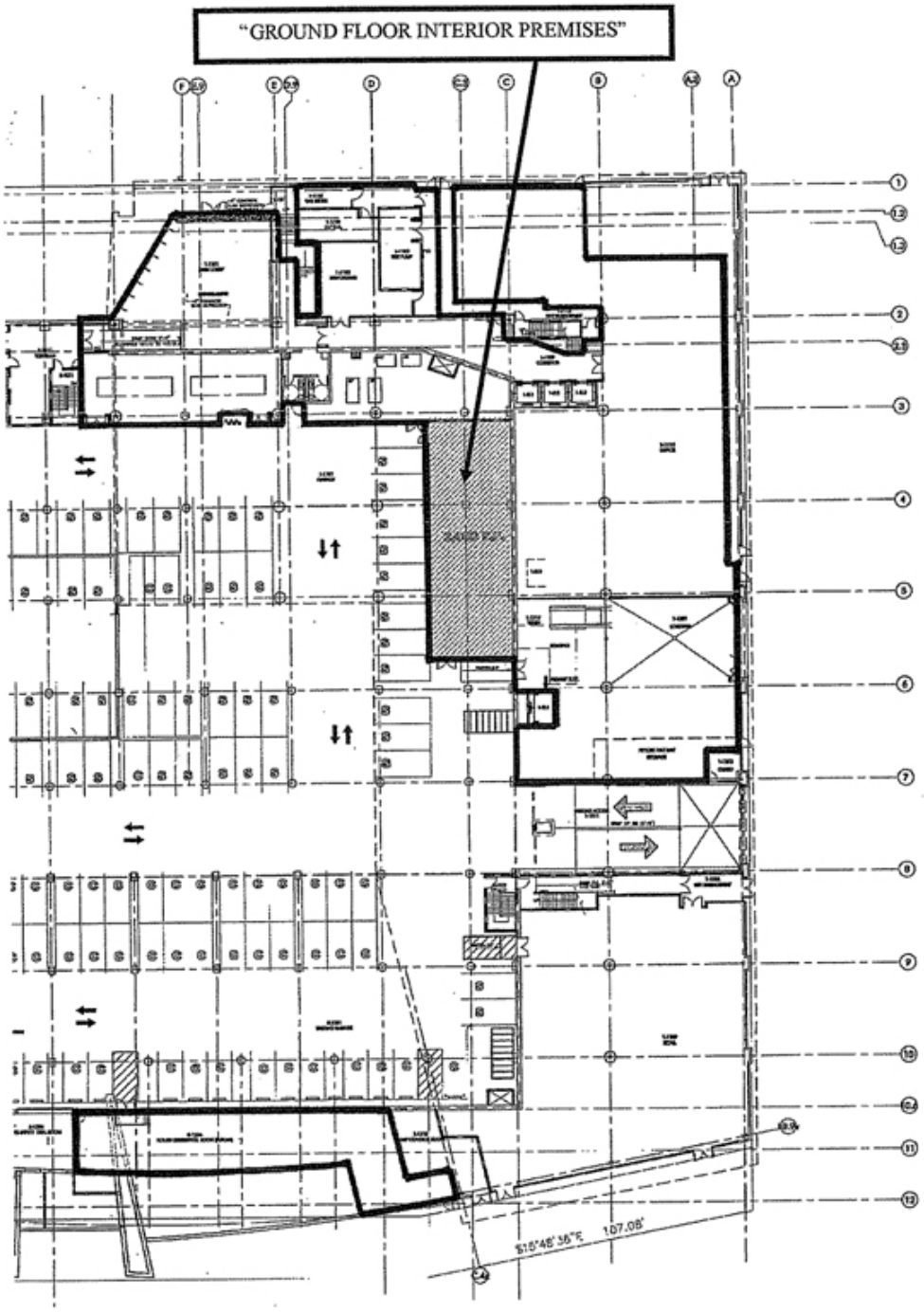

Exhibit A

Plan Check Response (PCR) & Bulletin 014
X-4 Dolphin, L.L.C. (Shorenstein Realty, L.P.)
499 and 409 Illinois Street

DGA Project No. 05174
May 21, 2007

To:

cc:
- ☒ Paul Grafft, Shorenstein
- ☒ Stan Roualdes, Shorenstein
- ☒ Dave Tech, SKS
- ☒ Mike Beutler, W&K
- ☒ Craig Heckman, ABAVA
- ☒ Ramsey Silberberg, M+S
- ☒ Tom Soo Hoo, IPD
- ☒ Ken Tam, SGH
- ☒ Steve Lepisto, SDE
- ☒ Julie Thompson, SGH
- ☒ Chris Lloyd, Randall Lamb
- ☒ Chris Weixelman, Randall Lamb
- ☒ Ed Wong, FW Associates
- ☒ Angela McDonald, HLB
- ☒ Richard Osborn, Loop
- ☒ John Moran, Syska Hennessy
- ☐ Bob Noren, Encheck
- ☒ Mei Wu, Mei Wu Associates
- ☒ Marcos Pinheiro, T&R
- ☐ Rafael Sabelli, Dasse Design
- ☐ Greg Deierlein
- ☐ Tom Boardman
- ☒ Catherine Sharpe, FibroGen
- ☒ Virginia Kosor, FibroGen
- ☒ Irene Lo, Flad & Associates
- ☒ Diane Cooper, Hathaway Dinwiddie
- ☒ Jodie Soboll, Hathaway Dinwiddie
- ☒ Robert Barone, IVI

Holders of Bidding documents for the above subject project are hereby informed that these documents are modified as noted in this bulletin and that all conditions not modified herein remain unchanged. Holders of bidding documents are instructed to incorporate in their estimates and estimated completion times the changes described herein. The summary description, if provided, may not include the full extent of such modifications or clarifications.

Note: Bulletin 14 delta numbers (shown in numerical sequence per page) were appended with the letter ‘A’ to distinguish them from Plan Check Response Comments.

ARCHITECTURAL DRAWING NARRATIVE - PLAN CHECK RESPONSE

A0.1	1.	Drawings added.
	2.	Curtainwall drawings noted as separate volume based on weight of drawings.
A0.3X	1.	Mechanical room 3-1505 noted as H3-occupany less than 500 S.F. for future tenant generator room.
A041X	1.	Exit width schedule revised.
	2.	Door width schedule revised.
	3.	Door rating to Storage Room 3-B1304 and Vestibule 3-B1303 added.
A0.42X	1.	Door rating to Storage Room 3-B2302 and Vestibule 3-B2303 added.
A0.43X	1.	MPOE room 1-11-08 door rating added.
	2.	Total occupant load revised for Exit Passageway 1-1208.
	3.	Retail 1-1209 northeast door noted as ‘Primary’ door with revised occupant load.
	4.	Life Safety Generator room 3-1506 overhead coiling door removed and replaced with fire rated partition.
	5.	Mechanical room 3-1505 was decreased to less than 500 square feet and is designated as H3-Occupancy for a future tenant generator room.
	6.	Corridor from Mechanical room 3-1505 to main parking level added.
	7.	Irrigation Control Room 3-1507 shown decreased in size.
	8.	Total occupant load revised for Exit Passageway 2-1408.
A0.44X	1.	Stairway 1-2ST1 door rating added.
A051.X	1.	All stairway total occupant loads revised.
A0.52X	1.	All stairway total occupant loads revised.
A0.53X	1.	All stairway total occupant loads revised.
A0.54X	1.	All stairway total occupant loads revised.
All plans	1.	General note regarding future occupancy use added.
A2.1.0	2.	See sectored plans below for detailed descriptions.
	3.	All exterior doors recessed a total distance of 3’-0” to avoid encroachment permit requirements.
	4.	Wall rating clarified.
	5.	Door ratings clarified on door schedule.
A2.1.1	1.	MPOE room 1-1108 wall rating and dimension added.
	2.	Wall ratings clarified.
	3.	All exterior doors recessed a total distance of 3’-0” to avoid encroachment permit requirements.
A2.1.2	1.	Wall ratings clarified.
	2.	All exterior doors recessed a total distance of 3’-0” to avoid encroachment permit requirements.
A2.2.1	1.	Wall ratings and dimensions clarified.
	2.	Storage room door flipped towards occupied floor area.
A2.2.3	1.	Wall ratings and dimensions clarified.
A2.3.0	1.	See sectored plans below for detailed descriptions.
	2.	Keynote deleted.
	3.	General note 3 added.

A2.3.1	1.	Wall ratings and dimensions clarified.
A2.3.3	1.	Wall ratings and dimensions clarified.
A2.4.0	1.	See sectored plans below for detailed descriptions.
	2.	Keynote deleted.
	3.	General note 3 added.
A2.4.1	1.	Wall ratings and dimensions clarified.
A2.4.3	1.	Wall ratings and dimensions clarified.
A2.5.0	1.	See sectored plans below for detailed descriptions.
	2.	Keynote deleted.
	3.	General note 3 added.
A2.5.1	1.	Wall ratings and dimensions clarified.
A2.5.3	1.	Wall ratings and dimensions clarified.
A2.6.0	1.	See sectored plans below for detailed descriptions.
	2.	Keynote deleted.
	3.	General note 3 added.
A2.6.1	1.	Wall ratings and dimensions clarified.
A2.6.3	1.	Wall ratings and dimensions clarified.
A3.2.0	1.	Revised the following doors: 3-B1ST2, 3-B1ST3, 1-1108, 1-1209, 1-1209A, 2-1303, 2-1308B, 2-1308C.
A3.2.1	1.	Revised the following doors: 2-1408, 3-1ST2, 3-1ST2A, 3-1ST3, 3-1ST3A.
	2.	Added the following doors: 3-1505A, 3-1507.
	3.	Deleted door: 3-1506B.
A6.7	1.	Detail 12 revised to show connection of parapet to curtainwall.
	2.	Detail 5 through 10 revised to show light gauge framing and connections.
A6.8	3.	Detail 19 revised to show connection of parapet to curtainwall.
	4.	Detail 15 welding information added.
A6.9	1.	Detail 3 welding information added.
A8.2	2.	Detail 23. Added new notes for 3-Hour Fire Rated WF columns & beams.

LANDSCAPE DRAWING NARRATIVE - BULLETIN NO. 14

SHEET NO.		DESCRIPTION
L0.0.0	1.	Added symbols.
	2.	General updates.
L0.0.1	1.	Revised prow.
	2.	Added new notes.
L1.04	1.	Revised prow.
	2.	Revised ramp walls.
	3.	Revised stairs and handrails.
	4.	Updated callouts.
L2.04	1.	Revised coordinate layout.
	2.	Revised stone paver layout.
	3.	Added enlarged plans.
L3.03	1.	Revised grading callouts.
	2.	Added weep holes.
L4.04	1.	Removed prow planting.
L5.04	1.	Removed prow irrigation.
	2.	Removed prow valve.
L6.02	1.	Revised stone pavers.
	2.	Revised ramp enlargement.
	3.	Updated oversized stone pavers.
L6.03	1.	Added prow enlargements.
L7.02	1.	Revised all prow elevations.
	2.	Updated material’s schedule.
L7.03	1.	Revised all prow elevations.
	2.	Added prow sections.
L7.04	1.	Revised ramp wall section.
	2.	Added new details.
L7.05	1.	Revised all ramp wall elevations.
L7.06	2.	Revised all ramp wall elevations.
	3.	Added new section detail.
L8.01	1.	Updated details.
	2.	Added new details.
L8.03	1.	Updated stair details.
	2.	Added stair details.
L8.07	1.	Added new handrail details.
L8.08	1.	Revised trench details.
	2.	Added new details.
L8.09	1.	Revised lighting details.
	2.	Added new lighting details.

Cont.

ARCHITECTURAL DRAWING NARRATIVE — BULLETIN NO. 14

SHEET NO.	DESCRIPTION
A0.43X	1. Life Safety Generator room 3-1506 overhead coiling door removed and replaced with fire rated partition.
A2.B2.0	1. Steel bollard dimensioned at four corners. 2. Wall under ramp added per Structural drawing S2.B2.0.
A2.B2.1	1. Wall dimension added.
A2.B2.2	1. Symbol for floor penetration relocated at C and 10.6.
A2.B2.3	1. Symbol for floor penetration relocated at 2 and N.7. 2. Sump pit keynote deleted. 3. Wall under ramp added per Structural drawing S2.B2.0. 4. Keynote revised.
A2.B2.4	1. Symbol for floor penetration relocated at P and 10.6.
A2.B1.0	1. Steel bollard dimensioned at four corners. 2. Recessed floor slab from floor above with barrier rail noted at E and 2.3. 3. Keynote 12 added.
A2.B1.1	1. Wall dimension added.
A2.B1.2	1. Symbol for floor penetration relocated at C and 10.6.
A2.B1.3	1. Symbol for floor penetration relocated at 2 and N.7. 2. Sump pit keynote deleted.
A2.B1.4	1. Symbol for floor penetration relocated at P and 10.6.
A2.1.0	1. Symbol and note to future tenant elevator deleted. 2. Disabled parking layout revised. 3. Parking layout modified along D and 3 through 7. 4. Gas Meter 1-1106 and MPOE room 1-1108 and Corridor 1-1105 revised as a result of relocating Substation 1-1107 and Pump room 1-1104 within the L1 parking level. 5. Keynoted and symbol referring to tenant elevator deleted. 6. See sectored plans for detailed descriptions.

Cont.

A2.1.1
1. Keynote 3. Sump pit reference deleted.
2. Tenant elevator 1-EL5 at gridline C and 5 with associated fire rated shaftwall assembly added.
3. Retail area between gridlines 1-1.5 and A-B.1 added per discussions with the San Francisco Redevelopment Agency.
4. Retail light box area between gridlines 1.5-4.7 and A-A.1 added per discussions with the San Francisco Redevelopment Agency.
5. Exterior door 1-113A added.
6. Office 1-1114 added per discussions with the San Francisco Redevelopment Agency.
7. Exit Passageway 1-1112 added as a result of an added retail area.
8. Gas Meter 1-1106 and MPOE room 1-1108 and Corridor 1-1105 revised as a result of relocating Substation 1-1107 and Pump room 1-1104 within the L1 parking level.
9. Door 1-1101A shifted.
10. Future restroom recessed floor slab 1-1115 and door added.
11. 4-hour building separation envelope between L1 garage and adjacent Building 1 modified per approved Local Equivalency dated May 3, 2007.
12. Substation 1-1107 relocated.
13. Pump room 1-1104 relocated.
14. Office 1-1114 with associated doors and stairs added.
15. Keynotes revised / added.

A2.1.2
1. Retail area between gridlines 8-11 and A-C.3 added per discussions with the San Francisco Redevelopment Agency.
2. Office 1-1114 added per discussions with the San Francisco Redevelopment Agency.
3. Symbol for floor penetration relocated at C and 10.6.
4. Exit Passageway 1-1208 ramp transition slightly modified.
5. Cement plaster walls removed at entry driveways.
6. Column cover detail references clarified.
7. Driveway width and extent of concrete curb clarified.
8. Steel bollard dimensioned.
9. Keynotes revised / added.

A2.1.3
1. Symbol for floor penetration relocated at P and 2.5.
2. Cement plaster walls removed at entry driveways.
3. Fire rated wall at perimeter storefront wall along 1 and N.4 through N.5 deleted. Disregard wall rating note.
4. Driveway width and extent of concrete curb clarified.
5. Keynotes revised / added.

A2.1.4
1. Symbol for floor penetration relocated at P and 10.6.
2. Cement plaster walls removed at entry driveways.
3. Driveway width and extent of concrete curb clarified.
4. Steel bollard added.
5. Keynote revised / added.

A2.1.5
1. Overhead coiling door 3-1506B removed and replaced with drywall.
2. Irrigation Control room 3-1507 re-sized and exterior corridor added.
3. Keynote revised / added.

A2.2.1
1. Stair 1-2ST1 reversed.
2. Tenant elevator floor opening and fire rated shaftwall enclosure added.
3. Keynotes added.
4. The general note regarding future occupancy use, similar to sheet A2.1.5, was added in the City set last minute. This is the only change.

A2.2.2
1. Future tenant elevator keynote and symbol removed.
2. The general note regarding future occupancy use, similar to sheet A2.1.5, was added in the City set last minute. This is the only change.

A2.2.3	1.	Partition dimensions clarified.
	2.	The general note regarding future occupancy use, similar to sheet A2.1.5, was added in the City set last minute. This is the only change.
A2.2.4	1.	The general note regarding future occupancy use, similar to sheet A2.1.5, was added in the City set last minute. This is the only change.
A2.3.0	1.	Future tenant elevator keynote and symbol removed.
A2.3.1	1.	Stair 1-2ST1 reversed.
	2.	General notes and keynotes added.
	3.	Partition dimensions clarified.
A2.3.2	1.	Future tenant elevator keynote and symbol removed.
A2.3.3	1.	Partition dimensions clarified.
A2.3.4	1.	No modifications, added for reference only.
A2.4.1	1.	Stair 1-2ST1 reversed.
	2.	General notes and keynotes added.
A2.4.2	1.	Future tenant elevator keynote and symbol removed.
A2.4.4	1.	No modifications, added for reference only.
A2.5.1	1.	Stair 1-2ST1 reversed.
	2.	General notes and keynotes added.
A2.5.2	1.	Future tenant elevator keynote and symbol removed.
A2.5.4	1.	No modifications, added for reference only.
A2.6.1	1.	Stair 1-2ST1 reversed.
	2.	General notes and keynotes added.
A2.6.2	1.	Future tenant elevator keynote and symbol removed.
A2.6.4	1.	No modifications, added for reference only.
A2.7.0	1.	Exhaust fans pads relocated.
	2.	Overall roof pads now matches structural drawings, as approved in Addendum 3 Superstructure drawings. The rooftop equipment pad cloud was not duplicated in the sectored plans.
	3.	Roof crickets added to accommodate revised roof pad layout.
	4.	General note 3 through 9 added.
	5.	Keynote 11 aluminum ladders removed. Roof hatch replaced with louvered penthouse.
	6.	Keynote 14-16 added.
	7.	Future penthouse configuration modified.
A2.7.1	1.	Outrigger steel davit at 1.3 and F.5 relocated.
	2.	See sheet A2.7.0 for roof pad clouding.
A2.7.2	1.	See sheet A2.7.0 for rooftop equipment pad clouding.
A2.7.3	1.	See sheet A2.7.0 for rooftop equipment pad clouding.
A2.7.4	1.	See sheet A2.7.0 for rooftop equipment pad clouding.
A2.7.3	1.	Door dimension clarified.
A2.8.0	1.	Substation 1-1107, Pump room 1-1104, Exit Passageway 1-1112, MPOE room 1-1108 and Corridor 1-1105 location and size modified.
	2.	Retail partition at B and 1.5 added.
A2.8.0r	1.	Substation 1-1107, Pump room 1-1104, Exit Passageway 1-1112, MPOE room 1-1108 and Corridor 1-1105 location and size modified.
	2.	Retail partition at B and 1.5 added.
A2.9.0	1.	Stair 3-(1ST1, 1ST2, 1ST3). Revised dimensions.
	2.	Stair 3-(B2ST1, B2ST2, B2ST3). Revised dimensions.
	3.	Stair 1-(1ST3, 2ST3, 3ST3, ROOF). Revised note and dimension at Third Sixth Floors.
A2.10.0	1.	Added Enlarged Plan for Stair 1-ST2 with notes and dimensions.
	2.	Stair. 2-ST2. Revised dimension at First Floor.
	3.	Added Enlarged Plans for Stair 1-ST1 with notes and dimensions.
A3.1	1.	Added new sheet note.
A3.2.0	1.	Added remark in Door and Frame Notes.

	2.	Revised the following doors: 1-1101 A, 1-1105A, 1-1105B, 1-1107, 1-1111, 1-1111A, 1-1112B, 1-1113, 2-1301A.
	3.	Added the following doors: 1-1104, 1-1104A, 1-1107, 1-1110A, 1-1110C, 1-1113A, 1-1114, 1-1114A, 1-1115.
A3.2	1.	No modifications, added for reference only.
A3.4	1.	Retail (1-1113), Office (1-1114) and Irrigation Control Room (3-1507) added to Building 1. Added room finish notes.
	2.	Pumps (1-1104), Gas Meter (1-1106), Substation (1-1107), M.P.O.E. (1-1108) rooms relocated. Revised room finish notes.
	3.1.	Corridor (1-1105), Office (1-1110), Exit Passageway (1-1112) and Mechanical Room (3-1505). Revised room finish notes. A4.2
A4.2	1.	Wall Section 3. Revised dimensions and notes at roof screen.
	2.	Wall Section 5. Revised dimensions and notes at roof screen.
A4.3	1.	Wall Section 4. Revised dimensions and notes at roof screen.
	2.	Wall Section 7. Revised dimensions and notes at roof screen.
A4.6	1.	Section 1. Wire mesh partitions added as shown. Revised detail tag and notes.
	2.	Section 2. Wire mesh partitions in elevator shaft removed as shown. Revised notes.
A4.7	1.	Section 1. Wire mesh partitions added as shown. Removed sump pit. Revised notes.
	2.	Section 2. Wire mesh partitions in elevator shaft removed as shown.
	3.	Section 2A. Wire mesh partitions in elevator shaft removed as shown.
A5.1	1.	West Elevation. Metal louvers added and removed as shown.
	2.	West Elevation. Exterior Door added.
A5.2	1.	North Elevation. Added door.
A5.3	1.	South Elevation. Revised dimension.
A5.4	1.	West Elevation 2. Perforated metal panels replaced by metal louvers. Key notes revised.
A6.7	1.	Detail 1 and 23 revised.
A6.8	2.	Detail 20 added.
A6.10	3.	Details 4, 5, 6, 16, 18, 20, 23, and 25 revised to show bollard type and location.
A6.12	1.	Detail 2. Added new plan and elevation for concrete wall at structural glass at Building 1.
	1.	Detail 4. Added new plan and elevation for concrete wall at structural glass at Building 2.
A8.3	1	Detail 10. Revised dimension.
A8.4	1.	Detail 13. Revised notes and dimensions. Detail 15. Added new detail with notes.
A8.6	1.	Detail 6. Added diffuser with notes and dimensions.
	2.	Detail 15. Added diffuser with notes and dimensions.
A8.7	1.	Detail 14. Revised dimensions and notes. Removed ladder as shown.
	2.	Detail 16. Added bollards with dimensions.

Cont.

STRUCTURAL DRAWING NARRATIVE - BULLETIN NO. 14

S1.3	1.	Revised cantilever beam detail to kicker detail at 16/S1.3.
S1.4	1.	Detail 8 & 13 added.
S2.B.0a, S2.B.1.0B & S2.B.1.1	1.	Slab opening near grid 2.3 between grid G & F revised.
S2.1.0.A & S2.1.0B,	1.	Revised reinforcement in area bounded by C, D.3, 2.3, 3.3, & 6.
S2.1.1	1.	Area between grid C, D.4, 2 & 3.3 revised to 14” slab.
	2.	Beams added along grid 3 between D and E.
	3.	Beams added btwn grid 2.3 & 3 along E and D.5
	4.	Mech opening btwn C and C.3 moved to south of grid D
	5.	Edge of slab revised long line 1 and 3. Detail callout 16/S4.4 added.
	6.	Legend revised.
S2.1.2	1.	Area between C, D.4, 5 & 6 revised to 14” slab.
S2.1.3	1.	Ramp area between H & L revised to show new layout.
	2.	Edge of slab revised between N & N.7 to show grade beam align with adjacent bays. Detail 16/S4.4 call out added.
	3.	Edge of slab revised along R between 4 & 5.
S2.1.4	1.	Edge of slab revised along R between 5 & 6.
S2.2.1 thru	1.	Opening for garage exhaust duct added near 3/D, 2-3/N, and 7/P-Q within future slab openings.
S2.2.5	2.	Opening for tenant elevator added near 5/C.
	3.	Top of slab elevations shown at Plaza.
	4.	Slab pocket for coiling door added near 6/R.
S2.3.1 thru	1.	Opening for garage exhaust duct revised near 3/D, 2-3/N, and 7/P-Q within future slab openings.
S2.3.4	2.	Revised stair opening near 2/E
	3.	Revised location of exterior wall panel supports along Lines A, F.9, K.1, and R.
	4.	Added slab edge dimensions.
S2.4.1 thru	1.	Opening for garage exhaust duct revised near 3/D, 2-3/N, and 7/P-Q within future slab openings.
S2.4.4	2.	Revised stair opening near 2/E
	3.	Revised location of exterior wall panel supports along Lines A. F.9, K.1, and R.
	4.	Added slab edge dimensions.
S2.5.1 thru	1.	Opening for garage exhaust duct revised near 3/D, 2-3/N, and 7/P-Q within future slab openings.
S2.5.4	2.	Revised stair opening near 2/E
	3.	Revised location of exterior wall panel supports along Lines A, F.9, K.1, and R.
	4.	Added slab edge dimensions.
S2.6.1 thru	1.	Opening for garage exhaust duct revised near 3/D, 2-3/N, and 7/P-Q within future slab openings.
S2.6.4	2.	Revised stair opening near 2/E
	3.	Revised location of exterior wall panel supports along Lines A, F.9, K.1, and R.
	4.	Added slab edge dimensions.

S2.7.1 thru	1.	Opening for garage exhaust duct revised near 3/D, 2-3/N, and 7/P-Q within future slab openings.
S2.7.4	2.	Revised location of pads for garage exhaust fans.
	3.	Revised location of roof hatch opening.
	4.	Added moment connection symbol at screen wall posts on Line 5.
	5.	Revised location of exterior wall panel supports along Lines A, F.9, K.1, and R.
	6.	Added slab edge dimensions.
	7.	Revised cambers at several beams.
S2.8.1	1.	Revised layout of future penthouse roofs.
S3.4	1.	Shear wall elevations along line 2.3 revised to show revised mechanical openings.
	2.	Shear wall elevation along line 2.3 revised to show depressed slab between D & E.
S3.5	1.	Shear wall elevation along line C revised to show new door opening and future mechanical opening between 4 & 5.
S4.4	1.	Detail 14 added.
	2.	The “Bulletin No. 14” and date note in the titleblock was left out and will be added to the next printing.
S4.5	1.	Detail 10: Rebar T13, 14, B9.
	2.	Detail 10: Length of T12 revised from 14’ to 16’.
	3.	Detail 10: number of B7 bars revised from 3 to 5.
	4.	Detail 21 added for stud rails at 14” slab.
S5.2	1.	Details 18, 22, & 23 added.
S5.5	1.	Detail 7: revised top of wall detail to shown #6 dowels.
	2.	Detail 17: Detail revised to show hooked top bars from slab to wall.
	3.	Detail 8 revised to show (5) #9 from (4) #9 bars.
S5.7	1.	Detail 6 & 24 removed.
S5.8	1.	Added detail 16/S5.8 for pocket at coiling door.
S5.11	1.	New Sheet.

Cont.

MEP DRAWING NARRATIVE - BULLETIN NO. 14

SPC.SECTION	DESCRIPTION
15855	AIR HANDLING UNITS: 1. Added new specification section.

SHEET NO.	DESCRIPTION
M0.3	1. Deleted DX fan coils FC-111, FC-112, FC-161, and FC-162. Replaced with Air Handlers AH-111, AH-112, AH-161, and AH-162 per Air Handler Schedule. 2. Deleted Condensing Units AC-111A, AC-111B, AC-112, AC-161, and AC-162. 3. Modified Garage Exhaust Fan GEF-112 (larger motor). Changed external static pressure (ESP) for fan GEF-111.
M2.X.1 (all area 1 sheets)	1. Revised shaft layout.
M2.B2.0	1. Removed fire/smoke dampers in garage exhaust duct. Fire plancheck is requiring no separation between floors of the parking garage. 2. Adjusted garage exhaust intake layout. 3. Added relocated FC-301 and modified ductwork accordingly
M2.B1.0	1. Removed fire/smoke dampers in garage exhaust duct. Fire plancheck is requiring no separation between floors of the parking garage. 2. Adjusted garage exhaust intake layout. 3. Added relocated FC-302 and modified ductwork accordingly. 4. At NW corner, relocated garage exhaust riser to match new 1st floor layout
M2.1.1	1. Revised garage duct exhaust layout to accommodate new shaft arrangement and new L1 layout. 2. Revised location of fire pump exhaust flue riser. 3. Revised substation exhaust system for new location. Routed substation exhaust to roof and deleted associated louver at wall. 4. Revised pump room exhaust system and relocated associated exhaust louver. 5. Relocated vent louver for gas meter room. 6. Deleted FC-112 and added AH-112 in new location. 7. Deleted FC-301 and FC-302 (new units added to levels B1 & B2). 8. Deleted AC-111A and AC-111B. 9. Deleted 4 SA/RA duct drops through slab to B1. 10. Relocated fans GEF-111, GEF-112 for new layout. 11. Added 1 OA duct drop through slab to B1. 12. Revised lobby economizer relief system layout 13. Added return slots in lobby. 14. Added filtered intake louvers in 4-hour wall for substation and pump room make-up air. 15. Added fire/smoke dampers as required.

M2.1.3	1.	Revised lobby economizer relief system layout
	2.	Added return slots in lobby.
	3.	Relocated AC-211A and 211B to fit new parking layout
M2.2.1	1.	Deleted FC-111 and added AH-111 in same location.
	2.	Deleted return slots. Added sidewall return slots in cove.
M2.2.3	1.	Deleted return slots. Added sidewall return slots in cove.
M2.7.1	1.	Relocated garage exhaust fans and modified inlet ductwork in response to tenant requirements and VE changes.
	2.	Relocated fire pump flue discharge
	3.	Added gooseneck discharge for substation exhaust.
	4.	Deleted AC 171 and AC 172.
M2.7.2	1.	Relocated garage exhaust fans and modified inlet ductwork in response to tenant requirements and VE changes.
M2.7.3	1.	Relocated garage exhaust fans and modified inlet ductwork in response to tenant requirements and VE changes.
M2.7.4:	1.	Relocated garage exhaust fans and modified inlet ductwork in response to tenant requirements and VE changes.
M6.2	1.	Modified detail 8 for stronger support for large exhaust plenums.
P0.1	1.	Revised sump pump SP-1.
P2.x.x (all plumbing plans)	1.	Relocated storm drain risers. Storm drain risers were previously located in stairwells, and have been moved out to run down along structural columns
P2.B2.0	1.	Added condensate drain to fan coil
	2.	Added relocated SP-1.
P2.B1.0	1.	Revised elevation of several pipe sleeves through foundation wall.
	2.	Revised size of several pipe sleeves.
	3.	Revised routing of storm drain to avoid lowered slab.
	4.	Added condensate drain to fan coil.
P2.1.1	1.	This sheet has been significantly changed and requires complete review.
	2.	Switched location of FST-2 and associated transition sump.
	3.	Modified piping to accommodate relocation of gas meter room
	4.	Modified piping (sewer, water, reclaim water, irrigation), floor sinks, equipment locations to accommodate relocation of pump room.
	5.	Relocated piping drops to avoid substation room.
	6.	New vent riser for floor sinks (extends to all floors above for Area 1 - see all sheets P2.x.1)
	7.	Modified condensate piping for mechanical unit relocations.
	8.	Deleted sump pump SP-1 (relocated to B2)
	9.	Added sewer and water piping to the small retail area at the NW corner.
P2.1.3	1.	Added grease waste piping to future kitchen area.
	2.	Added grease waste vent for grease interceptor. This extends up through all floors to roof.
P3.0.1	1.	Added Detail 4 showing new pump room layout
	2.	Modified Detail 1 for new layout.
P3.0.1	1.	Modified riser diagram to show deletion of test headers and addition of flow meter test lines.

MEP DRAWING NARRATIVE - BULLETIN NO. 14

E DWGS	1.	Electrical drawing narrative to follow shortly.

End.

ELECTRICAL DRAWING NARRATIVE — BULLETIN NO. 14

SHEET NO.	DESCRIPTION
E3.B2.1	1. Deleted 120 VAC power and wirings to fire smoke damper.
E3.B1.1	1. Relocated fire alarm horn/strobe and manual pull station devices at Stair B1ST1. 2. Revised AC/301 and AC/302 power circuit designations. 3. Relocated FC/302 and wirings. 4. Deleted 120 VAC power and wirings to fire smoke damper.
E2.1.1	1. Revised lighting layout and relocated at relocated Substation Rm. 1-1107 and Pump Rm. 1-1104. 2. Revised lighting layout at Switchgear Rm. 1-1102, Fire Pump Rm. 1-1103, MPOE Rm. 1-1108, Gas Meter 1-1106 and Exit Passageway 1-1112. 3. Added lighting and circuits to Restroom 1-1115 and Retail Box location.
E3.1.1	1. Revised fire alarm, power equipment layout and receptacle devices at relocated Substation Rm. 1-1107 and Pump Rm. 1-1104. 2. Revised fire alarm equipment, devices, receptacle outlet wirings and layout at Switchgear Rm. 1-1102, Fire Pump 1-1103, MPOE 1-1108 and Exit Passage. 1-1112. 3. Added GFI receptacle and fire alarm strobe, horn/strobe devices and electromagnetic Door holder at Restroom 1-1115. 4. Added fire alarm smoke detector and electromagnetic door holders and wirings At Corridor. 5. Added conduit openings at 1 and 4 hour rated walls. 6. Corrected comb.starter/disc. sw. symbol for GEF/115 at Fire Pump Rm. 1-1103
E3.1.3	1. Added duct detector and wirings for GEF/212. 2. Added fire smoke damper 120 VAC power and wirings. 3. Added smoke detector and electromagnetic door holder power and wirings. 4. Relocated FC/212 unit power and wirings.
E3.1.4	1. Added fire smoke damper 120 VAC power and wirings. 2. Revised BP/1 and BP/3 power and wirings.
E3.2.1	1. Replaced FC/111 with AH/111 and relocated duct detector and wirings.

Cont.

E3.6.1
1. Replaced FC/161 with AH/161 and added duct detectors and wirings.

E3.6.2
1. Replaced FC/162 with AH/162 and added duct detectors and wirings.

E3.6.3
1. Added duplex receptacle and fire smoke damper 120 VAC power and wirings.

E3.6.4
1. Added duplex receptacle and fire smoke damper 120 VAC power and wirings.

E3.7.1
1. Relocated GEF/171 and GEF/172 power and wirings.
2. Added power and wirings to CO detection control relay pack.
3. Added duct detector and wirings to FACP.

E3.7.2
1. Relocated GEF/173 and GEF/174 power and wirings.
2. Added duct detectors and wirings to FACP.

E3.7.3
1. Relocated GEF/271 and GEF/272 power and wirings.
2. Added duct detectors and wirings to FACP.
3. Added power and wirings to CO detection and control relay pack.
4. Relocated AC/271 and wirings

E3.7.4
1. Relocated GEF/273 and GEF/274 power and wirings.
2. Added duct detectors and wirings to FACP.

E6.0.5
1. Added light fixture type “0” to lighting fixture schedule and lighting control panel **S**chedule “LCP”.

E6.0.7
1. Added air handling units AH/111, AH/112, AH/161 and AH/162 to Mechanical Equipment Schedule.
2. Revised MCA and HP ratings of AC/301, AC/302, AC/303, BP/2 and BP/4.
3. Deleted FC/111, FC/161, FC/162, AC/111A, AC/112, AC/171 and AC/172.

E6.0.8
1. Revised MCA and HP ratings of FC/211, FC/212, FC/261, FC/262, AC/211A, AC/211B, AC/212, AC/271, BP/1 and BP/3.

E6.0.9
1. Added retail box load to panel NIA.
2. Replaced FC/161 with AH/161, FC/162 with AH/162 at Panel EL1A1.
3. Added CO detector control power and revised loads of AC/303 at Panel P1A.
4. Deleted AC/171 and AC/172 from Panel EL1A1.
5. Added receptacle loads at Panel EL1 Al.
6. Revised AC/301 and FC/301 circuit breaker rating at Panel EL1A1.

E6.0.9A	1.	Replaced AC/111A with AH/112 at Panel HP1A.
	2.	Replaced FC/111 with at Panel HP1A.
	3.	Deleted AC/111B at Panel HP1A.
	4.	Revised circuit breaker rating for BP/2 at Panel 1 EPHC.
E6.0.10	1.	Revised circuit breaker rating for BP/3, AC/211A, AC/211B, FC/211 at Panel HP2A.
	2.	Revised circuit breaker rating for AC/271 at Panel ELIA2.
	3.	Revised circuit breaker rating for AC/212 at Panel P2A.
	4.	Added CO detector controller power at Panel P1A.
E6.0.10A	1.	Revised circuit breaker rating for BP/1 at Panel 2EPHC.
E7.0.4	1.	Added ground bar and UFER ground details.

Prepared By: Ernie Lagundi/FWA Date: 05-29-2007

SECOND AMENDMENT TO LEASE
(Corrective Amendment)

THIS SECOND AMENDMENT TO LEASE (this "Amendment") is executed as of the 29th day of June, 2009, between X-4 DOLPHIN LLC, a Delaware limited liability company ("Landlord") and FIBROGEN, INC., a Delaware corporation ("Tenant").

RECITALS

A. Landlord and Tenant entered into a lease, dated as of September 22, 2006, as amended by First Amendment to Lease dated as of October 10, 2007 (the "First Amendment"), and letter agreement dated March 21, 2008 (as so amended, the "Lease"), pursuant to which Tenant leases from Landlord the building (the "Building 1") commonly known as 409 Illinois Street, San Francisco California. Capitalized terms not otherwise defined herein shall have the meanings in the Lease.

B. A typographical error exists in the estimated Minimum Monthly Rent schedule attached to the First Amendment as Schedule 1 thereto, and Landlord and Tenant presently desire to amend the Lease to correct such typographical error.

NOW, THEREFORE, in consideration of the foregoing, the parties hereto agree as follows:

1. Minimum Monthly Rent Schedule. Schedule 1 to the First Amendment is hereby deleted and Schedule 1 attached hereto is substituted in its place.

2. Real Estate Brokers. Landlord and Tenant each represents and warrants to the other party that it has not authorized or employed, or acted by implication to authorize or to employ, any real estate broker or salesman to act for it in connection with this Amendment, other than Shorenstein Management, Inc. ("SMI") acting on behalf of Landlord. Landlord and Tenant shall each indemnify, defend and hold the other party harmless from and against any and all claims by any real estate broker or salesman whom the indemnifying party authorized or employed, or acted by implication to authorize or employ, to act for the indemnifying party in connection with this Amendment. Landlord shall pay any commission, finder's fee or other compensation payable to SMI in connection with this Amendment.

3. No Offer. Submission of this instrument for examination and signature by Tenant does not constitute an offer to amend the Lease or a reservation of or option to amend the Lease, and this instrument is not effective as a lease amendment or otherwise until executed and delivered by both Landlord and Tenant.

4. Authority. Tenant and each person executing this Amendment on behalf of Tenant hereby covenants and warrants that (a) Tenant is duly incorporated or otherwise established or formed and validly existing under the laws of its state of incorporation, establishment or formation, (b) Tenant has and is duly qualified to do business in the state in which Building 1 is located, (c) Tenant has full corporate, partnership, trust, association or other appropriate power and authority to enter into this Amendment and to perform all Tenant's obligations hereunder, and (d) each person (and all of the persons if more than one signs) signing this Amendment on behalf of Tenant is duly and validly authorized to do so.

5. Lease in Full Force and Effect. Except as provided above, the Lease is unmodified hereby and remains in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date and year first above written.

LANDLORD:

X-4 DOLPHIN LLC,
a Delaware limited liability company

By Shorenstein Realty Investors Seven, LP

By: /s/ Paul W. Grafft

Name: Paul W. Grafft

Title: Vice President

TENANT:

FIBROGEN, INC.,
a Delaware corporation

By: /s/ Pat Cotroneo

Name: Pat Cotroneo

Title: CFO

Schedule 1

Estimated Minimum Monthly Rent Schedule

Schedule 1

	Estimated Minimum Monthly Rent, Premises Balance (Bldg. 1)	Minimum Annual Rent PSF (Bldg. 1 and Bldg. 2)
Rent Commencement Date - Month 12	$ 669,375.00	$ 45.90
Month 13	$ 682,762.50	$ 46.82
Month 14-24	$ 906,119.47	$ 46.82
Month 25-36	$ 924,241.86	$ 47.75
Month 37-48	$ 942,726.70	$ 48.71
Month 49-60	$ 961,581.23	$ 49.68
Month 61-72	$ 980,812.86	$ 50.68
Month 73-84	$ 1,000,429.12	$ 51.69
Month 85-96	$ 1,020,437.70	$ 52.72
Month 97-108	$ 1,040,846.45	$ 53.78
Month 109-120	$ 1,061,663.38	$ 54.85
Month 121-132	$ 1,082,896.65	$ 55.95
Month 133-144	$ 1,104,554.58	$ 57.07
Month 145-156	$ 1,126,645.67	$ 58.21
Month 157-168	$ 1,149,178.59	$ 59.38
Month 169-180	$ 1,172,162.16	$ 60.56

	Estimated Minimum Monthly Rent, Ground Floor Interior Premises (Bldg. 1)	Minimum Annual Rent PSF
Rent Commencement Date - Month 12	$ 0.00	$ 25.25
Month 13	$ 0.00	$ 25.75
Month 14-24	$ 4,291.65	$ 25.75
Month 25-36	$ 4,377.48	$ 26.26
Month 37-48	$ 4,465.03	$ 26.79
Month 49-60	$ 4,554.33	$ 27.33
Month 61-72	$ 4,645.42	$ 27.87
Month 73-84	$ 4,738.33	$ 28.43
Month 85-96	$ 4,833.09	$ 29.00
Month 97-108	$ 4,929.76	$ 29.58
Month 109-120	$ 5,028.35	$ 30.17
Month 121-132	$ 5,128.92	$ 30.77
Month 133-144	$ 5,231.50	$ 31.39
Month 145-156	$ 5,336.13	$ 32.02
Month 157-168	$ 5,442.85	$ 32.66
Month 169-180	$ 5,551.71	$ 33.31

	Estimated Minimum Monthly Rent, Premises Balance (Bldg. 1)	Estimated Minimum Monthly Rent, Ground Floor Interior Premises (Bldg. 1)	Estimated Minimum Monthly Rent, Premises Balance + Ground Floor Interior Premises
Rent Commencement Date - Month 12	$ 669,375.00	$ 0.00	$ 669,375.00
Month 13	$ 682,762.50	$ 0.00	$ 682,762.50
Month 14-24	$ 906,119.47	$ 4,291.65	$ 910,411.12
Month 25-36	$ 924,241.86	$ 4,377.48	$ 928,619.35
Month 37-48	$ 942,726.70	$ 4,465.03	$ 947,191.73
Month 49-60	$ 961,581.23	$ 4,554.33	$ 966,135.57
Month 61-72	$ 980,812.86	$ 4,645.42	$ 985,458.28
Month 73-84	$ 1,000,429.12	$ 4,738.33	$ 1,005,167.44
Month 85-96	$ 1,020,437.70	$ 4,833.09	$ 1,025,270.79
Month 97-108	$ 1,040,846.45	$ 4,929.76	$ 1,045,776.21
Month 109-120	$ 1,061,663.38	$ 5,028.35	$ 1,066,691.73
Month 121-132	$ 1,082,896.65	$ 5,128.92	$ 1,088,025.57
Month 133-144	$ 1,104,554.58	$ 5,231.50	$ 1,109,786.08
Month 145-156	$ 1,126,645.67	$ 5,336.13	$ 1,131,981.80
Month 157-168	$ 1,149,178.59	$ 5,442.85	$ 1,154,621.44
Month 169-180	$ 1,172,162.16	$ 5,551.71	$ 1,177,713.87

THIRD AMENDMENT TO LEASE

THIS THIRD AMENDMENT TO LEASE (this "Third Amendment") is made as of May 19, 2011, by and between **ARE-SAN FRANCISCO NO. 43, LLC**, a Delaware limited liability company ("**Landlord**"), and **FIBROGEN, INC**., a Delaware corporation ("**Tenant**").

RECITALS

A. Landlord and Tenant are now parties to that certain Lease Agreement dated as of September 22, 2006, as amended by that certain First Amendment to Lease dated as of October 10, 2007, as further amended by that certain letter agreement dated as of February 11, 2009, and as further amended by that certain Second Amendment to Lease dated as of June 29, 2009 ("**Second Amendment**)(as amended, the "**Lease**"). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 234,249 rentable square feet (the **"Premises**"), in that certain building known as 409 Illinois Street, San Francisco, California. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

B. Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease as provided in this Third Amendment.

NOW, THEREFORE, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

1. **Administration Fee**. The following new Section 2.6(a)(20) is hereby added to the Lease commencing as of May 1, 2011, to provide for the payment of an additional administration fee as part of Operating Costs:

"(20) the costs of Landlord's third party property manager (in the initial amount of $0.48 per rentable square foot of the Premises per year) or, if there is no third party property manager, administration rent in the initial amount of $0.48 per rentable square foot of the Premises per year (collectively, "**Administrative Rent**"). The amount of such Administrative Rent shall increase on an annual basis on the same date that Minimum Monthly Rent increases pursuant to Schedule 1 of the Second Amendment by a percentage rate equal to the percentage increase in Minimum Monthly Rent on such date."

2. **Miscellaneous.**

a. This Third Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This Third Amendment may be amended only by an agreement in writing, signed by the parties hereto.

b. This Third Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective agents, employees, representatives, officers, directors, divisions, subsidiaries, affiliates, assigns, heirs, successors in interest and shareholders.

c. This Third Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to

any other counterpart identical thereto except having additional signature pages executed by other parties to this Third Amendment attached thereto.

d. Except as amended and/or modified by this Third Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this Third Amendment. In the event of any conflict between the provisions of this Third Amendment and the provisions of the Lease, the provisions of this Third Amendment shall prevail. Tenant acknowledges that there are no defaults by Landlord under the Lease. Whether or not specifically amended by this Third Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this Third Amendment.

[Signatures are on the next page]

IN WITNESS WHEREOF, the parties hereto have executed this Third Amendment as of the day and year first above written.

LANDLORD:

ARE-SAN FRANCISCO NO. 43, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership

By: ARE-QRS CORP.,
a Maryland corporation

By: /s/ Eric S. Johnson
Its: Eric S. Johnson
Vice President
Real Estate Legal Affairs

TENANT:

FIBROGEN, INC.,
a Delaware corporation

By: /s/ Pat Cotroneo
Its: CFO

FOURTH AMENDMENT TO LEASE

THIS FOURTH AMENDMENT TO LEASE (this "**Fourth Amendment**") is made as of September 8, 2011, by and between **ARE-SAN FRANCISCO NO. 43, LLC,** a Delaware limited liability company ("**Landlord**"), and **FIBROGEN, INC**., a Delaware corporation ("**Tenant**").

RECITALS

A. Landlord and Tenant are now parties to that certain Lease Agreement dated as of September 22, 2006, as amended by that certain First Amendment to Lease dated as of October 10, 2007, as further amended by that certain letter agreement dated as of February 11, 2009, as further amended by that certain Second Amendment to Lease dated as of June 29, 2009, and as further amended by that certain Third Amendment to Lease dated May 19, 2011 (as amended, the "**Lease**"). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 234,249 rentable square feet (the "**Premises**"), in that certain building known as 409 Illinois Street, San Francisco, California. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

B. Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease as provided in this Fourth Amendment.

NOW, THEREFORE, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

1. **Shared Space Arrangements**. Notwithstanding anything to the contrary contained in the Lease, Tenant may permit Shared Space Arrangements (as defined in Section 21.6(b) of the Lease) with respect to up to 40,000 square feet of the Rentable Area of the Premises (or if the third party subject to a Shared Space Arrangement owns at least 5% of Tenant, or if Tenant owns 5% of such third party, then, as to such third party, up to 40,000 square feet of the Rentable Area of the Premises). For avoidance of doubt, no more than 40,000 square feet of the Rentable Area of the Premises shall be subject to or affected by Shared Space Arrangements at any time.

2. **Miscellaneous.**

a. This. Fourth Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This Fourth Amendment may be amended only by an agreement in writing, signed by the parties hereto.

b. This Fourth Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective agents, employees, representatives, officers, directors, divisions, subsidiaries, affiliates, assigns, heirs, successors in interest and shareholders.

c. This Fourth Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except having additional signature pages executed by other parties to this Fourth Amendment attached thereto.

d. Except as amended and/or modified by this Fourth Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this Fourth Amendment. In the event of any conflict between the provisions of this Fourth Amendment and the provisions of the Lease, the provisions of this Fourth Amendment shall prevail. Tenant acknowledges that there are no defaults by Landlord under the Lease. Whether or not specifically amended by this Fourth Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this Fourth Amendment.

[Signatures are on the next page]

IN WITNESS WHEREOF, the parties hereto have executed this Fourth Amendment as of the day and year first above written.

LANDLORD:

ARE-SAN FRANCISCO NO. 43, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership

By: ARE-QRS CORP.,
a Maryland corporation

By: /s/ Eric S. Johnson
Its: Eric S. Johnson
Vice President
Real Estate Legal Affairs

TENANT:

FIBROGEN, INC.,
a Delaware corporation

By: /s/ Pat Cotroneo
Its: Pat Cotroneo, CFO

北京亦庄国际生物医药投资管理有限公司

北京亦庄生物医药园房屋租赁

Lease of Premises in Beijing BDA Biomedical Park of

Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd.

合同书

Contract

依据《中华人民共和国合同法》及有关法律、法规的规定，甲乙丙三方在平等、自愿的基础上，就丙方租赁甲方所有并委托乙方经营管理的北京亦庄生物医药孵化中心相关事宜达成一致意见签订本合同。

In accordance with the provisions of Contract Law of the People's Republic of China ("PRC") and other relevant laws and regulations, on basis of the principles of equality and voluntariness, after friendly negotiation, Party A, Party B and Party C enter into this contract ("**Contract**") regarding the Incubator of Beijing BDA Biomedical Park which is owned by Party A, assigned to be managed by Party B and intended to be rent by Party C.

甲方（产权人）：

Party A ("Owner"):

企业名称：北京经济技术投资开发总公司

Enterprise's Name: Beijing Economic and Technology Investment Development Parent Company

法定地址：北京市北京经济技术开发区景园北街 2 号 61 幢

Legal Address: Building No.61, No.2 Jingyuan North Street, Beijing Economic-Technological Development Area, Beijing

乙方(出租人)：

Party B（"Lessor"）：

企业名称：北京亦庄国际生物医药投资管理有限公司

Enterprise's Name: Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd.

法定代表人：郭广庆

Legal Representative: Guo Guangqing

法定地址：北京市北京经济技术开发区科创六街 88 号院 2 号综合楼 3 层 309 室

Legal Address: Room 309, 3rd Floor, Comprehensive Building No.2, Yard No. 88, Kechuang 6 Street, Beijing Economic-Technological Development Area, Beijing

邮政编码：101111

Post Code: 101111

联系人：郑颖

Contact Person: Zheng Ying

联系电话：010-56315281

Telephone: 010-56315281

丙方（承租人）：

Party C ("Lessee")

企业名称：北京珐博进医药技术开发有限公司

Enterprise's Name:

法定代表人：托马斯·聂夫

Legal Representative:

法定地址：北京市北京经济技术开发区科创六街 88 号院 2 号楼 4 层 503 号

Legal Address: No.503, 4th Floor, Building No.2, Yard No. 88, Kechuang 6 Street, Beijing Economic-Technological Development Area, Beijing

邮政编码：101111

Post Code: 101111

联系人：

Contact Person:

联系电话：010-56315026

Telephone: 010-56315026

1. 租赁房屋位置和面积/Location and Area of the Premises

丙方所租赁的房屋位于北京市北京经济技术开发区科创六街 88 号院 7 号中型企业楼 2 单元 101-601 室（企业独栋 A2：101-601 室），房屋建筑面积为 4819.76 平方米，作为丙方的孵化场地。

The Premises leased by Party C are located at Room101-601, Unit 2, No.7 Middle-sized Enterprise Building, Yard No. 88, Kechuang 6 Street, Beijing Economic-Technological Development Area, Beijing (Single Enterprise Villa A2: Room 101-601), with a construction area of 4819.76 square meters and will be used as Party C's incubator space.

2. 租赁期/Term

房屋租赁期自 2013 年 2 月 1 日至 2021 年 1 月 31 日，共计 8 年。

The lease term ("Term") shall commence from 1 February 2013 and end on 31 January 2021, with a period of 8 years.

出租人同意给予承租人自房屋交付之日起两个月（即自 2013 年 2 月 1 日至 2013 年 3 月 31 日）的装修免租期（租金共陆拾伍万肆仟零肆拾壹元整，小写：￥654041.00 元整）。免租期内，承租人除免缴该免租期内的租金外，仍应遵守和履行租赁合同项下承租人的其他一切义务和约束。

The Lessor agrees to grant the Lessee a rent-free period of 2 months (commencing from 1 February 2013 and ending on 31 March 2013) from delivery of the Premises (with a total rent of Six Hundred Fifty Four Thousand and Forty One Yuan (in numbers: ￥654041.00). During the rent-free period the Lessee shall perform all its other obligations and undertakings under this Contract, even though it is not obligated to pay the rent for such rent-free period.

3. 租赁房屋用途/Purpose of Premises

租赁房屋用途为：研发及办公场所。丙方保证,在租赁期内未征得乙方书面同意并按规定经有关部门审核批准前,不得改变本合同项下约定房屋的用途。

The purpose of the Premises is research, development and office. Party C undertakes that during the Term of the lease, it will not change the purpose of the Premises provided hereunder before it obtains the prior written consent of the Lessor and the approval of relevant authority in accordance with regulations.

4. 租金标准及租金总金额/Rent Standard and Total Rent

自 2013 年 2 月 1 日至 2015 年 1 月 31 日，租赁房屋的日租金标准为人民币大写：贰元叁角/平方米·日（小写：￥2.30 元/m^2·日），租赁房屋的年度租金

标准为人民币大写：捌佰叁拾玖元五角/平方米· 年（小写：￥ 839.50 /m^2·年）该租赁期内，租金总金额为人民币（大写）：捌佰零玖万贰仟叁佰柒拾柒元整，（小写）￥8092377.00 元；扣除 59 天免租期后，实际应付租金总金额为人民币（大写）：柒佰肆拾叁万捌仟叁佰叁拾陆元整，（小写）￥7438336.00 元。

From 1 February 2013 to 31 January 2015, the daily rent of the Premises shall be RMB: (in words)Two Yuan Thirty Cents /square meter per day, (in numbers:￥ 2.30 /m^2 per day). The annual rent of the Premises shall be: (in words) Eight Hundred Thirty Nine Yuan and Fifty Cents /square meter per year, (in numbers:_￥ 839.50 /m^2 per year). The total amount of rent in this Term shall be RMB: (in words) Eight Million, Ninety Two Thousand, Three Hundred and Seventy Seven Yuan, (in numbers) ￥ 8092377.00; Excluded the 59-day rent-free period, the total amount of the actual payable rent shall be RMB: (in words) Seven Million, Four Hundred Thirty Eight Thousand, Three Hundred and Thirty Six Yuan, (in numbers) ￥7438336.00.

自 2015 年 2 月 1 日至 2017 年 1 月 31 日，租赁房屋的日租金标准为人民币大写： 贰元肆角 /平方米·日（小写：￥2.50 元 /m^2·日），租赁房屋的年度租金标准为人民币大写：玖佰壹拾贰元伍角/平方米· 年（小写：￥ 912.50 /m^2·年）该租赁期内，实际应付租金总金额为人民币（大写）：捌佰柒拾玖万陆仟零陆拾贰元整，（小写）￥8796062.00 元。

From 1 February 2015 to 31 January 2017, the daily rent of the Premises shall be RMB: (in words)Two Yuan Forty Cents/square meter per day, (in numbers:￥ 2.5 /m^2 per day). The annual rent of the Premises shall be: (in words) Nine Hundred and Twelve Yuan Fifty Cents /square meter per year, (in numbers: ￥ 912.50 /m^2 per year). The total amount of the actual payable rent in this term shall be RMB: (in words) Eight Million, Seven Hundred and Ninety Six Thousand and Sixty Two Yuan, (in numbers) ￥8796062.00.

自 2017 年 2 月 1 日至 2021 年 1 月 31 日，租赁房屋的日租金标准为人民币大写： 叁元整 /平方米·日（小写：￥3.00 元 /m^2·日），租赁房屋的年度租金标准为人民币大写：壹仟零玖佰伍元整/平方米· 年（小写：￥ 1095.00 /m^2·年）该租赁期内，实际应付租金总金额为人民币（大写）：贰仟壹佰壹拾壹万零伍佰肆拾玖元整，（小写）￥21110549.00 元。

From 1 February 2017 to 31 January 2021, the daily rent of the Premises shall be RMB: (in words) Three Yuan/square meter per day, (in numbers:￥3.00 /m^2 per day). The annual rent of the Premises shall be: (in words) One Thousand Nine Hundred and Five Yuan/square meter per year, (in numbers: ￥1095.00/m^2 per year). The total amount of the actual payable rent in this term shall be RMB: (in words) Twenty One Million, One Hundred and Ten Thousand, Five Hundred and Forty Nine Yuan, (in numbers) ￥ 21110549.00 .

本合同项下，租赁期内实际应付的租金总金额为人民币（大写）：叁仟柒佰叁拾肆万肆仟玖佰肆拾柒元整，（小写）￥37344947.00 元。

Under this Contract, the total amount of the actual payable rent in the Term shall be RMB (in words) Thirty Seven Million, Three Hundred and Forty Four Thousand, Nine Hundred and Forty Seven Yuan, (in numbers) ￥37344947.00.

(计算公式为:年租金=日租金标准*365*房屋建筑面积；每个付款季度租金=年租金/4；月租金=年租金/12)。

(Computing Formula: the annual rent = the daily rent *365* premises construction area; the quarterly rent = the annual rent /4; the monthly rent = the annual rent /12).

5. 租金支付/ Payment of Rent

房屋租赁租金支付以付款季度为计。自本合同生效之日起 7 个日历日内，丙方应向乙方支付租赁期内第一付款季度（即 2013 年 2 月 1 日至 2013 年 4 月 30 日止）的租金，共计人民币：（大写） 壹佰零壹万壹仟伍佰肆拾捌元整（￥1011548.00 元），扣除免租期后，承租人应付租金为叁拾伍万柒仟伍佰零叁元整（￥357503.00 元）；租赁期内的其余租金，丙方应在每付款季度开始 7 个日历日内向乙方支付。

The rent of the Premises shall be paid quarterly. Party C shall pay the first quarterly rent in the Term, (i.e. from 1 February 2013 and ending on 30 April 2013) to Party B within seven (7) Calendar Days after the effective date of this Contract, which totally is RMB: (in words): One Million and Eleven Thousand Five Hundred and Forty Eight Yuan (in numbers: ￥1011548.00). After deducting the rent-free period, the amount of rent to be payable by Lessee shall be RMB: (in words): Three Hundred Fifty Seven Thousand Five Hundred and Three Yuan (in numbers:￥357503.00); The rest rent in the Term shall be paid by Party C to Party B within seven (7) Calendar Days after the beginning of every payable quarter.

其中，自 2015 年 2 月 1 日至 2017 年 1 月 31 日的付款季度租金为壹佰零玖万玖仟伍佰零捌元整（￥1099508.00 元）；自 2017 年 2 月 1 日起至 2021 年 1 月 31 日的付款季度租金为壹佰叁拾壹万玖仟肆佰零玖元整（￥1319409.00 元）。

Among which, the rent of the payment quarter from 1 February 2015 to 31 January 2017 shall be (in words) One Million and Ninety Nine Thousand Five Hundred and Eight Yuan (in numbers: ￥1099508.00) ; the rent of the payment quarter from 1 February 2017 to 31 January 2021 shall be (in words) One Million Three Hundred and Nineteen Thousand Four Hundred and Nine Yuan (in numbers: ￥1319409.00) .

6. 租赁保证金/ Deposit

自本合同生效之日起 7 个日历日内，丙方须向乙方支付相当于 3 个月租金的房屋租赁保证金，具体金额为（大写）：人民币壹佰零壹万壹仟伍佰肆拾捌元整（￥1011548.00 元）。保证金金额在租赁期内根据租金的调整幅度调整。

Within seven (7) Calendar Days after the effective date of this Contract, Party C

shall pay the Deposit, equivalent to three (3) months of rent to Party B. The specific amount is: (in words) One Million and Eleven Thousand Five Hundred Forty Eight Yuan (in numbers:￥1011548.00). During the Term, the amount of the Deposit shall be adjusted in proportion to the adjustment of the Rent.

7. 组成合同文件/ Documents constituting the Contract

7.1 本合同由下列合同文件组成：

7.1 This Contract is composed of the following contract documents:

（1）本合同书；

(1) This Contract;

（2）附件 1：租赁通用条款；

(2) Appendix 1: General Terms of the Lease

（3）附件 2：租赁房屋产权单位出具的委托经营管理授权书（复印件）；

(3) Appendix 2: Power of Attorney for Operation and Management of the Premises Issued by the Owner of the Premises

（4）附件 3：房屋附属设施和物品清单；

(4) Appendix3: List of Ancillary Facilities and Articles of the Premises

（5）附件 4：北京亦庄生物医药园入园企业项目计划表；

(5) Appendix 4: Schedule of Program of Enterprises in Beijing BDA Biomedical Park

（6）附件 5：环境保护承诺书。

(6) Appendix 5: Letter of Undertakings for Environmental Protection

上述各组成文件均由三方共同协商确定。构成合同的所有文件，按上述排列顺序互相解释和互为补充。如有不一致时，以排列顺序在先者为准。

All of the above documents should be negotiated by Parties. All of the documents incorporated into this Contract shall be interpreted and complementary with each other in the priority order listed above. In case of any discrepancy, it shall be determined according to the above priority order.

7.2 在租赁期内，甲方、乙方与丙方就租赁事宜所共同签署的书面协议或文件视为本合同的组成部分。

7.2 In the Term, the written agreements or documents regarding the lease affairs jointly signed by Party A, Party B and Party C shall be deemed as the component of this Contract.

8. 本合同当事人的其他约定/ Other Matters Agreed by the Parties

8.1 在丙方确定发票抬头单位之前，甲方不开具发票，但最长时间不能超过三个月且不能跨年。发票一旦开具，除甲方过错外，不予退换。

8.1 Until Party C confirms the entity title of the invoice, no invoice shall be issued by Party A, but such period shall be no longer than three (3) months and shall not go beyond the year. Once an invoice is issued, no return or exchange shall be made unless it is caused by the fault of Party A.

8.2 丙方在亦庄生物医药园内从事相关工作，须经政府相关部门（如环保部门、安监部门等）审批同意的，须获得相关审批手续方可进行相关工作，乙方提供必要的协助。在获得相关审批同意之前，丙方不得从事该工作，否则丙方承担一切责任。

8.2 If approvals from relevant authorities (i.e. environmental protection department and work safety supervision department) are needed for Party C's operation in Beijing BDA Biomedical Park, Party C needs to obtain such approval before conduct any relevant work with necessary assistant provided by Party B. Party C shall not conduct such work until the aforesaid approvals are obtained, otherwise all liabilities shall be assumed by Party C.

8.3 在合同租期内，丙方非因不可抗力之因素提前解除合同的，应向乙方支付合同未履行期间内的租金的印花税，具体核算标准以国家相关规定为依据。

8.3 During the Term, if Party C early terminates the Contract for any reason other than Force Majeure, Party C shall pay stamp tax for the rent of the remaining unperformed Term to Party B. Specific accounting standards shall be based on the relevant national regulations.

9. 本合同当事人承诺按照合同约定行使权利、履行义务，并依法承担相应的法律责任。

9. The Parties to this Contract agree to exercise rights and perform obligations according to the Contract, and accordingly undertake legal liabilities.

10. 本合同书中有关词语含义与本合同《租赁通用条款》中的定义相同。

10. The definitions in this Contract shall have the same interpretations as those in the General Terms of the Lease of this Contract.

11.合同生效/Effectiveness of this Contract

11.1 合同订立时间：2013 年 2 月 1 日

11.1 The signature date of the Contract: 1 February 2013.

11.2 合同签订地点：北京经济技术开发区

11.2 The signature place of the Contract: Beijing Economic-Technological

Development Area.

11.3 三方约定本合同自（甲方盖章，乙丙当事人的法定代表人、负责人或被授权人签署并加盖公司印章）时起生效（丙方完成公司注册前，丙方负责人、投资人和法定代表人承担连带责任；丙方在完成公司注册后需对本合同加盖公司公章。该公章不影响本合同自签字生效之日起的一切法律效力）。

11.3 Parties agree that this Contract shall take effect after the Party A's company seal and Party B and Party C's legal representatives, leading official or authorized personnel's signatures and company seals are affixed to this Contract. (Before the completion of company registration of Party C, the leading official, investor(s) and legal representative of Party C shall bear joint and several liability. After Party C finishes the company registration, company seal shall be affixed on this Contract. Such company seal shall not affect the legal effect after the execution of this Contract.)

签署：

SIGNATURE:

甲方：（盖章）北京经济技术投资开发总公司

Party A: (Seal) Beijing Economic and Technology Investment Development Parent Company

乙方：（盖章）	丙方：（盖章）
Party B: (Seal)	Party C: (Seal)
北京亦庄国际生物医药投资管理有限公司 Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd.	北京珐博进医药技术开发有限公司
负责人：_____（签字）	法定代表人：_____（签字）
Legal Representative: _____(Signature)	Legal Representative: _____(Signature)

负责人：/s/ 尹希杰 （打印）　　法定代表人：/s/ 托马斯·聂夫 （打印）

Legal Representative: Yin Xijie (Print)　　Legal Representative: Thomas B. Neff (Print)

附件 1—租赁通用条款

Appendix 1 General Terms of the Lease

1. 词语定义/Definition

下列词语除合同书另有约定外，具有且仅应具有本条所赋予的定义：

The following terms shall have the meaning only described in this article, except as otherwise set forth in this Contract.

1.1 租赁通用条款：是甲方、乙方与丙方根据法律、行政法规规定和三方房屋租赁的需要共同协商订立的、由三方共同遵守的关于租赁事宜的约定。

"General Terms of the Lease" shall mean the covenants mutually agreed on by the Parties for the purpose of Lease of the Premises in accordance with laws and regulations and to be abided by all Parties.

1.2 房屋或租赁房屋：是指合同书第 1 条所述房屋。

Premises shall mean the real estate described in Article 1 of the Contract.

1.3 房屋租赁：是指乙方将租赁房屋交付丙方使用，丙方向乙方支付租金。

Lease of the Premises shall mean that Party B delivers the Premises to Party C and Party C pays rent to Party B for use of the Premises.

1.4 建筑面积：是指租赁房屋的套内建筑面积和公摊面积之和。

Construction Area shall mean the total area of the construction area within the unit plus the shared area proportioned to the Premises.

1.5 租赁期：是指乙方同意将租赁房屋交付丙方使用的期限。

Term shall mean the period agreed by Party B, during which the Premises are delivered to Party C for its use.

1.6 租金：是指丙方为获得对租赁房屋的使用而须支付给乙方的有偿使用费，即使用租赁房屋的对价。

Rent shall mean the fees payable by Party C to Party B for the use of the Premises, i.e. the consideration of Lease of the Premises.

1.7 租金起算日：是指甲乙丙三方之间租金计收、丙方应向乙方交纳租金的起始日期；租金起算日应为租赁期的首日。

Commencement Date of the Rent shall mean the first day when the Rent is calculated between Party A, Party B and Party C and to be payable by Party C to Party B. The Commencement Date of the Rent shall be the first day of the Term.

1.8 租赁保证金：是指丙方交付的担保丙方在租赁期内依约履行各项义务的保证金，在整个租赁期间，租赁保证金应由乙方留置和保管，不用于抵扣租金、违约赔偿金以及其他任何费用。

Deposit shall mean the deposit payable by Party C to guarantee Party C's performance of all its obligations in accordance with the Contract during the Term. Throughout the Term, the Deposit shall be kept and retained by Party B and shall not be used as offset of the Rent, liquidated damages or any other fees.

1.9 付款季度：是指一年当中以任何的一天为开始，直至三个月后的这一天的前一天，不受月份的限制。

Payment Quarter shall commence from any day of a calendar year and end on the day immediately prior to the last day of three months after the commencement date and it is not necessarily a full calendar month.

1.10 房屋装修：是指包括但不限于对承租房屋的内部结构、墙面和内部设备设施的拆改、水电线路改动、房屋内外表面的涂刷、外观改造等行为。

Renovation of the Premises shall mean dismantling of or changes to the inner structure, surface of the wall and indoor equipment and facilities, changes to water pipes or electricity wires, pasting of interior or outer surface of the Premises, changes to the appearance of the Premises, etc.

1.11 房屋装饰：是指采用生活用具、布艺摆设、艺术品等不对房屋结构、内外表面和内部设备设施造成拆改或者其他损害的措施来装点房屋。

Decoration of the Premises shall mean decorating the Premises by way of laying out appliances or outfits, fabric art or artworks, which will not dismantle, change or otherwise damage the structure, interior or outer surface and indoor equipment and facilities of the Premises.

1.12 违约责任：指合同一方不履行合同义务或履行合同义务不符合约定所应承担的法律责任。

Liabilities shall mean the liabilities to be assumed by either party due to failure to perform its obligations of the Contract or failure to perform its obligations in accordance with the Contract.

1.13 损失：是指经济损失，除合同另有明确约定外，本合同所述损失均不包含预期经营利润和间接损失。

Losses shall mean economic losses, which shall not include the estimated business profits and indirect losses except as otherwise provide herein.

1.14 不可抗力：指不能预见、不能避免并不能克服的客观情况。

Force Majeure shall mean the objective circumstances which cannot be foreseen, avoided and overcome.

1.15 小时或天：本合同中规定按小时计算时间的，从事件有效开始时计算（不扣除休息时间）；规定按天计算时间的，开始当天不计入，从次日开始计算。时限的最后一天是休息日或者其他法定节假日的，以节假日次日为时限的最后一天，但租赁法律关系终止时除外。时限的最后一天的截止时间为当日 24 时。

"Hours or Day": If the time under this Contract is calculated by Hours, the time shall commence from the effectiveness of an event, including resting time; if the time under this Contract is calculated by Day, it shall commence from the following day rather than the day when an event happens. In case that the last day of the period is a rest day or other public holidays, the day following the last day of the rest days or the public holidays shall be such last day of the period, except under the circumstance that this Contract is terminated. The ending time of the last day of the period shall be 24:00 of the day.

1.16 三方：三方是指对甲方、乙方和丙方的合称。

Parties shall mean Party A, Party B and Party C collectively.

2. 租赁房屋的所有权和经营权状况/Ownership and Operation Right of the Premises

甲方北京经济技术投资开发总公司（简称"总公司"）对房屋享有所有权，并将房屋委托乙方经营管理。根据总公司的委托授权，乙方有权将房屋以自己的名义出租给丙方，并代总公司向丙方收取房屋租金，及向丙方出具由甲方开具的相应金额的发票。同时，乙方独立承担租赁法律关系中应由出租方承担的全部义务及法律责任。

Party A Beijing Economic and Technology Investment Development Parent Company (the "Company") is entitled to the ownership of the Premises and entrusts Party B to operate and manage the Premises. Based on the Company's authorization, Party B shall have the right to lease the Premises to Party C under its own name, collect the Rent from Party C on behalf of the Company and deliver the invoice issued by Party A to Party C. Meanwhile, Party B shall independently perform all obligations and assume liabilities which shall be performed and assumed by a lessor in a lease relationship.

丙方确认已知悉所承租房屋的所有权和经营权权属关系，且丙方同意：因房屋租赁法律关系所产生的应由出租方承担的全部义务及法律责任，均由乙方自行承担，丙方不对房屋产权人甲方主张任何权利和要求承担任何责任。

Party C confirms that it has been fully aware of the ownership and operation right of the Premises and agrees that Party B shall independently perform all obligations and assume all liabilities which shall be performed and assumed by a lessor regarding Lease of the Premises and Party C shall not claim against Party A, the owner of the Premises, for any right or liabilities.

3．租赁房屋用途/Purpose of the Premises

租赁房屋用途由乙方与丙方在合同书中明确约定。丙方保证，在租赁期内未征得乙方书面同意并按规定经有关部门审核批准前，不擅自改变租赁房屋的用途，否则乙方有权依据本合同约定解除合同并要求丙方赔偿损失。

The purpose of the Premises shall be expressly prescribed by Party B and Party C in the Contract. Party C undertakes not to unilaterally change the purpose of the Premises without obtaining Party B's prior written consent and approval of relevant authority in accordance with regulations. Otherwise, Party B shall be entitled to terminate this Contract and claim for liquidated damages against Party C.

4．房屋改善/Improvement of the Premises

4.1 未经乙方的事先书面同意，丙方不得擅自改变或破坏房屋结构及配套设备设施和物品，不得对租赁房屋进行装修改造。

Party C shall not unilaterally change or destroy the structure of the Premises and ancillary equipment and facilities and shall not renovate or re-construct the Premises, without obtaining Party B's prior written consent.

4.2 如丙方确有必要对租赁房屋进行装修改造，则：

In the event that Party C has to renovate the Premises, then the following applies:

4.2.1 丙方须保证其拟进行的装修改造，不应在任何方面实质改变或影响房屋的特性和减少房屋的价值；

Party C undertakes that the proposed renovation shall not in any aspect materially change or affect the nature of the Premises or depreciate the value thereof;

4.2.2 丙方拟实施的行为须经相关行政管理部门许可时，应事先取得相关行政管理部门的批准手续；且丙方应在装修改造前至少提前 10 个工作日提交书面申请并附具详细的说明材料，经乙方书面同意后，丙方应严格依照获准的申请材料内容进行装修改造和/或安装拆改设备设施；

4.2.2 In case that the proposed renovation requires approval from relevant administrative authority, Party C shall obtain all administrative approval formalities from relevant authority's in advance, and Party C shall submit a written application to Party B for its approval at least ten (10) business days prior to the proposed renovation attached with a detailed statement. After obtaining the written approval from Party B, Party C shall renovate and decorate the Premises and/or install and dismantle the equipment and facilities strictly in accordance with Party B's approval.

4.2.3 丙方应保证装修改造等工作的施工质量和施工安全均符合国家和北京市相关法律法规规定和规范要求，丙方应对施工质量和施工安全负责，并承担因工程质量和工程安全问题使乙方产生的全部经济损失（包括直接损失和间接损失）。

Party C undertakes that the construction quality and safety of the renovation shall comply with relevant national and Beijing municipal laws, regulations and requirements. Party C shall be responsible for the construction quality and safety and assume all Losses caused to Party B due to construction quality and safety problems (including direct Losses and indirect Losses).

4.3 丙方在租赁房屋的外围设置相关标识的，不得违反国家法律法规以及北京市有关规定，并经乙方同意；如丙方有在租赁楼层进行冠名意向的，甲乙双方另行协商。

Party C may set up relevant signboards near the Premises only after obtaining Party B's consent and shall not violate any national and Beijing municipal laws, regulations and requirements. In the event that Party C intends to name a floor of the Premises, Party A and Party B shall negotiate separately.

4.4 丙方同意：乙方的书面同意不作为减轻或免除丙方应就其行为承担法律法规规定的义务和法律责任的依据。

Party C agrees that Party B's written consent shall not be deemed as the basis for relieving or exempting Party C's obligations and liabilities in accordance with laws and regulations.

5. 房屋租赁期/Term of the Lease

5.1 房屋租赁期是指公历日期，由乙方与丙方在合同书中明确约定。

The Term refers to calendar date and shall be set forth in the Contract by Party B and Party C.

5.2 租赁期满，丙方有意继续承租的，应自租赁期届满之日起至少提前 45 个日历日向乙方提出书面续租申请。丙方提出书面续租申请后在同等条件下享有优先承租权。双方就续租事宜经协商达成一致意见后，于租赁期届满 45 个日历日前另行签订房屋租赁合同。

Upon expiration of the Term, in the event that Party C intends to continue to lease the Premises, it shall submit a written renewal application to Party B at least forty five (45) calendar days prior to the expiration of the Term, after which Party C shall have the priority right to continue to lease the Premises under the same conditions. After Party B and Party C reach agreement regarding renewal of the lease, a new lease contract shall be executed within forty five (45) calendar days prior to expiration of the Term.

5.3 丙方未按 5.2 条约定期限提出书面续租申请的，视为丙方不继续承租，

除非双方另行达成一致意见，丙方应自租赁期满之日起__5__个日历日内按本租赁通用条款第 10 条约定返还房屋。

Failure of Party C to submit the written renewal application within the time frame set forth in Article 5.2 shall be deemed as not agreeing to renew the lease by Party C, except as otherwise mutually agreed by the Party B and Party C, Party C shall hand over the Premises back within five (5) calendar days after expiration of the Term subject to Article 10 of the General Terms of the Lease.

丙方书面告知乙方不续租的或丙方未依约提出书面续租申请的，乙方有权在租赁期满前 45 个日历日内带领第三方客户进入丙方承租房屋内考察，丙方对此应给予积极配合和协助。

In the event that Party C notifies Party B in writing that it will not renew the lease or it fails to submit a written renewal application in accordance with this Contract, Party B shall have the right to enter into the Premises so as to show a third client around within forty five (45) calendar days prior to the expiration of the Term and Party C shall provide active cooperation and assistance for this purpose.

6. 房屋租金/Rent

6.1 为了租用租赁房屋，丙方应向乙方支付租金，租金应由丙方在三方约定的时间内以人民币向乙方足额支付。租金的支付无需乙方的请求或通知。

Party C shall pay Party B the Rent for use of the Premises, which shall be fully paid by Party C in RMB within the time frame agreed by the Parties. Payment of the Rent does not require Party B's request or notice.

本合同项下所述租金为租赁期内的房屋租赁使用费，租赁期间发生的水费、物业管理费、取暖费、制冷费和电费等费用均由丙方自行承担。

The Rent set forth herein shall refer to the fees of using the Premises during the Term. All the fees or charges regarding the water, property management, heating, cooling and electricity during the Term shall be borne by Party C.

6.2 房屋租金标准是测算应交纳租金的依据，分为日租金标准、月租金标准、付款季度租金标准、或年租金标准。乙方与丙方实际执行的租金标准由三方协商一致后在合同书中明确约定。丙方应根据房屋租金标准按时足额向乙方交纳租金。

The Rent Standard, which includes the daily Rent Standard, monthly Rent Standard, Payment quarterly Rent Standard or yearly Rent Standard, shall be the base of calculating the Rent. The Rent Standard actually applied by Party B and Party C shall be negotiated by the Parties and set forth in the Contract. Party C shall pay the full Rent based on the Rent Standard on time.

6.3 租金支付/Payment of the Rent

6.3.1 在租赁期内，全部租金均应以预付方式支付。

Within the Term, all the Rent shall be paid in advance.

6.3.2 租赁期内的租金（包括但不限于最后一次租金），丙方应按付款季度以预付方式支付。丙方应于每租赁付款季度开始的__7__个日历日内支付本付款季度租金，如缴付截止日为国家法定节假日（含双休日），则缴付租金的最后期限截止至该法定节假日后的第一个工作日。最后一次租期不到一个付款季度的，按实际租赁天数计算。

Party C shall pay the Rent within the Term, including but not limited to the last installment of the Rent, quarterly in advance. Party C shall pay the Rent for a Payment Quarter within seven (7) calendar days from beginning of such Payment Quarter. In the event that the deadline for the payment is a national holiday (including Saturday and Sunday), then the deadline shall be postponed to the first business day following the national holiday. In the event that the last installment of Rent fails to be a full Payment Quarter Rent, the Rent shall be calculated based on actual occupation days.

6.3.3 丙方应以现金、支票或银行汇款方式向乙方直接支付租金；丙方每次应支付租金的数额、日期等具体信息，由乙方与丙方在合同书中明确约定。

Party C shall pay the Rent to Party B directly by cash, check or bank remittance. The amount of the Rent payable by Party C each time, each payment date and other detailed information shall be set forth in the Contract by Party B and Party C.

户名：北京亦庄国际生物医药投资管理有限公司

Bank Account: Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd.

账号：11221201040000058

Account No.: 11221201040000058

开户行：中国农业银行股份有限公司北京经海路分理处

Opening Bank: Beijing Jinghai Road Branch of the Agricultural Bank of China Limited

6.3.4 乙方代甲方收取租金后，向丙方出具由甲方开具的相应金额的正式发票。

After Party B collects the Rent on behalf of Party A, Party B shall deliver the formal invoice issued by Party A to Party C for such Rent paid accordingly.

7. 房屋租赁保证金/Deposit of the Premises

7.1 房屋租赁保证金是由丙方交付的、担保丙方如约履行其在租赁合同项下

各项义务的保证押金。丙方应以现金或者支票方式向乙方交付房屋租赁保证金，且在任何时候，丙方都无权把房屋租赁保证金当作租赁协议项下未支付的租金。

The Deposit of the Premises shall be paid by Party C for the purpose of guaranteeing Party C's performance of its obligations under this Contract. Party C shall pay the Deposit in cash or by check to Party B and in no event shall Party C have the right to use the Deposit as the Rent payable hereunder.

房屋租赁保证金的具体数额和支付时间，由乙方与丙方在合同书中明确约定。

The detailed amount of the Deposit and its payment schedule shall be set forth in the Contract by Party B and Party C.

7.2 在整个租赁期间，房屋租赁保证金应被乙方留置，不用于抵扣丙方欠付的租金、违约赔偿金以及其他任何费用（包括但不限于因丙方原因导致乙方或第三人所发生的损失）。

Throughout the Term, the Deposit shall be kept by Party B and shall not be used to offset the Rent, liquidated damages and any other fees (including but not limited to the Losses caused to Party B or a third party due to the reason of Party C) to be paid by Party C.

7.3 租赁期满或租赁合同解除后，乙方有权将房屋租赁保证金首先用于抵扣应由丙方承担的租金、违约赔偿金以及其他任何应由丙方承担的费用（包括但不限于因丙方原因导致乙方或第三人所发生的损失）。抵扣完毕后如有剩余，剩余部分由乙方如数返还丙方，乙方不为房屋租赁保证金对丙方负有支付利息、资金占用费等相同性质任何其他费用的义务。

Upon expiration of the Term or after this Contract is terminated, Party B shall have the right to offset the Rent, liquidated damages and any other fees (including but not limited to the Losses caused to Party B or a third party due to the reason of Party C) payable by Party C against the Deposit. If there is any remaining amount after the offset, the remaining part shall be returned to Party C by Party B and Party B shall not be obligated to pay Party C any interests, funds possession cost or other fees with similar natures in connection with the Deposit.

8. 其他费用/Other Fees

租赁期内，与租赁房屋有关其他各项费用的承担方式为：

Within the Term, other fees in connection with Lease of the Premises shall be born subject to the following:

8.1 租赁房屋的电话费（丙方自行申报安装的电话除外）、电视收视费、网络通讯费、停车费由丙方承担，具体事宜由丙方与相关单位商议；前述费用标准将参照国家和北京市规定的收费标准确定。

Telephone bills (except the telephone installed by Party C on its own), cable bills,

internet bills and parking bills shall be borne by Party C. Party C shall consult with relevant entity regarding the details thereof. The aforementioned rates shall be determined in accordance with the national and Beijing municipal rates.

8.2 丙方租赁区域内经营管理活动所发生的所有维修维护费用由丙方承担，以物业现场公示收费标准为准。

All repair and maintenance fees spent by Party C in the business and management activity in rent area shall be borne by Party C. The charging standard shall be set by the charging standard published on the premises site.

9．租赁房屋的交付/Delivery of the Premises

9.1 甲方应于租赁期开始当日或开始当日起__7__日内将租赁房屋交付给丙方。

9.1 Party A shall deliver the Premises to the Party C on the beginning of the Term or within seven (7) days of the beginning of the Term.

9.2 同时满足下列条件视为房屋交付：

9.2 The satisfaction of the following conditions shall be deemed as the Premises delivery:

9.2.1 甲方提供的房屋符合合同书第 1 条的规定；

9.2.1 The Premises provided by Party A shall comply with the provisions of the Article 1 of this Contract;

9.2.2 经双方交验房屋附属设施和物品，并在《房屋附属设施和物品清单》签字或盖章；

9.2.2 Party A and Party C shall check the ancillary equipment and facilities of the Premises, and sign or seal the List of Ancillary Facilities and Articles of the Premises.

9.2.3 甲方或租赁房屋的物业管理公司将房屋的房门钥匙交付给丙方（该款仅适用于企业独栋）。

9.2.3 Party A or the property management company of the Premises shall deliver the key of the Premises to Party C (This clause only apply to enterprise single buildings).

10．租赁房屋的返还/Return of the Premises

10.1 自租赁期届满或租赁合同解除之日起，丙方应在五个日历日内返还承租房屋。丙方应在前述时间内，组织与丙方相关的全部人员撤离租赁房屋，并将丙方所有的设备、设施、器具和其他物品，以对租赁房屋及其附属设施不造成损害的合理方式搬离，并将租赁房屋返还给甲方。

10.1 Party C shall return the Premises in five (5) calendar days as of the

expiration of the Term or the date of the termination of the Contract. Party C shall organize all relevant persons to withdraw from the Premises within the above period, and move all the equipment, facilities, implement and other properties away from the Premises with an appropriate way with no harm to the Premises, after which Party C shall return the Premises to Party B.

10.2 同时满足下列条件视为丙方向甲方返还租赁房屋：

10.2 The satisfaction of the following conditions shall be deemed as the return of the Premises from Party C to Party A:

10.2.1 丙方及关联第三方的物品、设备和设施依据本合同相关约定搬离租赁房屋，房屋装修、装饰已按本租赁通用条款 10.4 条约定处理，租赁房屋处于能让第三人使用的状态；

10.2.1 The properties, equipment and facilities of Party C and its affiliated third party have been moved away from the Premises subject to the relevant provisions of this Contract, the renovation and decoration of the Premises have been handled in accordance with the Article 10.4 of this General Terms of the Lease, and the Premises are available for the third person's usage;

10.2.2 丙方将租赁房屋的房门钥匙交还给甲方，甲方完全自主控制租赁房屋且甲方能够随时自由出入租赁房屋；

20.2.2 Party C delivered the Premises key to Party A, and Party A can fully control the Premises at its discretion and Party A can enter into or exit from the Premises freely at all times;

10.2.3 甲方与丙方按照经双方签字或盖章的《房屋附属设施和物品清单》对租赁房屋的附属设施和物品验收完毕。

10.2.3 Party A and Part B completed the examination of the ancillary equipment and facilities in the Premises according to the List of Ancillary Facilities and Articles of the Premises signed or sealed by the Party A and Party B.

10.3 丙方返还承租房屋时，甲方与丙方应及时结清各自应当承担的费用，甲方有权要求丙方支付其应当承担的各项费用，包括但不限于房屋租金、应付违约赔偿金、对房屋以及附属设施和物品未按照约定或实物性质使用所产生的损害赔偿金。

10.3 Party A and Party C shall settle the fee payable by each other timely once Party C returns the Premises. Party A is entitled to require Party C to pay the expenses the Party C has to undertake, which include but not limited to the Rent, violation penalty and the liquidated damage caused due to the usage of the Premises and its ancillary equipments and facilities, which did not comply with the covenants or the nature.

10.4 甲方与丙方同意：租赁期届满或租赁合同解除时，丙方应拆除其对租赁

房屋进行的全部装修装饰并承担相关全部费用，将租赁房屋恢复至交付时原貌（因自然属性导致的损耗除外）。如因丙方的拆除行为造成房屋损坏或使用价值降低，丙方应向甲方支付房屋恢复原状所需费用和赔偿甲方因此所受到的损失。

10.4 Party A and Party C acknowledge that Party C shall dismantle the entire renovation and decoration and pay the entire relevant fees as of the expiration of the Term or the termination of the Contract, and restore the Premises to the original conditions as it was delivered (except for the normal loss due to its natural quality). In the event that any damage to the Premises or the depreciation of the usage value caused due to the dismantling of Party C, Party C shall pay Party A the necessary fee for restoring the Premises and compensate the losses caused to Party A.

10.5 丙方同意并承诺：自丙方依约应向甲方返还租赁房屋之日起超过 7 个日历日（含 7 个日历日）时，未经甲方同意仍滞留在租赁房屋内的物品、设备和设施（包括关联第三方滞留的物品、设备和设施），甲方有权自行处置，丙方不得因此向甲方主张任何权利和请求承担任何费用，并且如因该处置致使甲方负担的任何赔偿、罚金、费用支出和损失等，由丙方负责向甲方支付。同时，甲方有权要求丙方按照本合同相关约定承担违约责任。

10.5 Party C agrees and acknowledges that, if the properties, equipment and facilities (including the properties, equipment and facilities left by the affiliated third party) were left in the Premises without the consent of Party A for more than seven (7) calendar days after the date Party C shall return the Premises to Party A according to the Contract, Party A is entitled to dispose them at its discretion. Party C shall not claim any right and expenses against Party A due to the disposal, and, in case any claims, penalty, expenditure and losses are caused to Party A due to the disposal, Party C shall compensate and pay back to Party A. Meanwhile, Party A is entitled to require Party C to assume the violation liability subject to this Contract.

10.6 丙方同意并承诺：自丙方依约应向甲方返还租赁房屋之日起超过 7 个日历日（含 7 个日历日）时，丙方未依约返还租赁房屋的，甲方有权自行切断租赁房屋的水、电、气、热等一切能源供应，有权自行更换租赁房屋钥匙并禁止丙方及其关联第三方再行进入租赁房屋，甲方并有权按照本条 10.4 和 10.5 款的约定处理租赁房屋装修和丙方及其关联第三方滞留的物品、设备和设施，丙方在任何时候不得就此对甲方提出任何异议，不得要求甲方赔偿损失（包括直接损失和间接损失）和承担任何补偿、赔偿或者费用支付等法律责任。

10.6 Party C agrees and acknowledges that, in the event that Party C's failure to return the Premises subject to the Contract continues for more than seven (7) calendar days (including seven (7) calendar days) after the date Party C shall return the Premises to Party A subject to the Contract, Party A is entitled to cut off the supply of water, electricity, gas, heating and other energy at its own discretion, and is entitled to change the Premises key and prohibit Party C and affiliated third party from entering into the Premises any more. Party A is also entitled to dispose the decoration of the Premises and the properties, equipment and facilities of Party C and affiliated third

party subject to the Article 10.4 and 10.5 of this Contract. Party C shall not plead claims against Party A at any time in this regard, and shall not claim any losses compensation (including direct loss or indirect loss) and require Party A to assume any the legal responsibility of the compensation, indemnification or expenditure payment etc.

11. 租赁房屋的使用/Usage of the Premises

11.1 丙方应按本合同的约定、租赁房屋的性质以及物业管理规定使用租赁房屋及相关设备设施，并尽其最大努力以善意和合理的方式保持租赁房屋及园区内其他房屋的安全及自然完好。丙方任何使用、装饰装修、安装、改造等行为均不得减损租赁房屋原有价值。

11.1 Party C shall use the Premises and relevant faculties and equipment in accordance with the provisions of this Contract, the nature of the Premises and the provisions of the property management regulations, and shall duly make its best effort and operate in a good faith and reasonable manner to preserve the Premises and other premises in the Park in a safe and soundness condition. Any of the usage, decorations, innovations, installment and transformation conducted by the Party C shall not decrease the original value of the Premises.

11.2 在本合同租赁期内，未经甲方书面同意，丙方不得在其租赁区域内饲养实验动物；严格遵守《北京亦庄生物医药园入园企业项目计划表》（附件 4）进行相关研究作业，不违反园区相关规定，如有改动，应提前 15 日书面通知甲方，并重新填写《北京亦庄生物医药园入园企业项目计划表》，经双方签字盖章后作为本合同附件生效。

11.2 In the Term of this Contract, Party C shall not raise Laboratory Animals in the rent area without the written consent of the Party A; Party C shall strictly abide by the Schedule of Program of Enterprises in Beijing BDA Biomedical Park (Appendix 4) to conduct relevant research operation, shall not violate relevant regulations in the Park. In the event of any modification, Party C shall inform the Party A with a fifteen (15) days prior written notice, and fill the Schedule of Program of Enterprises in Beijing BDA Biomedical Park again, which will take effect as the Appendix of this Contract after the signature and seal of Party A and Party C are affixed to it.

11.3 丙方如需在租赁房屋内或其相关区域安装或使用任何水、电设备，必须事先取得甲方书面同意。因丙方的使用需要办理增容手续所发生的相关费用由丙方负担。

11.3 In the event that Party C needs to install or use any equipment of the water and electricity in the Premises and its relevant area, Party C shall obtain the written consent from the Party A in advance. The relevant cost for capacity increase procedures due to the usage requirement of the Party C should be borne by itself.

11.4 租赁房屋内清洁及消防保安工作由丙方自行负责。丙方应根据行业规范

要求和确保租赁房屋完好的需要，对自用物业定期进行清洁、维护。丙方须按照园区相关规定对实验室废弃物进行处理。

11.4 Party C shall be liable to undertake the clean, safety and fire protection work in the Premises. Party C shall clean and maintain the self-used property regularly according to the requirement of the industrial regulations and to ensure the soundness of the Premises. Party C shall deal with the rubbish in the laboratory according to the relevant regulations of the Park.

11.5 未经国家有关管理部门资质认定及甲方同意，丙方不得在租赁房屋内使用、贮存易燃、易爆、剧毒、化学污染物等危险物品，不得在租赁房屋内圈养实验动物。研发、生产中产生的异味要妥善处理和排除，不得扩散到公共区域或毗连区域。因丙方原因造成第三方人身、财产损害的，由丙方独立对第三方承担全部赔偿责任；因此给乙方造成任何损失（包括但不限于律师费、赔偿金、利息等），丙方应予以赔偿。丙方不得在承租房屋地面放置超过设计荷载的物品，乙方批准丙方搬进的营业机具和机械设备应放置在托架上，托架应按乙方的要求安置并足以防止震动和产生噪音干扰其他租户，置办托架的费用由丙方自行承担。

11.5 Without the qualification certification of the relevant administration authorities of the State and the consent of Party A, Party C shall not use and/or store any explosive, corrosives, poisonous or chemical pollutant and other dangerous materials, shall not raise experimental animals in the Premises. The peculiar smell generated in the research and production shall be properly dealt with and excluded, shall not spread to the public area or surrounding area. In case any personal and property damages of the third party due to the reason of the Party C, Party C shall be responsible for the whole compensation to the third party independently, and, any losses (include but not limited to the attorney fee, compensation and interest etc.) incurred to Party B due to this reason shall be compensated by Party C. Party C shall not place articles beyond the designed weight endurance on the floor of the Premises. The operational instruments and equipment placed by Party C with Party B's approval shall be put on the brackets, which shall be installed according to Party B's requirement and avoid shakes and noises disturbing other lessees. The fees for such brackets shall be borne by Party C itself.

11.6 丙方利用租赁房屋开展的各项活动，应遵守行政管理机关关于住宅区环境噪音管理的各项规定。

11.6 The activities Party C conducted by using the Premises, shall abide by the regulations regarding the management of the environmental noise for residential areas enacted by the administrative management authorities.

11.7 丙方利用租赁房屋开展的各项活动，应遵守《中华人民共和国环境保护法》等相关法律、法规的规定，且须符合北京市以及北京经济技术开发区环境保护的相关规定。因丙方违反相关规定造成乙方及园区相关企业损失的，由丙方承担相关赔偿责任。

11.7 The activities Party C conducted by using the Premises, shall abide by the provisions of the *Environmental Protection Law of People's Republic of China* and other relevant laws and regulations, and shall abide by the relevant environmental protection regulations of the Beijing City and Beijing Economic-Technological Development Area. In the event that any losses of the Party B and relevant enterprises in the Park were aroused due to violation of relevant regulations by Party C, the compensation liability should be undertaken by the Party C.

11.8 在租赁期限内，如发生任何与租赁房屋相关的、对任何第三方造成的人身伤害或财产损失，除非该损害系因乙方的过失或故意行为造成，否则丙方应确保使乙方不承担任何相关的索赔、责任、损害、损失或费用支出，对第三方造成的人身伤害或财产损失由责任方负责。

11.8 In the rental Term, in the event that any personal or property loss related to the Premises was arouse to the third party, except the loss suffered due to Party B's negligence or willingness, otherwise Party C shall ensure that Party B be free from any related claims, responsibilities, damages, loss or expenditures, the responsibility of the personal or property loss arouse to the third party should be undertaken by the responsible party.

12. 租赁房屋的物业管理/Property Management of the Premises

12.1 园区聘请专业物业管理公司进行统一管理。丙方应及时与物业管理公司签订物业及相关合同，并遵守园区相关物业管理规定。

12.1 The Park has engaged professional property management company for centralized management. Party C shall execute property management contract and relevant contract in time with the property management company and shall abide regulations of the park regarding property management.

12.2 乙方与丙方同意：因物业管理公司未依照物业管理委托协议履行自身义务时，丙方不得因物业管理公司的违约行为而拒绝或者延迟向乙方支付全部或者部分租金。

12.2 Party B and Party C agree that, in the event that the property management company fails to perform its obligations stipulated in the Property Management Agreement, Party C shall not refuse to or delay to pay the total or partial Rent due to the violation of the property management company.

13. 租赁房屋及附属设备设施的维修、维护 The Repair and Maintenance of the Premises and its Ancillary Facilities

13.1 丙方应保证丙方及其丙方的关联第三方合理使用并爱护租赁房屋及其附属设备设施。因丙方或丙方的关联第三方保管不当或不合理、不正当使用，致使该房屋及其附属设备设施和物品发生损坏或故障的，丙方应负责维修或向乙方支付维修费用，并就因此造成乙方损失承担赔偿责任（在没有其他相反证据的情况下）。如丙方拒不维修也不支付维修费用或拒不承担赔偿责任的，乙方可自行

或委托租赁房屋的物业管理公司、其他第三方代为维修或购置新物，费用由丙方承担，丙方放弃就费用金额提出异议的权利。

Party C shall guarantee that Party C and its affiliates should reasonably use and take good care of the Premises and its ancillary facilities. Party C shall be liable for maintenance or pay to Party B for maintaining if the Premises, its ancillary facilities and articles are damaged or in malfunction due to improper preservation or unreasonable and incorrect use of Party C or its affiliates. Party C shall also compensate Party B for the loss as a result of such improper preservation or use (in the absence of proof to the contrary). If Party C failed to maintain, pay the maintenance fees, or compensate Party B for Party B's loss, Party B may maintain or replace the articles and ancillary facilities of the Premises by itself or by the property management company or a third party. Party C shall pay Party B fully for such maintenance or replacement without any objection.

13.2 租赁期内，丙方对房屋进行的装修、改善和自行增置的物品、设备和用具及自用设备、设施、物品，乙方及物业管理公司不承担维修、维护义务。但丙方可有偿委托物业管理公司对前述物品、设备、设施提供维修和养护服务。

During the Term, Party B and the property management company are not responsible for the repair and maintenance of the renovations and improvements of the Premises furnished by Party C or the articles, equipments and instruments installed by Party C or self-used equipments, facilities, and articles of Party C. However, Party C may pay the property management company to repair and maintain such articles, equipments and facilities.

13.3 对于租赁房屋及其附属设备设施因自然属性及按照约定或实物性质使用而导致的损耗，丙方不承担赔偿责任。

Party C shall not be responsible for compensation for the deterioration of the Premises and its ancillary facilities because of their nature and used as agreed or by their nature.

13.4 对通过承租房屋的水、电、蒸气、通讯等管道和其它公共设施，乙方在事先通知丙方后，有权派工作人员进入丙方承租房屋进行有关检查、维修或改建工程，丙方应给予必要的协助。但在遇到紧急事故（包括但不限于水灾、火灾及匪险等）时，乙方可在未事先通知丙方的情况下进入丙方承租房屋内进行事故处理，并有权暂时终止任何设施运行以进行维修。

For the pipes of water, electric wires, steam pipes, telecommunication cables, and other public facilities, passing through the Premises, Party B shall be entitled to appoint personnel to enter into the Premises to inspect, maintain or re-construct, after giving a prior notice to Party C, Party C shall provide necessary assistance. In case of emergency (including but not limited to flood, fire, and robbery), Party B may enter into the Premises to handle the accidents, and temporarily stop the operation of any facility for maintenance, without notice to Party C in advance.

14. 转租或提供他人使用 Sublease or Permitting Use by Others

14.1 未经乙方事先书面同意，丙方不得在租赁期内将本合同项下所租赁的房屋部分或全部转租给他人，也不能以转让、转借、转包等任何有偿或无偿方式事实上导致租赁房屋由第三方使用。

Without Party B's prior written consent, during the Term, Party C shall neither sublease the Premises herein, in whole or in part, to others, nor make the Premises available for third party's use, through paid or unpaid method, such as transfer, borrow, or subcontract.

14.2 经乙方事先书面许可，丙方可将租赁房屋的全部或部分转租给第三方；丙方应在转租前至少提前 15 个工作日将转租申请及转承租的第三方情况（包括但不限于与丙方的关联关系、营业内容、资产状况等）书面告知乙方。

Party C may sublease the Premises wholly or partly to a third party if Party C obtains Party B's prior written permission. Party C shall give Party B a written application for sublease and a statement which shall indicate the information of the third party including but not limited to the relationship with Party C, its business scope and asset, at least fifteen (15) business days before such sublease.

14.3 无论是否经过乙方的事先书面同意，丙方转租的，就租赁合同约定应由丙方承担的义务仍由丙方对乙方履行并承担责任，就转承租的第三方的与租赁房屋相关的行为，丙方应依据租赁合同的约定对乙方承担义务和责任。丙方与转承租的第三方就转租事宜所签署的协议，其内容不得与本协议的内容相冲突或背离，且该协议的效力受制于本协议的效力，其不得脱离本协议而独立存在。

If Party C subleases the Premises to a third party, regardless Party B's prior consent has been obtained or not, all the responsibilities undertaken by Party C hereunder shall still be performed by Party C to Party B, and Party C shall take all the responsibilities and liabilities to Party B in accordance with the provisions hereunder for the actions of the third party under the sublease relating to the Premises. The new lease agreement between Party C and the third party shall not conflict with or be inconsistent with this Contract, and the validity of the new lease agreement shall be subject to this Contract, and shall not exist independently away from this Contract.

15. 合同的解除 Termination of this Contract

15.1 经乙方与丙方协商一致，可以解除本合同。

This Contract may be terminated after mutual agreement between Party B and Party C.

15.2 因地震、火灾等不可抗力致使房屋毁损、灭失或造成其他损失的情形发生导致本合同目的无法实现，双方均有权解除本合同，且双方互不承担违约责任。

If purpose of this Contract cannot be realized due to damage, destruction of the Premises or otherwise caused by earthquake, fire or other force majeure, the Party B

and Party C are both entitled to terminate this Contract without any liability.

15.3 乙方有下列情形之一的，丙方有权单方解除合同：Party C is entitled to terminate this Contract if:

15.3.1 未按约定时间交付房屋达__30__（含本数）个日历日的；Party B delays delivery of the Premises for more than thirty (30) (including 30) calendar days;

15.3.2 交付的房屋不符合合同约定，不能正常使用或者严重影响丙方正常使用的；the condition of the delivered Premises is incompliance with this Contract or not suitable for normal use or materially affecting Party C's normal use;

15.3.3 交付的房屋严重危及丙方安全或者健康的；the condition of the delivered Premises brings harm to Party C's safety and health seriously;

15.4 丙方有下列情形之一的，乙方有权单方解除合同：Party B is entitled to terminate this Contract if:

15.4.1 迟延支付租金达__30__（含本数）个日历日的；Party C delays payment of Rent for more than thirty (30) (including 30) calendar days;

15.4.2 丙方未按时支付根据本合同约定应由丙方承担的费用，逾期超过30个日历日的（含本数）；Party C delays payment of expenses and fees which should be borne by Party C according to this Contract for more than thirty (30) (including 30) calendar days;

15.4.3 擅自将该房屋转租、转让、转借予第三人或事实上导致由第三人使用租赁房屋的；Party C subleases, transfer, or lend the Premises to a third party, or actually make the Premises available for a third party's use, without Party B's consent;

15.4.4 擅自改变该房屋用途的；Party C changes the usage of the Premises without Party B's consent;

15.4.5 擅自拆改变动或损坏房屋主体结构的；Party C dismantles, changes or damages the main frame structure of the Premises, without Party B's consent;

15.4.6 违反本合同《附件 1》11.2 条约定的；Party C violates Article 11.2 of Appendix 1 to this Contract;

15.4.7 丙方或丙方的关联第三方违反园区管理规定，经告知后仍不改正的；Party C or its affiliates violates the regulations of the Park and fail to correct after notice;

15.5 因本条 15.3 款和 15.4 款的规定解除合同时，解除权人对违约方不承担支付任何补偿、赔偿、违约金、所产生的全部费用和其他任何支出的义务；违约方应在本合同解除之日起 3 个工作日内向解除权人支付相当于乙方与丙方约定的__1__个月租金数额的违约金，并且解除权人因导致合同解除的行为以及合同解除所受到的全部损害和损失超过前述违约金部分，由违约方负责赔偿。

If this Contract is terminated according to section 15.3 or 15.4, the party who is entitled to terminate this Contract shall not be responsible for any compensation, damages, breaching penalty, all resulting fees and other expenses. The breaching party shall pay the party who is entitled to terminate this Contract the breaching penalty, which is equivalent to one (1) month Rent within three (3) business days after the termination. If the breaching penalty cannot cover the losses suffered by the party who is entitled to terminate this Contract caused by the breaching party's conduct and the termination, the breaching party shall compensate the party who is entitled to terminate this Contract to cover all the losses.

16. 违约责任 Liabilities

16.1 乙方未按本合同约定时间将房屋交付丙方使用的，每逾期一日应按本合同约定的月租金的 1%向丙方支付违约金。逾期 30 个日历日以上的（含本数），丙方有权解除合同。

If Party B delays to deliver the Premises to Party C, Party B shall pay Party C one percent (1%) of monthly Rent for every day delayed. If Party B delays for more than thirty (30) (including 30) calendar days, Party C is entitled to terminate this Contract.

16.2 丙方未按本合同约定时间向乙方支付房屋租金的，每逾期一日应按应付未付金额的千分之五向乙方支付违约金。逾期 30 个日历日以上的（含本数），乙方有权解除合同。

If Party C fails to pay Rent to Party B on time according to this Contract, Party C shall pay Party B five parts in one thousand (5‰) of the Rent due and unpaid for every day delayed. If failure of payment continues for more than thirty (30) (including 30) calendar days, Party B is entitled to terminate this Contract.

16.3 租赁期内，乙方需提前收回该房屋的，应提前 30 个日历日通知丙方，将已收取的租金扣除丙方应支付的房屋租金和其他各项费用后的余额退还丙方，并支付给丙方相当于本合同约定的__1__个月租金数额的违约金。

If Party B intends to early withdraw the Premises during the Term, Party B shall notify Party C thirty (30) calendar days in advance. Party B shall refund Party C the remaining amount after deducting the due Rent and other fees from the paid Rent. Party B shall also pay Party C one (1) month Rent as liquidated damages.

16.4 丙方未按约定承租房屋，或者在租赁期内需提前退租的，应提前 30 个日历日通知乙方，并支付给乙方相当于本合同约定的__1__个月租金数额的违约金。

If Party C does not lease the Premises according to this Contract or intends to early return the Premises during the Term, Party C shall notify Party B 30 calendar days in advance. Party C shall pay Party B one (1) month Rent as liquidated damage.

对于丙方已交付给乙方的租金，乙方在扣除丙方应支付的房屋租金、其他各项费用和违约金后还有剩余的，乙方应将该余额退还给丙方；丙方已交付的租金

不足支付前述总金额的部分，由丙方负责向乙方补交。

As for the Rent having been paid by Party C, Party B shall refund the balance to Party C after deducting the payable Rent, other expenses and liquidated damages. If the Rent having been paid by Party C can not cover above mentioned payable rent, expenses, and liquidated damage, Party C shall pay the balance to Party B.

16.5 丙方在租赁期满或合同解除时，未按本合同约定时间返还房屋的，每逾期交付房屋一日按本合同约定的月租金 10%的标准支付违约金。

If Party C delays to return the Premises when this Contract or the Term terminates, Party C shall pay Party B ten percent (10%) of monthly Rent for every day delayed as liquidated damage.

16.6 由于丙方原因致使租赁房屋或园区内其他房屋及相关设备、设施发生毁损、灭失的，丙方应负责赔偿乙方因此发生的全部损失（包括但不限于律师费）。

If the Premises or other premises in the Park or related facilities are damaged or destroyed due to reason of Party C, Party C shall compensate fully for all Party B's losses including but not limited attorney fees.

17. 无权代理 Unauthorized Agency

由乙方代理人代为签订本合同并办理相关事宜的，乙方代理人和丙方应在乙方开具的授权委托书或出租代理合同的授权范围内确定本合同具体条款，乙方代理人超越代理权或代理权终止后的代理行为，未经乙方书面追认的，对乙方不发生法律效力。

If this Contract is signed and relevant issues are performed by a representative of Party B, Party C and the representative of Party B shall determine the terms and conditions of this Contract within the scope authorized by Party B through a power of attorney or a lease agency contract. Party B shall not be legally bound by the activities of the representative of Party B beyond the above mentioned scope or after the termination of the authorization, unless Party B subsequently ratifies such activities in writing.

18. 不可抗力 Force Majeure

由于不可抗力事件致使本合同不能按约定得到履行时，遇有上述不可抗力事件的一方应立即将事故情况通知对方，并应在 20 个日历日内，提供事件详情及本合同不能履行或部分不能履行或需要延期履行的理由的有效证明文件。按照事件对履行合同影响的程度，由双方协商决定是否解除本合同，或者部分免除履行本合同的责任，或者延期履行本合同。

If a Party can not perform this Contract as agreed herein because of a force majeure event, the Party shall notify the other Party immediately about the force majeure, and provide the other Party detailed conditions as well as effective documents certifying the reasons for non-performance, or partial non-performance, or

the delayed performance within twenty (20) calendar days. Based on the influence over the performance hereof by such force majeure, the Parties shall negotiate and jointly decide whether to terminate this Contract, or partially exempt the performance hereof, or delay the performance hereof.

19. 合同争议的解决办法 Dispute Resolution

本合同项下或与本合同相关事宜发生的争议，由双方当事人通过友好协商方式解决或申请调解解决；协商或调解不成的，依法向租赁房屋所在地管辖人民法院起诉。

Any disputes arising from or in relation to this Contract shall be settled by Parties through friendly consultation or mediation. If the consultation or mediation fails, Parties are entitled to bring this case to the court where the Premises locate.

20. 其他约定事项 Miscellaneous Provisions

20.1 丙方承诺：在承租期内，丙方的关联方、员工、代表、代理人、丙方访客和受丙方雇佣的第三方（统称“丙方的关联第三方”）对承租房屋采取的所有行为，包括但不限于使用、装饰、装修、毁损等，均视为是丙方行为，由丙方依照本合同约定对乙方履行义务和承担责任。

Party C undertakes to take any responsibility and liability for Party B according to this Contract for all activities (including but not limited to usage, decoration, innovation, and damages) by its affiliates, employees, representatives, agents, visitors, and a third party employed by Party C (collectively, Party C's Affiliated Third Party), which shall be deemed as Party C's activities.

20.2 丙方承诺，丙方将及时将公司注册地址迁入北京亦庄生物医药园（北京经济技术开发区科创六街 88 号院）园区内。

Party C undertakes to change its registration address into Beijing BDA Biomedical Park (Yard No. 88, Kechuang 6 Street, Beijing Economic-Technological Development Area, Beijing) in time.

20.3 丙方或丙方的关联第三方的物品，由丙方或丙方的关联第三方自行负责保管。

The belongings and articles of Party C and Party C's Affiliated Third Party shall be kept and maintained by Party C and Party C's Affiliated Third Party.

20.4 本合同生效后，双方对合同内容的变更或补充应采取书面形式，并经双方签字盖章确认，该书面形式作为本合同的附件。附件与本合同具有同等的法律效力。

Any amendment or complements to this Contract after this Contract takes effect shall be made in writing and signed and sealed by Parties. Such written amendment or complements shall be attached to this Contract and have equal legal effect with this Contract.

20.5 本合同项下需要送达的所有通知或者其他文件均应通过专人送达方式或邮寄（邮资预付）方式或者快递方式，送达至本合同文首所述法定地址。按照上述方法送达的通知或文件应按以下约定确定送达及送达时间，即以专人送达的，在送达至收件方的法定地址时；以邮寄方式或者快递方式送达的，则在依照本合同文首所述法定地址和联系人以足够邮资或足够快递费用寄出时起的第五个工作日。

Any notice and other communication to be given under this Contract shall be delivered in person or by mail (postage prepaid) or courier service to the address set forth in the beginning of this Contract. Such notice and document shall be deemed as duly delivered when (i) the date delivered in person to the legal address of addressee; (ii) the fifth (5^{th}) business day after posted by mail (postage prepaid) or courier service with enough postage and fees to the legal address and contact person set forth in the beginning of this Contract.

本合同文首所述乙方或丙方的企业名称、法定地址或联系人如发生变更的，发生变更一方应自变更时起 3 个工作日内以书面方式（加盖变更方公章）通知相对方；否则相对方依照本合同文首所述法定地址和联系人并根据前述约定进行送达的，发生变更一方不得以变更事项对送达提出任何异议。

If the name, legal address, or contact person of Party B or Party C, set forth in the beginning of this Contract, changes, the changing party shall notify the other party within three (3) business days in writing and affixed with seal. If the changing party fails to notify the other party as stated above, the other party may deliver notice and communication according to the information before change and it should be deemed as duly delivered.

20.6 本合同及其附件仅约束双方，并且构成双方就本合同的标的事项的完整的不可分割的合同，取代双方此前就本合同标的事项所做的任何口头或书面的协议、合同、备忘录或其他往来函件。

This Contract, along with appendices hereto, is only legally binding upon Parties, and constitutes the entire and inseparable agreement of the Parties relating to the subject matter hereof, and supersedes all previous contract, agreement, memorandum, and communications between the Parties, whether oral or written.

20.7 本合同具有可分割性，即本合同中的任何条款无论因何种原因完全或部分无效或不具有执行力，不应影响本合同其他条款的效力和执行。

This Contract has the nature of severability. If any provision of this Contract is held to be wholly or partially invalid or unenforceable for any reasons, the validity and enforceability of the remaining provisions of this Contract shall not be affected thereby.

20.8 本合同（及附件）一式陆份，其中甲方执一份，乙方执三份，丙方执二份，法律效力均等。

This Contract (including appendices) is signed in six (6) copies, with Party A holding one (1) copy, Party B holding three (3) copies and Party C holding two (2) copies. Each copy has the same legal effect.

附件 2—租赁房屋产权单位出具的委托经营管理授权书（复印件）

Appendix 2—Power of Attorney for Operation and Management Issued by the Owner of the Premises (copy)

北京经济技术投资开发总公司

Beijing Economic and Technology Investment Development Parent Company

授权书

Power of Attorney

北京经济技术投资开发总公司（以下简称“授权人”）为位于北京经济技术开发区科创六街88号北京亦庄生物医药园的房屋所有权人，房屋所有权证编号X京房权证开字第012332号，土地使用权证编号开全国用(2009)第40号。

Beijing Economic and Technology Investment Development Parent Company (hereafter referred as the “Authorizer”), is the owner of the property located at No. 88, Kechuang 6 Street, Beijing Economic-Technological Development Area, Beijing, with the housing ownership certificate No.X Jing Fang Quan Zheng Kai Zi No. 012332 and Land Use Right Certificate No. as Kai Quan Guo Yong (2009) No.40.

兹授权北京亦庄国际生物医药投资管理有限公司（以下简称“被授权人”）对上述房屋进行整体或者部分出租，包括：

Hereby authorize Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd. (hereafter referred as the “Authorized Entity ”) for

the lease of aforesaid real property, in whole or separated. Duty of the Authorized Entity includes:

1. 与潜在的承租人进行联系，商谈出租上述房屋的相关事宜；

To contact with potential tenant and to negotiate regarding the lease of the aforesaid property;

2. 与承租人协商并确定出租上述房屋的租赁范围、租赁期限、租金及其支付方式等租赁相关事项，与承租人协商并确定出租上述房屋的租赁合同文本，以自己的名义签署并履行租赁合同；

To negotiate with the tenant and determine the lease area, term of lease, rent, payment method and etc. regarding the aforesaid property. To negotiate with tenant and determine the lease terms and provisions regarding the lease of said property, and to execute and perform the lease in its own name;

3. 收取租金及其他费用，办理租赁登记、缴纳相关税费等手续；

To collect rent and other fees, to complete formalities including but not limited to lease registration, relevant taxes and fees payment.

4. 办理其他与租赁相关的事项。

To complete any other affairs regarding lease of the property.

授权人和被授权人之间的具体权利义务关系由双方另行约定，授权人和被授权人之间的约定不得对抗承租人，但与承租人另有约定的除外。

Specific rights and obligations between the Authorizer and the Authorized Entity shall be agreed separately by both parties. The agreement between the Authorizer and the Authorized Entity shall not defend against the Lessee, unless the Lessee has agreed otherwise.

授权人保证对该房屋的所有权合法、完备、有效、无争议，授权人和被授权人保证被授权人将该房屋出租后，承租人能够按照租赁合同的约定正常使用租赁房屋；如因授权人对出租房屋的所有权瑕疵或授权人与任何第三方之间的任何纠纷导致承租人不能依照租赁合同的约定正常使用租赁房屋的，由授权人依据法律法规规定对承租人承担赔偿责任。

The Authorizer guarantees its ownership of the property is legal, complete, valid and undisputable. The Authorizer and the Authorized Entity undertake that after the Authorized Entity leases the aforesaid property, the Lessee will be able to use the leased property normally according to the lease agreement. In the event that Lessee is not able to use the leased property normally due to defect of the Authorizers' ownership or any dispute between the Authorizer and any third party, the Authorizer

shall be liable to compensate the Lessee according to laws and regulations.

在租赁期间内，本授权书项下的租赁关系，不因被授权人终止、解散等丧失民事主体资格的情形，或者发生本授权书依法被终止、解除等情形而受影响，被授权人因与承租人签订租赁合同而承担的权利及义务在上述情况下均由授权人或授权人书面委托经营的其他第三方继受。

During the term of the lease, the leasehold relation under this Power of Attorney shall not be affected by the circumstance where the Authorized Entity losses its civil subject qualification such as termination or dissolution of the Authorized Entity or termination or dissolution of this Power of Attorney by law. Under abovementioned circumstance, all the rights and obligations of the Authorized Entity due to the execution of lease contract shall be succeeded by the Authorizer or any third party authorized in writing by the Authorizer.

授权人和被授权人保证出具本授权书已经获得全部必要的许可、授权、同意和批准。

The Authorizer and the Authorized Entity undertakes that they have obtained all necessary license, authorization, consent and approval to execute this Power of Attorney.

授权人：（盖章）

Authorizer: (seal)

签署日期：2011年11月20日

Date: 20 November 2011

北京亦庄国际生物医药投资管理有限公司
北京亦庄生物医药园房屋租赁

Lease of Premises in Beijing BDA Biomedical Park of Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd.

附件 3—房屋附属设施和物品清单

Appendix 3—List of Ancillary Facilities and Articles of the Premises

A2 List of Facilities of Single Enterprise Villa			
Facility Name	Floor	Quantity	Model(No.) \ Technical
Fan coil	1	30	42CE006203A
	2	30	
	3	32	
	5	32	
	6	20	
Fresh Air Unit(with heat recovery and sterilizer)	2	1	CLCP020\18689m3/h
	3	1	CLCPOI0\9429m3/ h
	5	1	CLCPOI0\9429m3/ h
	6	1	CLCP008\6286m3/ h
Exhaust Fan	2	1	18689m3/ h
	3	1	9429m3/ h
	5	1	9429m3/ h
	6	1	6286m3/ h
Ceiling Type Exhaust Fan	1	2	BPT18-44A\40Qm3/h
	2	2	BPT18-44A\400m3/h
	3	2	BPT18-44A\400m3/h
	5	2	BPT18-44A\400m3/h
	6	2	BPT18-44A\400 3/h
	1	1	1#-3-1AL
	2	1	1#3-2AL

Lighting Distribution Box for	3	1	1#-3-3AL
	5	1	1#-3-5AL
	6	1	1#-3-6AL
Local Equipotential Box	Air conditioning unit plant room	14	
Lightning-Protection Test Box	Concealed in exterior wall	6	
Electrical well Emergency Power Distribution Cabinet	1	1	1#-3-1AL-EPS
	2	1	1#-3-2AL-EPS
	3	1	1#-3-3AL-EPS
	5	1	1#-3-5AL-EPS
	6	1	1#-3-6AL-EPS
Wall Hung Urinal	1	1	GC-B091(Gao Bao)
	2	1	GC-B092(Gao Bao)
	3	1	GC-B093(Gao Bao)
	5	1	GC-B094(Gao Bao)
	6	1	GC-B095(Gao Bao)
Common Squat Toilet	1	3	GC-D091 (Gao Bao)
	2	3	GC-D092 (Gao Bao)
	3	3	GC-D093 (Gao Bao)
	5	3	GC-D094 (Gao Bao)
	6	3	GC-D095 (Gao Bao)
Hand-dryer	1	2	K-5486T-SH (Kohler)
	2	2	K-5486T-SH (Kohler)
	3	2	K-5486T-SH (Kohler)
	5	2	K-5486T-SH (Kohler)
	6	2	K-5486T-SH (Kohler)
Undercounted Washbasin	1	4	GC-X020 (Gao Bao)
	2	4	GC-X020 (Gao Bao)
	3	4	GC-X020 (Gao Bao)
	5	4	GC-X020 (Gao Bao)
	6	4	GC-X020 (Gao Bao)
Fire Hydrant	1	3	
	2	3	
	3	3	
	5	3	
	6	2	
Fire Radio	1	2	
	2	2	
	3	2	
	5	2	
	6	2	

Air Cooled Chiller	Roof	1	RTAC200 (Te Ling) \30RB672G

附件 4—北京亦庄生物医药园入园企业项目计划表

Appendix 4—Schedule of Program of Enterprises in Beijing BDA Biomedical Park

本公司计划2013年在北京亦庄生物技术园开始生产新药注册用的原料药和制剂。2014 年将以中国公司身份向SFDA申请注册国产1. 1类新药从而在2015年投入中国市场，使上千万的中国肾病贫血患者能比世界其他国家提前一年以上用上这个比EPO便宜，方便（口服，不需补铁剂），副作用小的药。

Our Company plans to begin the production of raw material medicine and preparation for registration of new medicine in Beijing BDA Biomedical Park in 2013. In 2014, we plan to apply for domestic 1.1 type new medicines to SFDA as a company registered in PRC in order to launch the medicine in PRC market in 2015. Therefore, thousands of anemia of renal disease patients will be have the access, more than one year prior to any other country, to this medicine which is cheaper, more convenient (oral ingestion, no need for iron supplement) and with less side effect than EPO.

我们计划建造的第一个厂房将在2013年开始生产50kg规模50mg/20mg 规格FG-4592 胶囊。我们相信， 在这一生产规模下， 我们能够服务150,000 至250,000 名患者。包括临床试验、药物生产与试验要求和专利技术证书等在内，总投资将在4000 万美元左右，注册资本将在1500万美元左右。第二家工厂将生产满足各种患者体重的多种规格胶囊，在药物审批后（~2015年）将立即建厂。第二家工厂预期将有10倍的生产能力。

The first factory we plan to build will start to produce the FG-4592 capsule with capacity of 50kg specification of 50mg/20mg. We believe that under this capacity of production, we will be able to serve approximate 150,000 to 250,000 patients. The total investment will be about USD 40 million which includes clinical trials, medicine production, requirement for experiment and patent technology certificate, and the registered capital will be approximate USD 15 million. The second factory will produce multiplex capsules which will satisfy the diverse needs of patients with different body weight, and the second factory will be built immediately after the examination and approval of the medicine (~2015). The second factory is expected to have the productive capacity 10 times than the first factory.

我们具备美国突破性技术，大量财政资本，杰出人才，和成为中国前所未有、世界一流、专注研究的生物制药企业所必需的全部因素。另外，我们愿意结合两个地域的最佳元素——将美国优秀的药物开发技术与在中国病人中进行临床开发结合—— 使中国人民和政府获益。在中国的外国跨国公司、中国国有大型制药公司，和中国生物风险企业都没有这种优势，不久的未来还将继续引进其治疗胰腺癌、肝纤维化和角膜移植的药物平台，并对此寄予厚望。

We are equipped with the breakthrough technology of US, massive fiscal capital, brilliant talents and all elements required by a world class company focused on bio-pharmaceutical manufacturing which is unprecedented in China. Furthermore, we would like to combine the best elements of two areas – outstanding pharmaceutical manufacturing technology from US and clinical trial among Chinese patients – to benefit both Chinese people and the government. This advantage is never seen in multinational corporations in China, Chinese large state-owned pharmaceutical companies or China bio-venture enterprise. We will continue to introduce China with the medicine platform for treatment for pancreatic cancer, liver fibrosis and corneal transplant of which we have high hopes.

北京亦庄国际生物医药投资管理有限公司

北京亦庄生物医药园房屋租赁

Lease of Premises in Beijing BDA Biomedical Park of Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd.

附件 5—环境保护承诺书

Appendix 5—Letter of Undertakings for Environmental Protection

作为北京亦庄生物医药园入园企业，我公司对国家、省、市及区相关环境保护规定已知晓理解，现作如下承诺：

We, an enterprise in Beijing BDA Biomedical Park, hereby represent that we are fully acquainted with the laws and regulations relating to the environmental protection, published by the national, provincial, municipal and district governmental authorities; and warrant that:

一、遵守国家、省、市及区有关环境保护法律、法规，落实各项污染防治措施。

We will abide by the laws and regulations relating to the environmental protection, published by the national, provincial, municipal and district governmental authorities and take actions for pollution protection and control.

二、污染物（一般废弃物、实验室垃圾和危险废弃物等）按国家和地方相关规定处理，排放达到国家和地方的相关规定。

We will dispose of and discharge the pollutants including but not limited to ordinary waste, laboratory waste, and hazardous waste, in compliance with relevant national and local regulations.

三、在保证污染物排放及废弃物回收达标基础上，同时处理好相邻关系，不对相邻方造成环境影响，并承担相应的法律责任。

We will keep good adjacent relationship and not adversely affect the environment of neighbors on the basis that the discharge of pollutants and recycling of waste meet the relevant standard. We will take liabilities accordingly.

四、若违反环境保护相关法律、法规规定，自愿接受环保部门处罚。

We will accept the penalty imposed by environmental protection authority if we violate relevant laws and regulations regarding environmental protection.

Executed Version
Dated January 30, 2013

Supplementary Agreement to Lease of Premises
in Beijing BDA Biomedical Park

Owner/Party A	**Beijing Economic Technology Investment Development Parent Company**, with its registered address at Building 61, No.2 Jingyuan North Street, Beijing Economic-Technological Development Area, Beijing;
Lessor/Party B	**Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd.**, with its registered address at Room 309, 3rd Floor, Comprehensive Building No. 2, Yard No.88, Kechuang 6 Street, Beijing Economic-Technological Development Area, Beijing; and
Lessee/Party C	**Beijing FibroGen Medical Technology Development Co., Ltd.**, with its registered address at Room 503, 4th Floor, Building No.2, Yard No.88, Kechuang 6 Street, Beijing Economic-Technological Development Area, Beijing.

Owner, Lessor and Lessee each referred as a "**Party**" and together as the "**Parties**".

The **Parties** have entered into the Lease of Premises in Beijing BDA Biomedical Park (hereinafter referred to as "**Contract**") in relation to the premises which are managed by **Party B** and intended to be rented by **Party C**. The **Parties** have agreed to supplement and amend certain terms of the **Contract** and its Appendix 1 - General Terms of the Lease (hereinafter referred to as "**General Terms**") as follows:

I. Location and Area of the Premises

The premises leased by **Party C** are located at Room 101-601, Unit 2, No.7 Middle-sized Enterprise Building, Yard No. 88, Kechuang 6 Street, Beijing Economic-Technological Development Area, Beijing (Single Enterprise Villa A2: Room 101-601, hereinafter referred to as "**Premises**") and will be used as **Party C**'s research and development space. The **Premises** shall be comprised of a single building with a total construction area of 4,819.76 square meters. (This clause is a replacement of Clause 1 of the **Contract**).

II. Term

The term of the lease (hereinafter referred to as "**Term**") shall commence on February 1, 2013 and end on January 31, 2021, with a period of 8 years, including a rent-free period of two months, commencing on February 1, 2013 and ending on March 31, 2013.

III. Rent

During the **Term**, the daily rent of the **Premises** shall be: 2.3 Yuan/square meter per day for the first and second payable year (i.e. from February 1, 2013 to January 31, 2015) including the rent-free period commencing from February 1, 2013 to March 31, 2013; 2.5 Yuan/square meter per day for the third and forth payable year (i.e. from February 1, 2015 to January 31, 2017) ; 3.0 Yuan/square meter per day from the fifth to the eighth payable year (i.e. from February 1, 2017 to January 31, 2021).

IV. Payment of Rent

The rent of the **Premises** shall be paid quarterly in advance. Subject to Clause 7.3 of the **General Terms** (as amended), the first quarterly rent for the **Premises** (i.e. from February 1, 2013 and ending on April 30, 2013) in total shall be (in words): one million, eleven thousand, five hundred and forty eight Yuan (in numbers: ¥ 1,011,548.00). After deducting the rent free period, the actual payable rent shall be (in word) three hundred and fifty seven thousand, five hundred and three Yuan (in numbers: ¥ 357,503.00) which shall be paid within seven (7) Calendar Days after the expiry of the rent-free period. The rest of the rent for the **Term** of the **Premises** shall be paid by **Party C** to **Party B** within seven (7) Calendar Days after the beginning of every payable quarter.

V. Lease Deposit

Within seven (7) Calendar Days after this **Supplementary Agreement** becomes effective, **Party C** shall pay the security deposit (hereinafter referred to as "**Deposit**"), equivalent to three (3) months of rent for the entire **Premises.** The specific amount of the **Deposit** is: (in words) one million, eleven thousand, five hundred and forty eight Yuan (in numbers: ¥ 1,011,548.00) and shall be adjusted during the **Term** in proportion to the increase of the **Rent**. If **Party B** is required to return the **Deposit** to **Party C** under the provisions of Clause 7.3 of the **General Terms**, the **Deposit** shall be returned to **Party C** by **Party B** within fifteen (15) Calendar Days after the return of the **Premises** by **Party C**. It is expressly understood that **Party B** reserves the right to deduct unpaid rent, payments sufficient to cover damages to the **Premises** and other charges provided under the **Contract** and **General Terms** from the **Deposit** prior to its return to **Party C**. (This clause is a supplement to Clause 6 of the **Contract** and Clause 7.3 of the **General Terms**.)

VI. Delivery of the Premises

1. Within ten (10) Calendar Days after signing this **Supplementary Agreement** by the **Parties**, **Party B** shall deliver the **Premises** to **Party C** in compliance with the delivery

conditions (hereinafter referred to as "**Delivery Day**"). The **Delivery Day** shall not be later than the commencement date of the **Term**. On the **Delivery Day**, the **Parties** shall complete the delivery and execute relevant documents in relation to the delivery of the **Premises**.

2. After the date of execution of this **Supplementary Agreement** and before the **Delivery Day**, **Party C** shall be entitled to check on its own or authorize representatives to check the **Premises** and the ancillary equipments and facilities thereof, upon giving a prior notice to **Party B**, to ensure that the delivery conditions, specifications and standard of the **Premises** have met the delivery conditions (hereinafter referred to as "**Delivery Conditions**") as specified in the appendix of this **Contract**, for once or more times. **Party B** shall make the **Premises** accessible to **Party C** and its representatives for the on-site inspection, acceptance check and other related procedures.

3. The **Delivery Conditions** shall refer to those items specified both in the Appendix 3 - List of Ancillary Facilities and Articles of the Premises and the Specifications of the Premises (Appendix A attached to this **Supplementary Agreement**) as agreed by the **Parties**.

4. **Party B** represents and warrants that the **Premises** were constructed in full compliance with all national, city, and local codes and regulations. In particular, **Party B** confirms that the **Premises** were constructed without the use of asbestos and are asbestos-free at the time of delivery. In addition, **Party B** confirms that the **Premises** were constructed in compliance with all current national, city, and local codes and regulations that related to earthquake construction standards. (Clause 6.1-Clause 6.4 hereof are supplements to Clause 9 of the **Contract**).

VII. Renovation and Improvement of the Premises

1. **Party C** shall submit a written application to **Party B** for its approval at least ten (10) Working Days prior to the proposed renovation and improvement, with a detailed statement (including but not limited to the renovation and improvement plan, construction drawings, construction period arrangement, and plan for installation or removal of equipment and facilities).

2. **Party B** shall not unreasonably refuse the renovation and re-construction requests or plans proposed by **Party C**. **Party B** shall notify **Party C**, within ten (10) Working Days after receiving the renovation and re-construction application and related statements, of its decision on whether it consents to the renovation and re-construction request and such consent shall be deemed to be given to **Party C** upon failure of **Party B** to notify **Party C** of such decision within the aforementioned time limit. **Party B** shall advise **Party C** in writing at the time of **Party B**'s approval of such renovation and re-construction request if **Party B** will require **Party C** to remove the improvement upon termination of this **Contract**. Where the proposed renovation and re-construction proposed by Party C is subject to relevant administrative permits, **Party B** and the

property management company shall be obligated to assist **Party C** to obtain all approvals from relevant administrative authorities.

VIII. Naming of the Premises

If **Party C** leases the entire building of the **Premises, Party C** shall have the right to name the **Premises** free of charge during the **Term**, including installing and placing signage and logos of **Party C** and affiliates of **Party C** on the places as designated by **Party B**. **Party C** shall bear the cost of design, installation and maintenance of these signage and logos and removal of these signage and logos upon expiry of the **Term**. (This clause is a replacement of Clause 4.3 of the **General Terms.**)

IX. Renewal of the Lease

Upon expiration of the **Term**, in the event that **Party C** intends to continue to rent the **Premises**, it shall submit a written application for renewal to **Party B** at least forty five (45) Calendar Days prior to the expiration of the **Term**. If a third party has expressed interest in leasing the **Premises**, **Party C** shall be entitled to a right of first refusal to renew the **Contract** on a term no less than one (1) year at a rental rate no more than that agreed by the third party. In the event that **Party C** has submitted a written application for renewal to **Party B** and no third party has expressed interest in leasing the **Premises**, **Party C** shall be entitled to renew the lease on a term no less than one (1) year at a rental rate to be agreed upon between **Party B** and **Party C**, but in no case will the rental rate exceed the fair market value of similar premises in this area. (This clause is a replacement of Clause 5.2 of the **General Terms**)

X. Return of the Premises

1. **Party C** shall return the **Premises** in five (5) Calendar Days upon the date of expiration of the **Term** or termination of the **Contract**. **Party C** shall organize all relevant persons to withdraw from the **Premises** within the above period. **Party C** shall evacuate or remove the equipments, facilities, appliances and other properties which are owned or leased by **Party C** from third parties and which **Party B** identified as being required to be removed upon approval of the installation of such equipments, facilities, appliances and other properties. **Party C** need not reinstate the **Premises**, provided that the renovation and improvement furnished by **Party C** does not materially damage the functionality of the **Premises**. The **Parties** agree to extend the five-day-period to a reasonable period of time if **Party C** is required to demolish the renovation and improvement to the **Premises**.

2. It is expressly understood that title of all improvements made and equipments provided by **Party C** shall, at all times during the **Term**, remain in the name of **Party C**. Notwithstanding anything to the contrary contained herein, **Party C** may remove all or any of the improvements and equipments at any time during the **Term**, provided that such removal of the improvements and equipments by **Party C** will not damage the

structure of the **Premises**. **Party C** provides no representation or warranty relating to the condition or functionality of any improvement or equipment left in the **Premises** after the expiration of the **Term**. (Clause 10.1-Clause10.2 are replacements of Clause 10.1 and Clause 10.4 of the **General Terms**)

3. Provided that **Party C** remains in possession of the **Premises** for less than ninety (90) Calendar Days (the ninetieth day included) after the expiration of the five (5) Calendar Days period or any period extended by the agreement of the **Parties** specified in Clause 10.1, **Party C** shall be entitled to use of the **Premises** under the same terms and conditions of the **Contract**, yet the daily rent during the foregoing period extended by the agreement of the **Parties** and the occupation period within ninety Calendar Days shall be twice the last daily rent being carried out during the **Term**. (This Clause is a supplement to Clause 10 of the **General Terms**)

4. In the event that **Party C** fails to return the **Premises** beyond ninety (90) Calendar Days after the expiration of the five (5) Calendar Days period or any period extended by the agreement of the **Parties** specified in this Clause 10.1, **Party B** is entitled to: (This Clause is a replacement of Clause 10.5 and Clause 10.6 of the **General Terms**)

   (1) Dispose properties, equipments and facilities (including the properties, equipments and facilities left by the affiliated third party) which were left in the **Premises** without the consent of **Party B** at its discretion and which **Party B** identified as being required to be removed upon approval of the installation of such equipments, facilities, appliances and other properties. **Party C** shall not claim any right or expenses against **Party B** due to the disposal, and, in case any claim, penalty, expenditure or losses is caused to **Party B** due to the disposal, **Party C** shall compensate **Party B** for those improvements that **Party B** required removal at the time of approval of the installation of those improvements. Meanwhile, **Party B** is entitled to require **Party C** to assume the liability for breach of the Contract in accordance with the provisions of this Contract ; and

   (2) Cut off the supply of water, electricity, gas, heating and other energy at its own discretion, and is entitled to change the keys to the **Premises** and prohibit **Party C** and its affiliated third party from entering into the **Premises**. **Party B** is also entitled to remove or eliminate the renovations to the **Premises** and the properties, equipments and facilities left by **Party C** and its affiliated third party. **Party C** shall not raise any claim against **Party B** at any time in this regard for any loss nor require **Party B** to be liable for any compensation or indemnification.

XI. The Repair and Maintenance of the Premises and its Ancillary Facilities

1. The **Parties** further agree and acknowledge that the maintenance of the **Premises** and the ancillary equipments (hereinafter referred to as "**Equipments**") and facilities (hereinafter referred to as "**Facilities**") listed in the Appendix [3] of this **Supplementary Agreement** shall be repaired and maintained by **Party B** free of charge

unless such damage or failure is caused by **Party C**. In the event of damage to, or failure of, the **Premises**, **Equipments**, or **Facilities** not caused by **Party C, Party C** shall notify **Party B** in a reasonable time period after **Party C** has noticed of such damage or failure. **Party B** shall promptly repair such damage or failure of the **Premises, Equipment**s and **Facilities**. **Party C** may furnish such repair and maintenance at the expenses of **Party B** if **Party B** does not furnish the repair within three Working Days after receiving notice from **Party C**. (This Clause is a replacement of Clause 13.2 of the **General Terms**)

2. During the **Term**, **Party C** shall be entitled to continuously and uninterruptedly use the **Premises** 24 hours a day. **Party B** and the property management company shall not interrupt or disturb the use of the **Premises** by **Party C** without any sound reason or any advance notice, *provided that* **Party C** operates its business and manufacture in compliance with laws and regulations and the Tenant's Manual of the Park. (This Clause is a supplement to Clause 11 of the **General Terms**)

3. If **Party B** or the property management company deems it necessary to enter into the **Premises** to inspect, maintain or renovate the pipes of water, electric wires, steam pipes, telecommunication cables, and other public facilities, passing through the **Premises**, **Party B** shall notify **Party C** of such on the same day **Party** B is notified, and the personnel appointed by **Party B** or the property management company shall not interrupt or disturb the use of the **Premises** by **Party C**, who shall provide necessary assistance. In case of emergency (including but not limited to flood, fire and robbery) **Party B** may enter into the **Premises** to handle the accidents and temporarily stop the operation of any facility for emergency maintenance, without notifying **Party C** in advance. (This Clause is a replacement of Clause 13.4 of the **General Terms**)

XII. Use of the Premises

1. During the **Term**, without **Party B**'s prior written consent, **Party C** shall neither sublease the **Premises** herein, in whole or in part, to others, nor make the **Premises** actually available for the actual use by any third party, through any paid or unpaid means, such as transfer, lending, or subcontract. The restriction of sublease and transfer herein is not applicable to any affiliate of **Party C**. "Affiliate of **Party C**" shall refer to the parent company of **Party C**, companies controlled by **Party C**'s parent company other than **Party C**, and any subsidiary, branch and representative office of **Party C**. **Party C** will provide evidences to **Party B** indicating the affiliated relationship between **Party C** and such third parties. (This Clause is a replacement of Clause 14.1 of the **General Terms)**

2. The **Parties** agree to delete "and the Consent of **Party B**" from the first sentence of Clause 11.5 of the **General Terms**: "Without the qualification certificate of the relevant administration authorities of the State and the consent of **Party B**".

XIII. Termination of the Contract

1. Under any of the following circumstances, **Party C** shall be entitled to unilaterally terminate the **Contract** and immediately cease to pay the **Rent** (exclusive of the delinquent Rent): (This Clause is a replacement of Clause 15.3 of the **General Terms**)

   (1) **Party B** delays to deliver the **Premises** or fails to deliver the **Premises** in compliance with **Delivery Conditions**, and such delay or failure is more than thirty (30) Calendar Days (the thirtieth day included);

   (2) During the **Term**, if the **Premises** is damaged, is unable to meet **Party C**'s intended purposes, or the normal use by **Party C** is seriously affected, without cause attributable to **Party C**, and **Party B** fails to cure such condition within 30 calendar days upon **Party C**'s written notice, then **Party C** shall be entitled to immediately and unilaterally terminate the **Contract**. Or if, during the **Term**, the circumstances that the **Premises** is damaged, unable to meet **Party C**'s intended purposes of use, or its normal use by **Party C** is seriously affected, cause attributable to **Party C**, takes place for three or more times during any consecutive 12 calendar months, **Party C** shall be entitled to immediately and unilaterally terminate the **Contract**;

   (3) During the **Term**, if the **Premises** seriously endanger the safety or health of **Party C** due to reasons not caused by **Party C**, and **Party B** fails to cure within 30 Calendar Days upon **Party C**'s written notice, then **Party C** may immediately and unilaterally terminate the **Contract**. Or if, during the **Term**, the circumstance that the **Premises** seriously endanger the safety or health of **Party C** due to reasons not caused by **Party C**, takes place for three or more times during any consecutive 12 calendar months, **Party C** may also immediately and unilaterally Terminate the **Contract**; and

   (4) The **Premises** is condemned or taken by the government during the **Term**.

2. Under any of the following circumstances, **Party B** shall be entitled to unilaterally terminate the **Contract** (This Clause is a replacement of Clause 15.4 of the **General Terms.**):

   (1) **Party C** delays to pay the **Rent** or other fees and expenses assumed by **Party C** subject to the **Contract** and such delay is longer than thirty (30) Calendar Days after **Party B**'s notice (the thirtieth day included);

   (2) **Party C** subleases, transfers or lends the **Premises** to any party other than those listed in Clause 10 of this **Supplementary Agreement** without **Party B**'s consent, and fails to cure within 30 days after **Party B**'s notice;

   (3) **Party C** changes the purpose of the **Premises** without **Party B**'s consent and fails to cure within 30 days after **Party B**'s notice;

   (4) **Party C** dismantles, changes or damages the main structure of the **Premises**, without **Party B**'s consent and fails to cure within 30 days after **Party B**'s notice;

(5) **Party C** seriously violates Clause 11.2 of Appendix 1 of the Contract and fails to cure within 30 days after **Party B**'s notice;

(6) **Party C** seriously violates the regulations of the Park as set out in the Appendix 7 to the **Contract**, and fails to cure within 30 days after **Party B**'s notice.

3. In the event of termination of **Party C's** clinical trial program, **Party C** shall be entitled to terminate the **Contract** by providing a notice 6 months in advance to **Party B** during which time **Party B** is allowed to market the space immediately. (This Clause is a supplement to Clause 15.3 of the updated **General Terms** as replaced by Clause 13.1 hereof)

XIV. Fire Code Permit

Party C shall have the right to petition the local Fire Department to upgrade the Premises to a Fire Code Class C Permit. **Party B** shall assist **Party C** in obtaining the Fire Code Class C Permit as required. In the event that a Fire Code Class C Permit is not obtained for the **Premises** within 60 days of **Party C**'s request and **Party C** has not made any renovation or improvement to the **Premises** that would render the building not qualified for a Fire Code Class C Permit, **Party C** shall have the right to terminate the **Contract** immediately and **Party B** will have all prepaid rent and Deposit paid to date refunded to **Party C** within 30 days of the date of termination. (This clause is a supplement to Clause 20 of **General Terms** and shall constitute a new Clause 20.9 of the **General Terms**)

XV. Insurance

1. Prior to the execution date of the **Contract** and this **Supplemental Agreement**, **Party B** will purchase sufficient insurance policies against any loss incurred in connection with the **Premises** and facilities and equipments furnished by **Party B** and maintain such insurance policy valid during the **Term**. The photocopies of the insurance policies will be made available to **Party C** before the execution date of the **Contract** and this **Supplemental Agreement** and annually thereafter.

2. Notwithstanding anything to the contrary provided in the **Contract** or **General Terms**, if the **Premises** are damaged and **Party B** receives any insurance proceed from an insurer, **Party B** shall repair the **Premises** as soon as practical and ensure that the repaired **Premises** are able to meet the **Delivery Conditions** prescribed in Clause 4.3 of this **Supplementary Agreement**, unless such damage to the **Premises** is caused by **Party C.** If the damage to the **Premises** is not repairable, **Party B** shall, on the same terms of the **Contract**, lease an alternative premise, which is acceptable to **Party C**, to **Party C** within 30 days after damage to the **Premise** occurs.

XVI. Liabilities for Breach

The **Parties** agree to delete "If failure of payment continues for more than thirty (30) (including) calendar days, **Party B** is entitled to terminate this **Contract**" from Clause 16.2 of the **General Terms.**

XVII. Governing Law and Dispute Resolution

The execution, effect, construction, and performance of and any dispute arising out of and related to this **Contract** and this **Supplementary Agreement** shall be governed by PRC law. Any issues, disputes, and disagreement between the **Parties** arising out of the execution and performance of this **Contract** and this **Supplementary Agreement** shall be firstly resolved through consultation. If no agreement can be reached upon consultation within thirty (30) days, such dispute shall be brought to China International Economic and Trade Arbitration Commission ("**CIETAC**") for final arbitration by one (1) arbitrator in Beijing according to the then-effect arbitration rules of **CIETAC**. The **Parties** shall jointly appoint or delegate the Chairman of **CIETAC** to appoint the arbitrator from the Panel of Arbitrators provided by **CIETAC**. Where the **Parties** fail to agree on the appointment of the arbitrator within 20 days after the date of the Respondent's receipt of the Notice of Arbitration the arbitrator shall be appointed by the Chairman of **CIETAC**. Any arbitration award shall be final, binding to the **Parties**, and enforceable according to the provisions of the arbitration rules. (This Clause is a replacement of Clause 19 of the **General Terms**.)

XVIII. Deleted Terms

Clause 11.6 regarding "**Party C** shall abide by the regulations regarding the management of the environmental noise for residential areas", Clause 16.3 regarding "**Party B** may early withdraw the **Premises** if notifies **Party C** thirty (30) days in advance", Clause 16.4 regarding "**Party C** may cease to lease the **Premises** if notifies **Party B** thirty (30) days in advance" in the **General Terms** shall be deleted.

XIX. Effectiveness of this Supplementary Agreement

1. Unless otherwise defined herein, all terms in this **Supplementary Agreement** (including preface) shall have the meaning ascribed to them in the **Contract** and the Appendix 1-**General Terms**. If there is any discrepancy between this **Supplementary Agreement** and the documents constituting the lease specified in Clause 7 of the **Contract**, this **Supplementary Agreement** shall prevail. For any matters not provided in this **Supplemental Agreement**, the provisions of the **Contract** and the **General Terms** will prevail.

2. This **Supplementary Agreement** shall take effect upon that the signature of the legal representatives or the authorized representatives of the **Parties** and company seals are affixed to this **Supplementary Agreement**.

SIGNATURE:

Party A: (seal) Beijing Economic Technology Investment Development Parent Company

Party B: (Seal)

Beijing BDA International Biological Pharmaceutical Investment Management Co., Ltd.

Legal Representative: /s/ Yin Xijie (Signature)

Legal Representative: Yin Xijie

Date: January 30, 2013

Party C: (Seal)

Beijing FibroGen Medical Technology Development Co., Ltd.

Legal Representative: /s/ Thomas B. Neff (Signature)

Legal Representative: Thomas B. Neff (Print)

Date: January 30, 2013

Appendix A - Specifications of the Premises

1 The Premises to be rented is a five storey building above ground which will be used for office and laboratory purpose.

2 This building is comprised by frame structure. Structure seismic grade: frame: second grade, shear wall: first grade, second basement wall column: third grade.

3 Floor slab is made of cast-in-place reinforced concrete.

4 Due to the difference of China's architectural design standards, vibration standard is not taken into the structure design of this building.

5 The distance between the floors of 1F to 4F is 4.5m. The distance between the floors of 5F is 5.5m.

6 The designed floor slab load of this building is: working floor surface: 4.0KN/m^2, bathroom floor surface 2.5KN/m^2, air conditioning plant room floor surface 7.0KN/m^2.

7 The load of flat roof: accessible flat roof 2.0KN/m^2.

8 The land type of this building is industrial use pursuant to the State Owned Land Use Right Certificate and the Construction Land Planning Permit. The property type column in the Property Ownership Certificate is blank and one of the planned utility is defined as enterprise use.

9 The specifications and standards adopted in the design of this building are all current in force national GB series construction industry standards.

10 The out wall of this building is local glass curtain wall (6+12+6 insulating glass broken bridge aluminum alloy windows), local aerated concrete masonry and dry handing plate of ceramic curtain wall.

11 The entrance door of this building is insulation glass vertical hinged door (6+12+6 insulating glass broken bridge aluminum alloy door).

12 All of the outside and roof balcony door are insulation glass doors and windows (6+12+6 insulating glass broken bridge aluminum alloy doors and windows).

13 The parapet wall on the roof is aerated concrete masonry with construction columns.

14 The elevator hoistways, elevator lifts and staircase partition wall are all made of aerated concrete masonry with fire resisting grade.

15 Staircases are located at the two ends of the building and are made of cast-in-place reinforced concrete stairs.

16 The fresh air units are installed in an equipment room adjacent to the terrace of 5F. The air cooling units are installed to a concrete equipment base on the roof of the elevator machine room and the equipments are independently controlled by each of the independent building.

17 The flat roof uses double SBS polymer modified asphalt waterproofing materials with ceramist concrete sloping layer and ground tile.

18 The inner building elevators are furnished with stainless steel door case and door.

19 The automatic fire hydrant system and sprinkler are satisfactory to the fire hydrant grade requirements.

20 The fire alarm system and equipment are connected by the vertical shaft for light current at one end of the building with the central control room of the park.

21 The inlet wire of the park's power supply system is 10 KV which will supply electricity (400v) to the building through the transformer of the transforming satiation, distribution box and respective distribution system of the park.

22 Each floor is equipped with emergency illumination and evacuation indicator.

DATE

NAME
ADDRESS
ADDRESS

Dear NAME,

FibroGen, Inc. is pleased to offer you the position of TITLE in our DEPT department reporting to NAME, TITLE. We are very excited about the possibility of you joining our team, and we look forward to the prospect of working with you in our innovative company! The following outlines the specific terms of our offer:

- Your salary will be $X,XXX per month, less taxes and standard deductions as required by law. Paid bimonthly, this figure will annualize to $X,XXX.
- You will be paid an employment bonus of $X,XXX, less taxes and standard deductions
- You will also be eligible to participate in the FibroGen Incentive Compensation Plan.
- Pending any necessary approvals, including those of the Company's Board of Directors and Stockholders, and in compliance with applicable laws and regulations, we plan to offer you an option to purchase X,XXX shares of common stock of FibroGen, pursuant to the terms and conditions of the Company's 2005 Stock Plan, and may be amended or modified from time to time.
- You will be eligible for certain FibroGen employee benefits, which will include medical, vision and dental health insurance. Additionally, we offer a 401(k) plan, which provides you with the opportunity for pre-tax long-term savings by deferring from 1-60% of your annual salary, subject to certain maximums. These benefits may be modified or terminated from time to time, and a benefit summary has been included with this letter. More detailed information regarding your benefits will be provided at your New Employee Orientation, shortly after you begin employment.
- As a full-time employee, you will receive fifteen (15) days of paid vacation each year, which will accrue at the rate of 1.25 days per month beginning from your first day of employment at FibroGen.
- You will abide by FibroGen's strict company policy that prohibits any new employee from using or bringing with them from any prior employer any proprietary information, trade secrets, proprietary materials or processes of such former employers. Moreover, because the Company's proprietary information is extremely important, this offer is expressly subject to your executing the enclosed Confidential Information, Secrecy and Invention Agreement for Employees. You also agree to follow all other rules and policies that the Company may announce from time to time.
- You will also be required to sign the Employment Eligibility Verification (Form I-9). (You will need to complete and return Section One of the I-9 form along with your signed offer letter). On your first day of employment, please bring the necessary documents that establish your identity and employment eligibility. Acceptable documents are listed on the reverse side of the I-9 form. Such documentation must be provided to us within three (3) business days of your date of hire, or our employment relationship with you may be terminated.

- You should be aware that your employment with the Company is for no specified period and constitutes “at-will” employment. As a result, you are free to resign at any time, for any reason, with or without cause or notice. Similarly, the Company is free to conclude its employment with you at any time. The changing needs of the Company could also result in changes to certain aspects of your employment, such as compensation, responsibilities, location, etc. These provisions expressly supersede any previous representations, oral or written. Your at-will employment cannot be modified or amended except by written agreement signed by both you and the President of the Company.
- Any dispute or claim, including all contract, tort, discrimination and other statutory claims, arising under or relating to your employment or termination of your employment with the Company but excepting claims under applicable workers’ compensation law and unemployment insurance claims (“arbitrable claims”) alleged against the Company and/or its agents shall be resolved by arbitration. However, you and the Company agree that this arbitration provision shall not apply to any disputes or claims relating to or arising out of the misuse or misappropriation of the Company’s trade secrets. Such arbitration shall be final and binding on the parties and shall be the exclusive remedy for arbitrable claims. You and the Company hereby waive any rights each may have to a jury trial in regard to the arbitrable claims. Arbitration shall be conducted by the American Arbitration Association in San Francisco (or other mutually agreed upon city) under the National Rules for the Resolution of Employment Disputes. In any arbitration, the burden of proof shall be allocated as provided by applicable law. The Company agrees to pay the fees and costs of the arbitrator. However, the arbitrator shall have the same authority as a court to award equitable relief, damages, costs, and fees (excluding the costs and fees for the arbitrator) as provided by law for the particular claims asserted.
- This offer of employment is made contingent upon successful completion of FibroGen, Inc.’s background check. This includes verification of the information provided online and your employment application. If necessary, you will be contacted to resolve any discrepancies in the verification of information. Whether you have successfully “passed” the background check is solely within FibroGen’s discretion. Your employment hire date will be determined after the completion of the background check process and your signed acceptance of this offer.

Unless otherwise notified by the Company, this offer of employment is effective for 3 business days from the date of this letter. There are two originals of this letter enclosed. If all of the foregoing is satisfactory, please sign and date each original and return one to me within five business days in the enclosed envelope, saving the other original for yourself. Please also complete the following enclosed forms and mail them back with your signed offer letter:

- I-9 Form
- Confidential Information, Secrecy and Invention Agreement
- FibroGen Employment Application

NAME, we look forward to your joining our team at FibroGen.

Sincerely,

_____
Joni L. Lewis
Associate Director, Human Resources

ACCEPTED AND AGREED TO this

_____Day of _____, 2014

_____
NAME

_____
Intended Start Date

Enclosures:
Benefits Summary
Duplicate Letter
Return Envelope
Employment Eligibility Verification (I-9) Form
Confidential Information, Secrecy and Invention Agreement
FibroGen Employment Application

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Exhibit 10.11

COLLABORATION AGREEMENT

BY AND BETWEEN

ASTELLAS PHARMA INC.

AND

FIBROGEN, INC.

June 1, 2005

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COLLABORATION AGREEMENT

This COLLABORATION AGREEMENT ("Agreement"), effective as of June 1, 2005 (the "Effective Date"), is made by and between FibroGen, Inc., a Delaware corporation having offices at 225 Gateway Boulevard, South San Francisco, California 94080 ("FG" or "FibroGen"), and Astellas Pharma Inc., a Japanese corporation having offices at 3-11 Nihonbashi-Honcho, 2-Chome, Chuo-ku, Tokyo, 103-8411 Japan ("Astellas").

BACKGROUND

A. FG has a research and development program focused on the development of small molecule prolyl hydroxylase inhibitors which stabilize hypoxia inducible factor ("HIF"), for the treatment of anemia.

B. Astellas desires to collaborate with FG on the development and commercialization of, and license the rights to use as therapeutics, certain small molecule prolyl hydroxylase inhibitors on the terms and conditions set forth below for use in the Astellas Territory (as defined below).

NOW THEREFORE, for and in consideration of the covenants, conditions, and undertakings hereinafter set forth, it is agreed by and between the parties as follows:

ARTICLE 1
DEFINITIONS

1.1 "Actions" shall have the meaning as set forth in Section 14.3 below.

1.2 "Affiliate" shall mean any entity which controls, is controlled by or is under common control with Astellas or FG. For purposes of this definition only, "control" shall mean beneficial ownership (direct or indirect) of at least fifty percent (50%) of the shares of the subject entity entitled to vote in the election of directors (or, in the case of an entity that is not a corporation, for the election of the corresponding managing authority).

1.3 "Astellas Indemnitees" shall have the meaning as set forth in Section 17.3 below.

1.4 "Astellas Territory" shall mean the country of Japan.

1.5 "Authorized Designee" shall mean an officer of FG or Astellas, as the case may be, designated by the Chief Executive Officer of the respective corporation, that has been granted full authority to resolve a dispute arising between FG and Astellas as required under Section 2.4 or Section 19.1 hereof.

1.6 "Bridging Strategy" shall mean the decision by Astellas to file an MAA in the Astellas Territory by submitting the data from the Phase III clinical trial of FG or its Affiliate or Sublicensee.

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1.7 "Bulk Product" shall mean a Lead Compound supplied by FG to Astellas as a bulk formulated drug (such as in a form, including, but not limited, to a capsule, tablet or caplet formulation) without packaging.

1.8 "Commercialize" shall mean directly or indirectly develop, manufacture, sell, market or distribute.

1.9 "Completion" shall be deemed to occur, with respect to a particular clinical trial for a Lead Compound, upon clinical database lock for such trial.

1.10 "Confidential Information" shall have the meaning as set forth in Section 16.1 below.

1.11 "Control" or "Controlled" shall mean possession of the ability to grant a license or sublicense as provided for herein without violating the terms of an agreement with a third party.

1.12 "Controlling Party" shall have the meaning as set forth in Section 14.3 below.

1.13 "Data" shall have the meaning as set forth in Section 7.1 below.

1.14 "Delivery" or "Delivered" shall mean when Lead Compound is made available by FG to Astellas at the Ex Works location.

1.15 "Development Plan" shall mean the plan for the Development Program in effect from time to time, as established in accordance with Article 3 below.

1.16 "Development Program" shall mean all Astellas activities with respect to the development and commercialization of Lead Compounds for applications within the Field in the Astellas Territory, in accordance with the Development Plan in effect at that time.

1.17 "Enforcement Action" shall have the meaning as set forth in Section 14.4 below.

1.18 "Event" shall have the meaning as set forth in Article 6 below.

1.19 "Expanded Field" shall mean the treatment of any indications in which therapeutic utility is derived from **[*]**, including, without limitation, **[*]**. The Expanded Field shall not include the Field.

1.20 "Expenses" shall have the meaning as set forth in Section 14.3 below.

1.21 "FDA" shall mean the U.S. Food and Drug Administration, or any successor agency.

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1.22 "FG Acquired Patents" shall mean those FG Patents that are in-licensed or otherwise acquired by FG.

1.23 "FG Development Program" shall mean those activities by or on behalf of FG directly related to the development and commercialization of Lead Compounds for applications within the Field in the FG Territory that are directly useful or necessary for Commercialization in the Astellas Territory.

1.24 "FG Indemnitees" shall have the meaning as set forth in Section 17.2 below.

1.25 "FG Technology" shall mean FG Patents and FG Technical Information.

1.26 "FG Patents" shall mean all patents including all reissues, renewals, re-examinations and extensions thereof, and any patent applications therefor, including all divisionals or continuations, in whole or in part, thereof, which claim or otherwise cover the composition, manufacture, sale or use of a Lead Compound and that are Controlled by FG or its Affiliates during the term of this Agreement, subject to Section 14.5.1. For purposes of this definition, a patent or patent application shall be deemed to "cover" a Lead Compound if the manufacture, use or sale of such Lead Compound would, but for the license granted herein, infringe, contributorily infringe or constitute inducement to infringement of such patent or patent application, if issued or granted as pending. All patents and patent applications listed on Exhibit A, as revised from time to time to remove patents and/or patent applications by mutual agreement or to add patents and/or patent applications by FG, shall be within the scope of definition of the FG Patents, provided, however, that in the event FG designates any additional Lead Compounds, FG shall add to the list on Exhibit A patents and patent applications which claim or otherwise cover the composition, or manufacture, sale or use of the additional Lead Compounds within the Field and the Astellas Territory, and upon the cessation of the designation as any compound as Lead Compound and Astellas' cessation of development of such Lead Compound, FG shall remove at its sole discretion the related patent or patent application from Exhibit A.

1.27 "FG Technical Information" shall mean confidential information, tangible and intangible, and materials, including, but not limited to: trade secrets and know how, pharmaceutical, chemical, biological and biochemical compositions; and technical and non-technical data and information, and/or the results of tests, assays, methods and processes; and plans, specifications and/or other documents containing said information and data; in each case that is possessed by FG as of the Effective Date or discovered, developed or Controlled by FG or its Affiliates during the term of this Agreement, to the extent such relates to the development, manufacture, sale or use of a Lead Compound subject to Section 14.5.1, and such information related to a candidate for use as a Lead Compound provided by FG to Astellas in connection with the Lead Compound selection decision consultation process described in Section 4.3.

1.28 "FG Territory" shall mean all areas of the world outside of the Astellas Territory.

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1.29 "Field" shall mean the treatment of anemia solely in the Indications, by means of the stabilization of HIF causing the stimulation of erythropoiesis (including an increase in endogenous erythropoietin production) and/or a subsequent increase in hematocrit through modulation of prolyl hydroxylase and/or asparaginyl hydroxylase. For purposes of clarity, FG and Astellas agree and acknowledge that the Field and the Indications exclude **[*]**.

1.30 "First Commercial Sale" shall mean, with respect to each Lead Compound, the first bona fide commercial sale of such Lead Compound to a non-Affiliate third party by or under authority of Astellas or FG, or their Affiliates or Sublicensees, as the case may be, in the FG Territory or the Astellas Territory, respectively.

1.31 "Force Majeure Event" shall mean the occurrence of any event causing a failure to perform where failure to perform is beyond the reasonable control of the non-performing party, as described in Section 20.3.

1.32 "Fully Burdened Costs" with respect to a Lead Compound shall mean all costs to produce, package and distribute the product to Astellas or its carrier at the Ex Works location (in compliance with Section 12.6) and any royalties or other consideration (not reimbursed by Astellas) paid to third parties related to the acquisition or sale of product, with costs to produce and package the product to include the direct material, labor and indirect costs that are incurred by FG or its Affiliate(s) associated with the manufacture, filling, packaging, labeling, preparation of product for shipment and/or other preparation of such Lead Compound, as applicable, including, but not limited to taxes, fees, and customs incurred, as applicable. Costs will be determined in accordance with U.S. Generally Accepted Accounting Principles (U.S. GAAP) and will include but not be limited to the costs of facilities, labor, purchasing, depreciation of equipment, materials, payments to third parties for any necessary contract work related to the manufacture or testing of the product, the validation studies, quality assurance, quality control and other testing, storage, shipping (if requested by Astellas), costs related to distribution and a reasonable allocation of general and administrative overhead. Costs related to distribution include the labor, materials and overhead necessary to prepare and package the final product for shipment to the Ex Works location.

1.33 "Future Third Party Intellectual Property" shall mean any intellectual property rights, including without limitation all patents, trademarks, or copyrights, and any applications therefor, including any applications for registration, issuance, or grant thereof, owned or Controlled by a third party that are necessary for the practice of the license granted hereunder that were not owned or Controlled by FG as of the Effective Date and that do not qualify as Pre-existing Third Party Intellectual Property under Section 1.56.

1.34 "GMP Guidelines" shall mean then-current applicable Good Manufacturing Practices guidelines and regulations of the FDA.

1.35 "**[*]**" shall have the meaning as set forth in Section 1.36 below.

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1.36 "**[*]** Percentage" shall be determined, for any Lead Compound, (i) by dividing (a) the **[*]**, which shall be defined as the difference between (x) the **[*]**, and (y) the **[*]**, by (b) the **[*]**; and (ii) multiplying the result of (i) above by 100.

1.37 "HIF" shall mean hypoxia inducible factor.

1.38 "IND" shall mean an Investigational New Drug application, as defined in the U.S. Federal Food, Drug and Cosmetic Act and the regulations promulgated thereunder, or comparable filing in a foreign jurisdiction, in each case with respect to a Lead Compound for use within the Field.

1.39 "Indemnitee" shall have the meaning as set forth in Section 17.4 below.

1.40 "Indemnitor" shall have the meaning as set forth in Section 17.4 below.

1.41 "Indications" shall mean those indications listed on Exhibit B and any other indications to be agreed upon hereafter between FG and Astellas, each of which shall be referred to as an Indication.

1.42 "Initial Development Plan" shall mean the Initial Development Plan as described in Section 3.2.1 hereof.

1.43 "Initiate" or Initiation" shall mean with respect to a particular clinical trial for a Lead Compound, the initial dosing of the first patient in such trial in accordance with the protocol therefor.

1.44 "Inspected Party" and "Inspecting Party" shall have the meanings as set forth in Section 10.5 below.

1.45 "Joint Development Committee" or "JDC" shall have the meaning as set forth in Section 2.1 below.

1.46 "Lead Compound" shall mean any compound Controlled by FG that is designated by FG as a lead compound for clinical development in an Indication in accordance with Section 4.3 for the duration of such designation. Any Lead Compound which receives a Marketing Approval in the Astellas Territory shall remain a Lead Compound for the duration of such Marketing Approval. As of the Effective Date, FG-2216 shall be deemed to be a Lead Compound.

1.47 "Listed Price" shall have the meaning as set forth in Section 9.2.

1.48 "Litigation Agreement" shall have the meaning as set forth in Section 14.4 below.

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1.49 "Major Indication" shall have the meaning set forth in Section 11.3.1 below.

1.50 "Marketing Approval" shall mean, with respect to each Lead Compound, approval in the Astellas Territory by the Japanese Ministry of Health, Labour and Welfare, or in the FG Territory by U.S. or European regulatory authorities, as the case may be, to market such Lead Compound for an indication within the Field. It is understood that pricing or reimbursement approval shall constitute a part of the Marketing Approval. In any event, Marketing Approval shall be deemed to have occurred with respect to a Lead Compound no later than the date of the First Commercial Sale of such Lead Compound in the FG Territory or the Astellas Territory as the case may be, by or under authority of FG or Astellas respectively, or their Affiliate or Sublicensee, as the case may be, whether or not formal approval by the relevant health regulatory authority is required for the First Commercial Sale of such Lead Compound.

1.51 "Marketing Approval Application" or "MAA" shall mean, within the FG Territory, a New Drug Application or similar application as required under the U.S. Federal Food, Drug and Cosmetics Act and the regulations promulgated thereunder, or such similar filing in Europe, or a comparable filing for Marketing Approval in the Astellas Territory, in each case with respect to a Lead Compound for use within the Field.

1.52 "Net Sales" shall mean the gross amount billed or invoiced by Astellas, its Affiliates and its Sublicensees to unaffiliated third parties for the Lead Compound(s) in bona fide arm's length transaction, less the following deductions:

i) credits or allowances, if any, given or made on account of rejection or return of the Lead Compound(s);

ii) trade and quantity discounts actually allowed and taken in such amounts as are customary in the trade;

iii) duties, sales taxes, excise taxes, insurance and transportation charges actually paid; and

iv) charge back payments or rebates actually paid to wholesalers.

1.53 "Phase I" shall mean human clinical trials, the principal purpose of which is preliminary determination of safety in healthy individuals or patients as required in 21 C.F.R. §312.21, or similar clinical study in a country other than the United States, and for which there are no primary endpoints relating to efficacy included in the protocol.

1.54 "Phase II" shall mean human clinical trials, for which the primary endpoints include a determination of dose ranges and/or a preliminary determination of efficacy in patients with the Indication being studied as required in 21 C.F.R. §312.21, or similar clinical study in a country other than the United States.

1.55 "Phase III" shall mean human clinical trials, the principal purpose of which is to establish safety and efficacy of one or more particular doses in patients with the Indication being studied as required in 21 C.F.R. §312.21, or similar clinical study in a country

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other than the United States. For purposes of this Section 1.55, and Sections 1.53 and 1.54 above, a particular trial that (i) is intended to overlap two phases of trials, (ii) combines the elements of two phases of trials, or (iii) is treated by the FDA or comparable foreign agency as two phases of trials, such as a Phase I/II trial or a Phase II/III trial, shall be deemed a trial of the later, as well as the earlier, phase (*i.e.*, a Phase II and a Phase III, respectively).

1.56 "Product Specification" shall mean, with respect to a Bulk Product, the written document describing, the testing procedures and results required to determine compliance with release specifications, including, and quality control testing procedures to be determined, and be amended from time to time, by mutual agreement of both parties. The release specifications of such Product Specifications shall be determined taking into account and shall be designed to meet the shelf life requirements of the Japanese Ministry of Health, Labor and Welfare for the Lead Compound, provided, that the Product Specifications shall not require compliance with such shelf life requirements.

1.57 "Preexisting Third Party Intellectual Property" shall mean any intellectual property rights, including without limitation all patents, trademarks, copyrights, and any applications therefor, including any applications for registration, issuance, or grant thereof, owned or Controlled by a third party that are necessary for the practice of the license granted hereunder and that the existence of which was discoverable or otherwise could have been known on or prior to the Effective Date and were not owned or Controlled by FG as of the Effective Date.

1.58 "Proof of Concept" shall mean for any Indication, a demonstration of correction of anemia in relevant patients in a human clinical study.

1.59 "Prosecution and Interference Activities" shall mean the preparation, filing, prosecution and maintenance of patent applications and patents and any continuing applications thereof, and any re-examinations, reissues, renewals and requests for patent term extensions therefor, and any U.S., international or foreign counterparts of any of the foregoing, together with the conduct of any interference, opposition or other similar proceeding pertaining to patent applications or patents.

1.60 "Protected Field" shall have the meaning as set forth in Section 14.1.

1.61 "Reference Materials" shall have the meaning as set forth in Section 12.12 below.

1.62 "Relevant Standards" shall have the meaning as set forth in Section 12.8 below.

1.63 "Sales Price" shall mean the price per unit obtained by dividing the Net Sales during the relevant calendar quarter by the number of units sold during the same period.

1.64 "Standard Materials" shall have the meaning as set forth in Section 12.12 below.

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1.65 "Sublicensee" shall mean a third party to whom FG or Astellas has directly or indirectly granted the right in its respective territory to make, use and sell a Lead Compound or a third party to whom FG or Astellas has directly or indirectly granted the right to distribute a Lead Compound supplied by FG or Astellas (respectively). For purposes of this Agreement, FG and Astellas shall not be deemed Sublicensees of the other.

1.66 "Technical Product Failure" shall mean as a **[*]**, which is not attributed to Astellas' failure to fulfill its obligations hereunder.

1.67 "Third Party Agreements" shall mean collectively those agreements between FG and a third party existing as of the Effective Date, pursuant to which FG obtained rights applicable to the development, manufacture, sale or use of Lead Compounds hereunder (but excluding options or similar agreements to acquire such rights). If, after the Effective Date, FG enters into an agreement to license or acquire rights from a third party with respect to subject matter to be utilized in connection with Lead Compounds in accordance with Section 14.5 below, such agreements shall also be deemed Third Party Agreements for purposes of this Agreement.

1.68 "Third Party Licensor" shall have the meaning as set forth in Section 14.5.1 below.

ARTICLE 2
JOINT DEVELOPMENT COMMITTEE

2.1 Joint Development Committee. Astellas and FG shall establish a joint development committee to oversee, review and coordinate the research and development of Lead Compounds for applications within the Field pursuant to the Development Program ("Joint Development Committee" or "JDC"). From time to time, the JDC may establish subcommittees or project teams to oversee particular projects or activities, and such subcommittees or project teams will be constituted as the JDC agrees (*e.g.*, for oversight of the development or other day-to-day matters).

2.2 Membership. The JDC shall be comprised of an equal number of representatives from each of Astellas and FG, selected by such party. The exact number of such representatives shall be **[*]** for each of Astellas and FG, or such other number as the parties may agree. Subject to the foregoing provisions of this Section 2.2, FG and Astellas may replace its respective JDC representatives at any time, upon prior written notice to the other party.

2.3 JDC Meetings. The JDC shall meet no fewer than **[*]** times each calendar year, or as otherwise agreed by the parties, with the understanding that **[*]** meetings are to be held at mutually agreed locations alternating among Japan, California, Hawaii, or at such other locations as the parties agree, and the other **[*]** meetings are to be held by means of telecommunication, videoconference or correspondence as deemed appropriate. The parties shall conduct team meetings at the same time and location as the JDC meetings. At its meetings, the JDC will, as applicable, (i) formulate and review the Development Program objectives, including approval of all proposed pre-clinical and clinical studies to be performed, (ii) monitor the progress of the Development Program toward those objectives, (iii) review and approve the

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Development Plan, pursuant to Section 3.3 of this Agreement, including review, approve and monitor the progress of the clinical and regulatory plans, (iv) resolve issues surrounding the marketing of the Lead Compounds, (v) discuss the selection of Lead Compounds, (vi) coordinate manufacturing issues, including the development of standards, scheduling of batch production, and qualification with regulatory requirements for the Astellas Territory, (vii) resolve issues arising out of the Development Program or this Agreement, and (viii) undertake and/or approve such other matters as are specifically provided for the JDC under this Agreement. One meeting each year will be focused specifically on setting Development Program goals and strategy. Other representatives of FG or Astellas may attend JDC or subcommittee meetings as non-voting observers. Astellas' lead representative shall chair the meetings and shall be responsible for preparing the agenda and minutes for such meetings, and shall provide such minutes to FG in English. Such minutes as approved by the JDC shall constitute the official record of the actions of the JDC. The JDC may also convene or be polled or consulted from time to time by means of telecommunications, videoconferences or correspondence, as deemed necessary or appropriate. Each party shall bear its own personnel, travel and lodging expenses relating to JDC meetings.

2.4 Decisions. Decisions of the JDC shall be made by unanimous agreement of the members present in person or by other means (*e.g.*, teleconference) at any meeting; provided that at least two (2) representatives of each party is present at such meeting. In the event that the JDC is unable to reach unanimous agreement on an issue, the issue shall be referred for resolution in accordance with Article 19 hereof.

ARTICLE 3
DEVELOPMENT PLANS

3.1 General. Subject to Section 3.2 below, Astellas shall prepare and propose to the JDC a detailed Development Plan pursuant to which the Development Program will be performed. The Development Plan shall specify the objectives and work plan activities by Astellas with respect to the Development Program.

3.2 Annual Review

3.2.1 Initial Development Plan. The initial Development Plan is attached hereto as Exhibit C (the "Initial Development Plan"), and shall be fixed for the period from the Effective Date through March 31, 2006, unless otherwise agreed by the JDC.

3.2.2 Other. Beginning upon the date of signing of this Agreement and by December 31 of each year thereafter until expiration or termination of this Agreement, Astellas shall submit to the JDC the proposed plan required under Section 3.1 above for the following fiscal year, including for regulatory activities within the Astellas Territory. The JDC shall review such proposals as soon as possible and shall approve the Development Plan for such following fiscal year, with such changes as the JDC may agree to the plan proposed by Astellas, no later than March 15 of the current fiscal year.

3.3 Periodic Reviews. The JDC shall review the Development Plan on an ongoing basis and may make changes thereto including variances to the Development Plan in effect.

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ARTICLE 4
DEVELOPMENT PROGRAM

4.1 Development Program for the Astellas Territory. Astellas shall follow FG's development activities for the Lead Compounds, (i.e., Astellas shall develop, and shall have the right and obligation to develop, only those compounds that FG has designated as Lead Compounds, for the duration of such designation and for which FG or its Sublicensee is pursuing clinical development in the FG Territory), for those Indications being developed by FG or its sublicensee, and such Astellas development shall comply with, without limitation the procedures set forth in Section 11.3.1. In fulfillment thereof, Astellas shall conduct, directly or through third parties, the Development Program for the Astellas Territory, all in accordance with the Development Plan then in effect, and shall be responsible for all costs related to the Astellas Territory. Astellas agrees to keep the JDC informed as to the progress of its activities under the Development Program for Lead Compounds hereunder. FG shall, subject to Section 4.2.2, provide reasonable assistance to Astellas regarding Astellas' performance of its development activities within the scope of the Development Program hereunder and provide updates to Astellas as to the FG Development Program. It is understood and agreed that the Development Program for the Astellas Territory shall include all clinical trials and other development activities necessary to obtain Marketing Approvals for Lead Compounds for the Astellas Territory.

4.2 Global Harmonization

4.2.1 Reporting; Redundant Activities. FG shall provide to Astellas regular reports with respect to the FG Development Program with respect to the Lead Compounds. Such reports may be provided at the JDC meetings provided for in Section 2.3. Recognizing that the Lead Compounds may be developed on a global basis and that regulatory and budget efficiencies can be achieved through the worldwide use of appropriate data and files, the parties will seek to design pre-clinical and clinical development activities included in the Development Plan in a manner to maximize global clinical and regulatory harmonization.

4.2.2 Additional Activities. Without limiting the obligations set forth in 4.2.1, the costs of any non-clinical or clinical developmental work, whether performed by Astellas or FG, to support needs specific to the Astellas Territory and not required to be performed for the FG Territory, or at the request of Astellas, shall be borne by Astellas.

4.3 Selection of Lead Compounds. FG shall consult with Astellas with respect to Lead Compound selection, and shall provide to Astellas information as reasonably necessary to evaluate Lead Compound candidates in connection with the Lead Compound selection process, including without limitation the information relating to patent situations in the Astellas Territory. For the avoidance of doubt, such Lead Compound candidates shall potentially include any and all compounds Controlled by FG during the term hereof for use in the Field. Notwithstanding anything contained in this Agreement, FG shall designate, at its sole discretion but in line with the basic policy that the same Lead Compound shall be Commercialized both in Astellas Territory and FG Territory for the same Indication(s), Lead Compound(s) in accordance with the terms of this Section 4.3, and shall notify the JDC of such designations. At any one time, FG may designate up to two (2) Lead Compounds for Commercialization in any Indication; provided, that in the event that FG designates two (2) Lead

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Compounds for Commercialization in an Indication, it shall designate one (1) as the primary Lead Compound and one (1) as the secondary Lead Compound. In the event FG determines to cease development of a primary Lead Compound in an Indication, FG may designate the secondary Lead Compound as the primary Lead Compound for such Indication. In the event, prior to Marketing Approval in the Astellas Territory, FG determines to stop development of a Lead Compound, FG shall notify the JDC, and upon such notification, such compound shall no longer be considered a Lead Compound; provided, however, that Astellas may complete those development activities on-going at the time of such notification for such Lead Compound for a reasonable period of time, unless such notification is based on safety concerns. In the event FG determines to **[*]**, FG shall **[*]** within **[*]** days of such **[*]**. In the event that FG **[*]**, Astellas may, subject to the **[*]**, **[*]**, provided, however, that the **[*]** shall apply upon the **[*]** set forth in such Sections, rather than the **[*]**.

4.4 Regulatory Matters

4.4.1 Regulatory Filing. FG shall be responsible, directly or through third parties, for the preparation, filing and maintenance of all regulatory documents in the FG Territory with respect to the Lead Compound(s), which shall be filed in the name of FG or its designee. Astellas shall be responsible for all preparation, filing and maintenance of all regulatory documents in the Astellas Territory with respect to the Lead Compound(s), which shall be filed in the name of Astellas. Astellas shall select and own the trademark(s) to be used to identify any Lead Compound in the Astellas Territory.

4.4.2 Reporting Adverse Experiences

(a) With respect to adverse drug experiences relating to any Lead Compound, the parties shall promptly report such experiences to the appropriate regulatory authorities in the countries in which such Lead Compound is being developed or commercialized, in accordance with the appropriate laws and regulations of the relevant countries and authorities, and each party shall ensure that its Affiliates and Sublicensees comply with such reporting obligations. In addition, in order that each party may be fully informed of these experiences, each party shall report to the other party all “adverse events” involving such Lead Compound. “Serious adverse events” for all fatal and life-threatening adverse events shall be reported to the designated safety contact person of the other party by e-mail within five (5) calendar days of a party’s and/or its agent’s becoming aware of such an event (a “reporting party”), and all other serious adverse events shall be forwarded to the other party within seven (7) calendar days of the reporting party’s and/or its agent’s becoming aware of such an event. To the extent legally possible, FG and Astellas shall report to the other all serious adverse events with respect to a Lead Compound in the Field at least twenty-four (24) hours prior to reporting the same to a regulatory authority, and shall report adverse events which may constitute a dose limiting toxicity in a reasonably prompt time after the occurrence of such event. The reporting party shall report all non-serious adverse events on a monthly basis; provided that, non-serious adverse event data arising from a clinical trial will be included in the clinical trial report which

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shall be prepared and sent to the other party as soon as practicable following completion of the final clinical report.

(b) An “adverse event” is any negative symptom experienced at the time of or after the taking of a medicinal (investigational) product, whether or not considered a medicinal (investigational) product related, including any side effects, injury, toxicity or sensitivity reaction, or significant failure of expected pharmacological action. Also included are instances of symptomatic overdose, abuse or withdrawal reactions.

(c) A “serious adverse event” includes any of the following outcomes: death, a life-threatening event; that is, an adverse event that puts the patient at risk of dying, requires hospitalization, prolongs existing hospitalization or results in persistent or significant incapacity or disability, congenital anomaly/birth defect. Other important medical events that may otherwise jeopardize a patient or may require intervention to prevent one of the statuses of patients listed in the preceding sentence shall also be considered serious.

(d) The parties also agree to develop and implement such other procedures as may be necessary or appropriate to ensure that each party remains in compliance with all reporting requirements imposed by any regulatory authority in the Astellas Territory, and in the FG Territory. Upon the Initiation of Phase III, FG shall implement and be responsible for the maintenance of a complete global safety database. FG will be responsible for preparing, with Astellas’ cooperation set forth below in this Section 4.4.2(d), Periodic Safety Reports for clinical studies requested by European and U.S. authorities, and Periodic Safety Update Reports (PSURs). FG shall send a draft PSUR for review to Astellas in the beginning of week 5 after database lock point. Astellas has one week for review. FG shall provide copies of the final PSURs to Astellas in the same timing as they are submitted to the authorities. Astellas will provide FG with the data needed for making the PSURs. Maintenance of Company Core Safety Information (CCSI) is under the responsibility of FG who will communicate all revisions to Astellas. FG shall prepare the periodic safety reports for clinical studies requested by European and U.S. authorities and provide Astellas with the copy of such reports at the time of submission to the regulatory authorities in the FG Territory. Astellas will provide FG with the data needed for making such periodic safety reports.

(e) Each party shall immediately inform the other party of measures taken in order not to jeopardize public health or hygiene including but not limited to, discontinuation of manufacture, import and marketing, clinical trial suspension, recall and disposal of the Lead Compound or the product or the prescription product, irrespective of whether it is due to regulatory actions or voluntary actions.

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(f) Both parties hereby nominate the safety contact persons as follows:

Medical Affairs Department
FibroGen, Inc.
225 Gateway Boulevard
San Francisco, California 94080
Attn: Vice President, Medical Affairs
Tel: 1-650-866-7875
Fax: 1-650-866-7360
E-mail:dyeowell@fibrogen.com

With a copy to:
Chief Executive Officer
FibroGen, Inc.
225 Gateway Boulevard
San Francisco, California 94080
Tel: 1-650-866-7200
Fax: 1-650-866-7201
E-mail:tneff@fibrogen.com
Pharmacovigilance Department, QA, RA, and
Pharmacovigilance Division
Astellas Pharma Inc.
[*]

The safety contact persons for each party hereto may be updated from time to time as necessary upon notice to the other party.

ARTICLE 5
RECORDKEEPING; PUBLICATION

5.1 Reports and Records. Each of Astellas and FG shall use best efforts to maintain (or cause such records to be maintained) records of the Development Program and FG Development Program, respectively, in sufficient detail and in good scientific manner as will properly reflect all work done and results achieved in the performance of the Development Program or FG Development Program, as the case may be. Upon **[*]** days advance notice or such shorter time period as may be required in order to meet any regulatory requirements, each party shall allow the other party to have access to all records, materials and data generated by or on behalf of such party with respect to each Lead Compound for applications within the Field at reasonable times, in a reasonable manner and, upon request, to the extent required under Article 7 hereof.

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5.1.1 Retention. Each of Astellas and FG shall retain its records for the minimum period of time required by applicable law in all cases, and for not less than **[*]** following the expiration or termination of this Agreement.

5.1.2 Reports. Not less than **[*]** prior to each JDC meeting under Section 2.3 above, each of Astellas and FG shall provide the JDC with a written report in English; Astellas' report summarizing the progress of the Development Program, including the developmental, clinical and other activities performed by Astellas, its Affiliates and/or Sublicensees with respect to each Lead Compound during the preceding period; and FG's report summarizing the progress of the FG Development Program.

5.1.3 Activities Outside the Field. The parties understand and acknowledge that FG is engaged in other research and development activities directed to prolyl hydroxylase inhibition and/or the stabilization of HIF, and that the focus of this collaboration and the Development Program is directed to the Field. Accordingly, it is understood that, notwithstanding any other provision of this Agreement, the obligations of FG specified herein to make available and disclose to Astellas data, technical information, scientific results and findings and other subject matter is limited in each case to subject matter directed to Lead Compounds within the Field.

5.2 Review of Publications. As soon as is practicable prior to the oral public disclosure, and prior to the submission to any outside person for publication of scientific data resulting from the Development Program, in each case to the extent the contents of the oral disclosure or publication have not been previously disclosed pursuant to this Section 5.2 before such proposed disclosure, FG or Astellas, as the case may be, shall provide to the other party a copy of the publication, or a written summary of any oral disclosure, to be made or submitted, and shall allow the other party at least **[*]**, to determine whether such disclosure or publication contains subject matter for which patent protection should be sought prior to publication or which either party believes should be modified to avoid disclosure of Confidential Information or regulatory or other issues. With respect to publications by investigators or other third parties of scientific data resulting from the Development Program, such disclosures and publications shall also be subject to review by the reviewing party under this Section 5.2.

5.2.1 Publication Rights. Subject to the provisions of Articles 7 and 16, after the expiration of **[*]** from the date of receipt of such disclosure or publication, unless the authoring party has received the written notice specified below, the authoring party shall be free to submit such publication or to orally disclose or publish the disclosed research results in any manner consistent with academic standards.

5.2.2 Disapproval of Publication. Prior to the expiration of the **[*]** period specified in Section 5.2.1 above, the reviewing party may notify in writing the submitting party of its determination that such oral presentation or publication contains Confidential Information of the reviewing party or objectionable material or material that consists of patentable subject matter of the reviewing party for which patent protection should be sought. In such event, and unless otherwise mutually agreed, the submitting party shall withhold publication of its disclosure.

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ARTICLE 6
DEVELOPMENT PROGRAM FUNDING

6.1 Payments for Reimbursement; Net Payments. FG hereby acknowledges receipt of U.S. $**[*]** on February 13, 2004, U.S. $**[*]** on January 28, 2005, and U.S. $**[*]** on March 22, 2005 as initial payments for reimbursement of historical research and development expenditures for the Lead Compounds. Astellas agrees to pay to FG the amounts set forth in Section 6.1.1 below. The parties hereto acknowledge that the Development Program hereunder involves a high degree of risk and uncertainty; accordingly, both parties hereto expressly disclaim any implied warranty as to the results of the Development Program.

6.1.1 Reimbursement Payments. As reimbursement and payment for FG's historical research and development expenditures with respect to pre-clinical and clinical development of Lead Compounds, Astellas agrees to make the following non-refundable, non-creditable (except as set forth in Section 14.3 below) reimbursement payments to FG upon the first occurrence of each event specified below (each, an "Event"):

	EVENT	AMOUNT
1.	Upon **[*]**, provided, that U.S. $**[*]** million of such amount shall be paid no later than **[*]** irrespective of whether the **[*]** has occurred.	U.S. $**[*]**
2.	Upon each of **[*]**, for a total of U.S. $**[*]**	U.S. $**[*]**
3.	Upon **[*]** or in the event that Astellas chooses to utilize the Bridging Strategy, the payment shall be made concurrent with the payment required in paragraph 4 of this Section 6.1.1 below.	U.S. $**[*]**
4.	Upon the first **[*]**.	U.S. $**[*]**

6.1.2 Product Approval Payments. As reimbursement and payment for FG's historical and ongoing research and development expenditures with respect to pre-clinical and clinical development of Lead Compounds and as payment for the successful marketing and sales of Lead Compound(s), Astellas agrees to make the following non-refundable, non-creditable (except as set forth in Section 14.3 below) reimbursement payments to FG upon the first occurrence of each Event (other than paragraph 5 of this Section 6.1.2 below) specified below. Notwithstanding the foregoing, in the event that Astellas decides not to pursue Commercialization in **[*]** set forth in paragraph 3 or 4 of this Section 6.1.2, the milestone payment associated with the **[*]** set forth in paragraph 3

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shall be due and payable upon the first **[*]** of either **[*]**, and the milestone payment associated with the **[*]** set forth in paragraph 4 shall be due and payable upon the second **[*]** for a **[*]**; and in the event Astellas decides to pursue only **[*]** set forth in paragraph 3 or 4 of this Section 6.1.2, and pursues Commercialization of either of the **[*]**, the milestone payment for associated with the **[*]** for the **[*]** shall be due and payable upon the first **[*]** for a **[*]**; and in the event that Astellas decides to pursue **[*]** set forth in paragraphs 3 and 4 of this Section 6.1.2 and also does not pursue **[*]**, the parties shall a **[*]** for which the milestone payments associated with the **[*]** set forth in paragraph(s) 3 and/or 4 of this Section 6.1.2, as the case may be, shall be due, as negotiated in good faith by the parties hereto.

	EVENT	AMOUNT
1.	Upon the first **[*]** for the **[*]**; provided, that in the event Astellas chooses the Bridging Strategy, such payment shall be increased by an additional U.S. $**[*]** for a total of U.S. $**[*]**	U.S. $**[*]**
2.	Upon the first **[*]** in the Astellas Territory for the **[*]**; provided, that in the event Astellas chooses the Bridging Strategy, such payment shall be increased by an additional U.S. $**[*]** for a total of U.S. $**[*]**.	U.S. $**[*]**
3.	Upon the first **[*]** in the Astellas Territory for the **[*]**; provided, that in the event Astellas chooses the Bridging Strategy, such payment shall be increased by an additional U.S. $**[*]** for a total of U.S. $**[*]**.	U.S. $**[*]**
4.	Upon the first **[*]** in the Astellas Territory for the first indication within **[*]** (see Exhibit B); provided, that in the event Astellas chooses the Bridging Strategy, such payment shall be increased by an additional U.S. $**[*]** for a total of U.S. $**[*]**.	U.S. $**[*]**

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5.	Upon **[*]** in the Astellas Territory for each of up to **[*]** indications listed on Exhibit B, including separate indications within **[*]** up to a total of U.S. $**[*]**.	U.S. $**[*]**

6.1.3 Sales Success Payments. As reimbursement and payment for FG's historical and ongoing research and development expenditures with respect to pre-clinical and clinical development of Lead Compounds and as payment for the successful marketing and sales of the Lead Compound(s), Astellas agrees to make the following non-refundable, non-creditable (except as set forth in Section 14.3 below) reimbursement payments to FG upon the first occurrence of the Event specified below.

EVENT	AMOUNT
Upon receipt of **[*]** aggregate annual Net Sales achieved for the first time in the Astellas Territory for all indications and Lead Compounds by Astellas and its Affiliates and Sublicensees.	U.S. **[*]**

If at the occurrence of an Event (except for Event 2) as set forth in Section 6.1.1 above with respect to a particular Lead Compound the payment corresponding to the occurrence of any preceding Event (except for Event 2) (*i.e.*, "previous" as contemplated by the Event number sequence specified above) has not been made, then the corresponding payment(s) for such preceding Event (except for Event 2) shall then be due.

The payments set forth in Sections 6.1.1, 6.1.2 and 6.1.3 hereof shall each be due and payable within **[*]** after occurrence of the corresponding Event. Astellas agrees to promptly notify FG in writing of its achievement of any Event under Sections 6.1.1, 6.1.2 and 6.1.3.

ARTICLE 7
USE OF PRECLINICAL AND CLINICAL DATA

7.1 Exchange. Subject to the provisions of this Article 7 and Article 16 below, the parties shall have access to the underlying preclinical and clinical data (including raw data thereof), analysis, reports, protocols and correspondence (collectively with such filings, "Data"), at reasonable times, upon fifteen (15) days advance notice or such shorter notice as may be required in order to meet any regulatory requirements and (upon request) in English, (it being understood and agreed that Astellas shall provide in English without cost to FG summaries of all final reports and all documents necessary to comply with regulatory and legal requirements, and

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shall provide all other documents in English with reasonable costs shared equally between the parties) of the other party in accordance with the following:

(a) FG shall have access to and the right to use for any purpose, any Data developed by or on behalf of Astellas or its Affiliates or Sublicensees in the course of the Development Program with respect to indications within the Field for Lead Compounds. Astellas shall obtain from such Sublicensees access to all Data prepared by or for such Sublicensee with respect to a Lead Compound, with the right to provide such Data and/or access to FG and its Sublicensees, and any sublicense failing to provide such obligation on the part of the Sublicensee shall be voidable at the option of FG.

(b) Astellas shall have access to and the right to use solely for the purpose of this Agreement, any Data developed by or on behalf of FG or its Affiliates or Sublicensees with respect to Lead Compounds in connection with the Field (i) to the extent necessary to support the application to the regulatory authority in the Astellas Territory or to fulfill other Japanese Ministry of Health, Labor and Welfare regulatory requirements, or (ii) if not necessary to support such application or to fulfill such Japanese Ministry of Health, Labor and Welfare regulatory requirements, to the extent FG is permitted subject to FG's third party obligations; provided that FG shall **[*]** negotiate the availability of such Data to Astellas from such Sublicensee, and provided, further, that Astellas agrees not to use or disclose to third parties any such data for purposes outside the Field except as authorized under this Agreement.

7.2 Disclosure. Subject to the provisions of this Section 7.2, FG and Astellas may each provide copies or summaries of Data to its Affiliates and/or its permitted Sublicensees to the extent reasonably necessary for the development and commercialization of Lead Compounds in accordance with this Agreement, or in the case of FG of products other than Lead Compounds. It is understood that the foregoing shall include the right to disclose Data to third parties with whom Astellas or FG are discussing entering into agreements for such permitted purposes, subject to reasonable conditions of confidentiality, provided, that Astellas may not disclose any Data to any third party competitor of FG within the Field worldwide without the prior written consent of FG.

7.3 Regulatory Requirements. Notwithstanding the provisions of Section 7.2, in all agreements with third parties or Affiliates involving the development of Data, FG and Astellas, respectively, shall require that such third parties and Affiliates provide the other party with all such Data, to the extent such Data is required in order for each party to meet its obligations to the other party under Section 4.4.2 above.

7.4 Review of Protocols. Astellas agrees that all final protocol summaries for all clinical trials and GLP toxicology studies to be conducted by or under authority of Astellas will be subject to the review and approval of the JDC, in accordance with the following procedures set forth in this Section 7.4. Astellas shall submit to FG and the JDC the original draft protocol summary in English for any clinical trial or GLP toxicology study it proposes to conduct, and such protocol summary shall be reviewed and approved by the JDC. The protocol summary shall contain all information as may be requested by the JDC. Upon Astellas' completion of the final protocol for the proposed clinical trial or GLP toxicology study, in the

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event that such protocol deviates from the original protocol summary, Astellas shall resubmit to FG and the JDC for review and approval a revised, final protocol summary that indicates all changes from the original protocol summary. Notwithstanding the foregoing, FG reserves the right to request and Astellas shall provide any portion of full text of the protocols in English for review by the JDC, which portion is at issue. In the event FG requests such a full text protocol, it shall review and provide comments to the JDC as soon as practicable, and within five (5) business days of receipt.

ARTICLE 8
MARKETING RIGHTS

8.1 Astellas. Astellas shall have the exclusive right to market, sell and distribute the Lead Compounds supplied by FG for use in the Astellas Territory within the Field under the license granted in Article 13. Astellas may exercise its rights under this Section 8.1 through one or more Sublicensees; provided, that any such Sublicensee agrees to terms identical in all material respects to those contained in this Agreement, and, provided, further, that any arrangement between Astellas and an Astellas Sublicensee with respect to a Lead Compound shall be subject to the requirements of Section 13.2.

8.2 FibroGen. FG shall have the exclusive right, including the right to authorize others, to market, sell and distribute the Lead Compounds for any use in the FG Territory. Subject to the restrictions contained in Section 8.3.4 hereof, FG retains the exclusive right, including the right to authorize others, to market, sell and distribute worldwide the Lead Compounds for use outside the Field.

8.3 Covenants

8.3.1 General. It is understood that, with respect to any particular Lead Compound, whether or not the use and sale of such Lead Compound by FG and/or Astellas in any country requires a license under intellectual property rights of the other, neither FG nor Astellas shall market, sell or distribute a Lead Compound anywhere in the world except in accordance with this Agreement, including this Article 8.

8.3.2 Independent Activities by Astellas. During the term of this Agreement, in the event Astellas seeks to Commercialize any molecules for the Field or the Expanded Field, except for actions taken within the Field in the course of the exercise of the license granted under Section 13.1 hereof and expressly authorized under this Agreement, Astellas shall notify FG immediately upon the commencement of any such activities, and provided that **[*]** such activities are and will be in the future conducted completely independently of any of FG Technology and/or any other FG materials, confidential information, intellectual property or other related information provided by or on behalf of FG to Astellas under this Agreement or any other agreement between FG and Astellas relating to the subject matter hereof, Astellas may proceed with such Commercialization, subject at all times to the obligations contained in this Agreement with respect to any intellectual property in connection with or related to such activities and FG's right to terminate this Agreement pursuant to Section 18.2.1 hereof.

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8.3.3 Use of FG Technology by Astellas. Astellas shall use the FG Technology only to exercise the rights granted under Section 13.1 of this Agreement and as expressly authorized under the Development Program, and shall not under any circumstances use or apply any FG Technology, including without limitation any FG know-how and/or any other FG materials, confidential information, intellectual property or other related information provided by FG to Astellas under this Agreement or any other agreement between FG and Astellas relating to the subject matter hereof, for any use outside the Field at any time or within the Field after the expiration or termination of this Agreement.

8.3.4 Activities Outside Field by Astellas. Without limiting the foregoing, Astellas agrees that during the term of this Agreement it will not (and will not authorize any third party, including, without limitation, any Affiliates or Sublicensees, to) (i) Commercialize any Lead Compound within the Field in the Astellas Territory, except a Lead Compound that has been designated a Lead Compound by the JDC and that has received Marketing Approval in the Astellas Territory for use in the Field, (ii) Commercialize any Lead Compound for use outside the Field or outside the Astellas Territory, (iii) provide any supplies of any Lead Compound to any third party, including, without limitation, any Affiliates or Sublicensees, which Astellas knows or has reason to know is being marketed, sold or distributed for use outside the Field or outside the Astellas Territory, (iv) conduct or sponsor, or provide any supplies of any Lead Compound for use in, any clinical trial designed to demonstrate that a Lead Compound can be used outside the Field, or (v) seek regulatory approval of, or use labeling for a Lead Compound stating that such Lead Compound is for use outside the Field.

8.3.5 Activities in Astellas Territory by FG During the term of this Agreement, FG shall not Commercialize by itself or through its Sublicensee any Lead Compound or other compound, whether or not designated as a Lead Compound, within the Field in the Astellas Territory, or any Lead Compound outside the Field in the Astellas Territory, provided, however, that FG may develop a Lead Compound or other compound in the Astellas Territory in those Indications for which Astellas has determined not to pursue Commercialization or for which Astellas has lost the right to pursue Commercialization due to failure to meet diligence obligations hereunder; and provided, further, that FG may Commercialize compounds other than Lead Compounds outside the Field in the Astellas Territory, irrespective of whether such compound has the effect of stabilizing HIF causing the stimulation of erythropoiesis (including an increase in endogenous erythropoietin production) and/or a subsequent increase in hematocrit through modulation of prolyl hydroxylase and/or asparaginyl hydroxylase.

ARTICLE 9
TRANSFER PRICING

9.1 Transfer for Non-Commercial Purpose. In exchange for the transfer of any Lead Compound to Astellas for a non-commercial purpose, Astellas shall pay FG the total amount of the Fully Burdened Costs for such Lead Compound as reasonably determined by FG. Lead Compound transferred to Astellas for a non-commercial purpose shall not be used for a commercial purpose.

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9.2 Transfer for Commercial Purpose. For any Lead Compound transferred to Astellas to be used for any commercial purpose, in exchange for the transfer of such Lead Compound to Astellas, Astellas shall pay FG the amounts set forth in this Section 9.2. All transfers of Lead Compound for use following Marketing Approval shall be deemed transfers for a commercial purpose, except transfers under Section 9.2(c), and transfers for the purpose of conducting clinical trials, which shall be considered transfers for a non-commercial purpose.

(a) For any quantities of Lead Compound shipped by FG to Astellas prior to the issuance of the national health insurance price as determined by the Japanese Ministry of Health, Labour and Welfare (the "Listed Price"), Astellas shall pay for such quantities at a price equal to **[*]** of the estimate of the Listed Price as determined in good faith by FG and Astellas, subject to adjustment upon the issuance of the actual Listed Price. Upon the issuance of such Listed Price by the Japanese Ministry of Health, Labour and Welfare, Astellas shall pay to FG, or FG shall reimburse Astellas, as the case may be, the amount of any difference between the payment made for such Lead Compound at the estimated Listed Price and the payment required based upon the actual Listed Price.

(b) For all other transfers of Lead Compound, except as set forth in subparagraphs (c) or (d) below, Astellas shall pay for such quantities at a price equal to **[*]** of the Listed Price. In the event that a new Listed Price has been notified to Astellas by the Japanese Ministry of Health, Labour and Welfare before implementation of the new Listed Price, then such new Listed Price shall be used for calculation of the price of Lead Compound to be shipped on and after the later to occur of (i) **[*]** before implementation of the new Listed Price, and (ii) the date upon which Astellas has amended the price of Lead Compound to wholesalers in response to such notification by the Japanese Ministry of Health, Labour and Welfare, even before implementation of the new Listed Price.

(c) With respect to Lead Compound to be distributed as samples to medical providers and for which Astellas shall not receive any payment or other consideration, Astellas shall pay to FG the sum of its Fully Burdened Costs for amounts of Lead Compound shipped to Astellas; provided, however, that the parties shall mutually agree upon the amount of such samples for distribution without consideration in the Astellas Territory.

(d) Upon the later of (i) the initial retail sale of a generic equivalent (as defined by the Japanese Ministry of Health, Labour and Welfare) of such Lead Compound in the Territory, and (ii) and the expiration of the last to expire of the FG Patents with respect to such Lead Compound effectively precluding third parties from selling said generic equivalent, for any quantities shipped by FG to Astellas, Astellas shall pay FG for such quantities **[*]** of the Sales Price; provided, however, that in the event that the payment of the **[*]** of the Sales Price would result in FG's **[*]** Percentage falling below **[*]**, FG shall have the option to initiate a renegotiation of the transfer price upon notice to Astellas, in which case the parties shall use best efforts in good faith to renegotiate reasonable terms for the transfer price; provided, further, that in the event the transfer price is not renegotiated to FG's satisfaction or FG elects not to initiate a renegotiation, FG may elect to terminate its manufacturing obligations by written notice to Astellas, and FG and Astellas shall negotiate reasonable terms for transfer of manufacturing. During such period of renegotiation, FG shall transfer the Lead Compound to Astellas at a price

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equal to the greater of **[*]** of the Sales Price and the price resulting if FG's **[*]** Percentage for such Lead Compound is equal to **[*]**.

9.3 Payment. Any payments to be made with respect to the transfer of any Lead Compound in accordance with Section 9.1 or 9.2 above shall be immediately due to FG upon shipment, which shall be paid by Astellas to FG no later than **[*]** of the date of invoice, which invoice FG shall deliver to Astellas upon Delivery of Lead Compound to Astellas pursuant to Section 9.2(a), (b) or (c), and shall be made in U.S. dollars. For transfer of any Lead Compound in accordance with Section 9.1 or 9.2(c) above, FG shall deliver to Astellas, within ten (10) days of receipt of a firm commitment order from Astellas, an invoice for the estimated Fully Burdened Costs of the Lead Compound to be transferred to Astellas. Within **[*]** after the transfer of the Lead Compound to Astellas, FG shall provide a revised final invoice to Astellas that shall indicate the actual Fully Burdened Costs of the Lead Compound. If the actual Fully Burdened Costs are less than the estimated Fully Burdened Costs, FG shall include a reimbursement payment to Astellas for the difference between the initial estimated Fully Burdened Costs and the actual Fully Burdened Costs. If the actual Fully Burdened Costs are greater than the estimated Fully Burdened Costs, Astellas shall pay such difference within **[*]** of receipt of an invoice from FG for such amounts. For payments for the transfer of Lead Compound under Section 9.2(d) hereof, FG's invoice to Astellas shall be calculated based on the current Listed Price as set by the Japanese Ministry of Health, Labour and Welfare. Upon calculation of the Sales Price, Astellas shall submit, for any amounts actually sold, the Sales Price to FG, and FG shall credit Astellas for the difference between the invoice cost, cost calculated based on the Listed Price and the cost calculated based on the Sales Price.

9.4 Reference Materials; Standard Materials. In exchange for the transfer by FG of any Reference Materials or Standard Materials for the purposes of conducting analytical, release, stability and other studies authorized under the Development Program, Astellas shall pay to FG, FG's Fully Burdened Costs of such materials as reasonably determined by FG.

ARTICLE 10
ADDITIONAL PAYMENTS; BOOKS AND RECORDS

10.1 Quarterly Reports. Astellas shall make quarterly reports to FG within sixty (60) days after the end of each calendar quarter (April 1 though June 30, July 1 through September 30, October 1 though December 31, January 1 through March 31), which reports shall include, (a) the Net Sales, unit shipments and other distributions, including samples, by Astellas, and its Affiliates and Sublicensees, in such calendar quarter and (b) such other information as may be reasonably requested by FG to ensure either proper payment by Astellas of amounts required under this Agreement or to calculate payments with respect to FG's Third Party Agreements. Concurrently with making such report, Astellas shall remit payment to FG for any payments due under this Agreement.

10.2 Payment Method. All payments under this Agreement shall be made by bank wire transfer in immediately available funds to an account designated by the payee. All

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such payments made by or on behalf of Astellas hereunder shall be made by a Japanese entity. All dollar amounts specified in this Agreement, and, except as specifically authorized under Section 10.3 hereof, all payments made hereunder, are and shall be made in U.S. dollars. Any payments due under this Agreement which are not paid by the date such payments are due under this Agreement shall bear interest to the extent permitted by applicable law at the U.S. prime rate per annum quoted in the "Money Rates" column of The Wall Street Journal (U.S., Western Edition) on the first business day after such payment is due, plus an additional **[*]**, calculated on the number of days such payment is delinquent. This Section 10.2 shall in no way limit any other remedies available to either party.

10.3 Currency Conversion. In the event that the amount of an Astellas payment obligation in U.S. dollars must be determined by the calculation of an underlying amount received by Astellas in Japanese Yen utilizing the U.S. dollar-Japanese Yen exchange rate (i.e., a transfer payment under Section 9.2(a), (b) or (d) hereof), currency conversion from Japanese Yen to U.S. dollars shall be made using the closing exchange rate reported in the Wall Street Journal (U.S. Western Edition) for the date on which the Lead Compound is Delivered to Astellas. If any such payment is not made by the due date, the exchange rate utilized for determination of such payment obligation shall be the exchange rate **[*]** reported in the Wall Street Journal (U.S. Western Edition) during the period from the date of invoice through the due date, not including any additional amounts owed under Section 10.2 hereof.

10.4 Taxes

10.4.1 Generally. Each party shall bear and, except as otherwise expressly provided in this Section 10.4, pay any and all taxes, duties, levies, and other similar charges (and any related interest and penalties), however designated, imposed on that party as a result of the existence or operation of this Agreement. If laws or regulations require that taxes be withheld, the paying party will (i) timely pay the taxes to the proper taxing authority, and (ii) send proof of payment to the other party within **[*]** following that payment.

10.4.2 Certain Payments. Notwithstanding Section 10.4.1, all payments by Astellas required under this Agreement above, including under Section 6.1.1 are expressed as net amounts and shall be made free and clear of, and without reduction for, any withholding taxes, provided, however, that in the event that any withholding taxes are due on the payments Astellas shall make to FG under Sections 6.1.2 and 6.1.3, Astellas shall make such payments directly to the Japanese Tax Authority and shall be entitled to reduce the amount paid to FG by **[*]** of the amount of the withholding taxes paid to Japanese Tax Authority in respect of such payment, unless the amount of such withholding taxes is reduced by a decision of the Japanese tax authority, or is subsequently adjusted downward as result of appeal, in which event the next payment due hereunder, including, without limitation, a transfer payment or a payment upon termination, shall be increased by such amount. Any such taxes which are otherwise imposed on payments to FG shall be the sole responsibility of Astellas. Astellas shall provide FG with official receipts issued by the appropriate taxing authority or such other evidence as is reasonably requested by FG to establish that such taxes have been paid. Astellas and FG shall cooperate to minimize the withholding taxes due on the amounts payable by Astellas to FG hereunder to the extent permissible under law, including, but not limited to,

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making appropriate application(s) to the tax authorities within the Astellas Territory. If possible, FG shall use its reasonable efforts to apply for the tax refund from U.S. tax authorities for the withholding taxes paid to the Japanese Tax Authority on the payment U.S. $**[*]** payment made by Astellas to FG on January 13, 2004 as set forth in Section 6.1 when such application for the tax refund becomes possible, and if FG has received any such tax refund, FG shall reimburse to Astellas for the amounts corresponding to the withholding taxes paid in Astellas' accounts as set forth above.

10.5 Records; Inspections. Astellas shall keep, and require its Affiliates and Sublicensees to keep, complete, true and accurate books of accounts and records for the purpose of determining payments due pursuant to this Agreement. Such books and records shall be kept for at least **[*]** following the end of the calendar quarter to which they pertain. FG shall keep, and require its Sublicensee(s) to keep, complete, true and accurate books of accounts and records for the purpose of verifying the accuracy of the **[*]** Percentage and Fully Burdened Costs. Such records will be open for inspection at the principal place of business of each party (the "Inspected Party") during such **[*]** period by an independent auditor chosen by the other party (the "Inspecting Party") and reasonably acceptable to the Inspected Party for the purpose of verifying the amounts payable by Astellas to FG hereunder or the accuracy of the **[*]** Percentage and/or Fully Burdened Costs. Such inspections may be made no more than once each calendar year, at reasonable times and on reasonable notice. Any books of accounts or records shall not be inspected more than once. The independent auditor retained by the Inspecting Party shall be obligated to execute a reasonable confidentiality agreement with the Inspected Party prior to commencing any such inspection, which, among other customary clauses, contains the provisions to the effect that such auditor shall not disclose to the Inspecting Party any information other than as necessary to accomplish the purpose of the inspection. Inspections conducted under this Section 10.5 shall be at the expense of the Inspecting Party. Any underpaid or overcharged amounts that are discovered will be paid by the Inspected Party, and with interest on such underpaid or overcharged amounts at the rate set forth in Section 10.2 above. The parties will endeavor to minimize disruption of the Inspected Party's normal business activities to the extent reasonably practicable.

ARTICLE 11
DUE DILIGENCE

11.1 Astellas' Due Diligence. Astellas shall use its commercially reasonable efforts (i) to conduct any development work undertaken under the Development Program, and any and all clinical trials (including without limitation Phase III) required to obtain, and thereafter to take such other actions as are necessary to obtain, Marketing Approvals for any Lead Compound in the Astellas Territory as soon as practicable, and (ii) to launch each such Lead Compound in the Astellas Territory as soon as practicable after receiving Marketing Approval in the Astellas Territory for such Lead Compound.

11.2 FG's Due Diligence. FG shall use its commercially reasonable efforts to conduct, and to the extent possible taking into account safety and other applicable issues, complete a Phase II clinical trial with FG-2216 or another Lead Compound in the FG Territory.

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11.3 Development Diligence

11.3.1 Astellas shall pursue development of Indications according to the following terms: (i) Astellas shall pursue Commercialization in "Treatment of anemia in patients with chronic kidney disease undergoing dialysis" and "Treatment of anemia in patients with chronic kidney disease not undergoing dialysis"; (ii) Astellas shall notify FG within six (6) months of the execution of this Agreement whether it shall pursue Commercialization in **[*]**; (iii) Astellas shall notify FG within six (6) months of the date FG notifies Astellas that it has demonstrated Proof of Concept whether it will pursue Commercialization in **[*]**; (iv) Astellas shall notify FG within six (6) months of the date FG notifies Astellas that it has demonstrated Proof of Concept whether it will pursue Commercialization in **[*]**; and (v) Astellas shall notify FG, upon Marketing Approval for any Lead Compound in each of the following Indications, whether it will pursue Commercialization of such Indication: **[*]**, and any other indications to be added hereafter to the definition of the Indication by mutual agreement; and (vi) if FG is pursuing Commercialization of **[*]**, Astellas shall notify FG after Marketing Approval whether it shall pursue Commercialization of such Indication. Should Astellas inform FG that it does not wish to pursue Commercialization of any Indication, or should Astellas fail to meet the due diligence obligations under Section 11.3.2 for any Indication as set forth in Section 11.3.1(iv) or under Section 11.3.3 for any Indication as set forth in Section 11.3.1(v), such Indication shall no longer be considered an Indication for the purposes of this Agreement, and Astellas shall have no right or shall lose any right with respect to such Indication under this Agreement including, without limitation, the licenses granted under Sections 8.1 and 13.1 hereof. Each Indication for which Astellas is obligated to pursue Commercialization under Section 11.3.1(i) or for which it decides to pursue Commercialization under Sections 11.3.1(ii), (iii) or (iv) shall be a "Major Indication".

11.3.2 In addition to the obligations set forth in Section 11.1 and 11.3, for each Major Indication, until such time as Astellas obtains Marketing Approval in the Astellas Territory for such Major Indication, with respect to each Lead Compound for each Major Indication, Astellas shall:

(a) If required for development of a Lead Compound in an Indication, Initiate Phase I clinical trials within **[*]** after the later of (i) the Effective Date, for Indications for which FG has commenced clinical trials prior to the execution of this Agreement, and (ii) FG's or its Sublicensees Initiation of a Phase I clinical trial for other such Indications.

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(b) Initiate Phase II clinical trials within the later of (i) **[*]** after FG's, or its Sublicensee's, Initiation of Phase II, (ii) **[*]** after Astellas' Completion of its Phase I clinical trial(s), (iii) if Astellas' obligations under this Subsection 11.3.2(b) are triggered upon FG's notification of demonstration of Proof of Concept in an Indication, **[*]** after the date Astellas notifies FG that it will pursue Commercialization in such Indication, and (iv) in the event Astellas' obligations under this Section 11.3.2(b) are triggered by the designation of a secondary Lead Compound as a primary Lead Compound, **[*]** after such designation.

(c) Either notify FG of its intent to employ the Bridging Strategy, if applicable, or Initiate Phase III clinical trials within **[*]** of the later of (i) FG's, or its Sublicensee's Initiation of a Phase III clinical trial and (ii) Astellas' Completion of its Phase II clinical trial(s).

11.3.3 For each of the Indications set forth in Section 11.3.1(v), Astellas shall Initiate Phase II clinical studies within **[*]** of its notification to FG that it will pursue Commercialization in such Indication.

11.3.4 Astellas' diligence obligations set forth in Section 11.3.2 shall apply to all Lead Compounds designated by FG, provided, that for each Indication for which such diligence obligations apply, the diligence obligations shall only apply to the primary Lead Compound designated by FG, and for the secondary Lead Compound, Astellas' diligence obligations shall be limited to those set forth in Section 11.3.2(a) until the designation of the secondary Lead Compound as the primary Lead Compound, provided, further, upon such designation, that such diligence obligation shall be expanded to include the requirement that Astellas complete the Phase I clinical studies required to Initiate Phase II clinical studies in the Indication with such secondary Lead Compound.

ARTICLE 12
MANUFACTURING RIGHTS

12.1 Procedures. FG shall have the exclusive right to determine the methods and procedures for the manufacture of all Lead Compounds. If FG intends to make any change in the methods or procedures, including, without limitation, manufacturing process, analyzing process and/or site change for manufacture of the Lead Compounds, FG shall notify Astellas in writing of such intended change; provided, that if in Astellas' reasonable opinion, such change may lead to any amendment to the relevant Marketing Approval or Marketing Approval Application, Astellas shall use best efforts to (i) as soon as possible petition the Japanese Ministry of Health, Labor and Welfare to make the change without an amendment to the Marketing Approval or MAA and shall concurrently prepare an application for amendment to the Marketing Approval or MAA, and (ii) if the Japanese Ministry of Health, Labor and Welfare determines such an amendment is required, shall notify FG and submit the application for amendment immediately following notice of such requirement, and FG shall not make the intended change without a prior written consent from Astellas, such consent not to be unreasonably withheld or delayed, provided, further, that consent shall be deemed granted upon notice that an amendment is not required or approval of an amendment from the Japanese

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Ministry of Health, Labor and Welfare. FG shall provide Astellas with all the data and information necessary for Astellas to amend the Marketing Approval or MAA in Astellas Territory and shall continue to supply Astellas with the Lead Compound as manufactured with the manufacturing methods and procedures or at the manufacturing site described in Astellas' (or its Affiliate's or Sublicensee's) then current Marketing Approval or MAA until Astellas will have finished the necessary amendment to the relevant Marketing Approval or MAA or received notice that an amendment is not required.

12.2 FG Right. FG shall have the worldwide exclusive right (itself or through third party vendors) to manufacture (or have manufactured) Lead Compounds. Astellas and its Affiliates and Sublicensees shall not directly or indirectly make, produce or manufacture any Lead Compounds.

12.3 Manufacture and Supply. FG shall have the exclusive right and obligation to supply the Lead Compounds to Astellas and its Affiliates and Sublicensees for all development and commercial purposes, and Astellas and its Affiliates and Sublicensees shall purchase such Lead Compounds exclusively from FG. It is understood that FG may engage subcontractors with respect to the manufacture of such Lead Compounds to fulfill its supply obligations to Astellas hereunder. In all cases, supply by FG of Lead Compounds hereunder shall be Ex Works (Incoterms 2000) the manufacturing facility. Subject to Section 8.3.5 hereof, nothing herein is intended to preclude FG from granting rights to supply or supplying (a) any Lead Compound outside of the Astellas Territory to any third party for use within or outside the Field, or (b) any compound Controlled by FG within the Astellas Territory except for a Lead Compound for the duration of its designation in compliance with the terms and conditions of this Agreement.

12.4 Product Specifications. The Lead Compounds to be supplied by FG hereunder shall meet the Product Specifications. In addition to, but not in limitation of, the foregoing, FG and Astellas agree that upon Marketing Approval for any Lead Compound, FG's obligation to supply Astellas with Lead Compound shall be limited to, and all payment obligations set forth in Section 9.2 shall be based on, the supply of Bulk Product, unless otherwise agreed by the parties. The packaging for the Lead Compound to be distributed commercially by Astellas shall contain a clearly visible acknowledgment that the Lead Compound was manufactured by FG, and shall contain a registered trademark of the FG logo or other trademark approved by FG.

12.5 Orders Forecast

12.5.1 Orders for Non-Commercial Use. In connection with the supply of any Lead Compound for non-commercial use in the Territory, Astellas shall provide FG with a firm purchase order as early as possible prior to its requirements, and in no event less than **[*]** prior to the shipment or other release date(s) requested by Astellas for such Lead Compound. FG shall provide such Lead Compound to Astellas as soon as practicable within such time period, subject, prior to Marketing Approval, to the reasonable lead time requirements of third party contract manufacturers. All forecasts shall be prepared in good faith in order to facilitate FG's manufacture and shipment of the Lead Compound in compliance with this Agreement.

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12.5.2 Forecast and Order for Commercial Use. In connection with the supply of any Lead Compound for commercial use in the Astellas Territory upon FG's request, Astellas and FG shall negotiate in good faith appropriate forecasting and firm purchase order lead times, taking into consideration the reasonable notice requirements of FG and its third party manufacturers. All forecasts shall be prepared in good faith in order to facilitate FG's manufacture and shipment of the Lead Compound in compliance with this Agreement.

12.6 Shipment. Astellas, or FG at Astellas' request if specified in a purchase order by Astellas, shall arrange for shipment of the Lead Compound as specified in each purchase order by Astellas, Ex Works (Incoterms 2000) the manufacturing facility. For purposes of this Agreement, and notwithstanding anything to the contrary contained within the term "Ex Works", it is hereby acknowledged and agreed that title and risk of loss shall transfer to Astellas from receipt by Astellas at the manufacturing facility. Astellas shall bear the costs of such carrier, including the costs of insurance of the shipment, and all customs, duties, sales taxes and other governmental charges related to the importation and sales of the Lead Compound.

12.7 Inspection of Shipment/Right to Reject. Each shipment of Lead Compound from FG to Astellas shall contain such laboratory and quality control certificate as are necessary to show that the Lead Compound is in conformity with the Product Specifications. Astellas shall promptly inspect each shipment. In the event that any portion of the shipment fails to conform to the Product Specifications, Astellas shall notify FG within **[*]** of Astellas' receipt of such shipment. Such notice shall specify the manner in which the Lead Compound fails to meet the Product Specifications. In the absence of such notification, Astellas shall be deemed to have accepted the shipment. FG and Astellas agree to consult with each other to resolve any discrepancy between each other's determinations regarding any possible nonconformity of the Lead Compound. If such consultation does not resolve the discrepancy, the parties agree to nominate a reputable independent laboratory or other independent third party, in each case acceptable to both parties, to carry out tests on representative samples taken from such shipment, and the results of such tests shall be binding on both parties. If the results of such tests demonstrate that the Lead Compound does not meet the Product Specifications, then FG shall pay the costs of such tests; otherwise, Astellas shall pay for the costs of such tests. FG shall, at its expense, promptly replace any Lead Compound to the extent that, in accordance with this Section 12.7, it is determined that it does not conform to the Product Specifications. Unless otherwise instructed by FG, all non-conforming Lead Compound shall be returned to FG at the place of manufacture at FG's direction and at FG's expense. If Astellas detects at any time any defect in the Lead Compound which has not been found through Astellas' inspection, it shall notify FG to that effect within **[*]** of the discovery of such defect, and the procedures set forth above in this Section 12.7 shall be applied to such defective Lead Compound, provided, that FG shall only be responsible to pay for costs of defects that are the result of FG's gross negligence or willful misconduct.

12.8 Inspection of Facilities. Astellas shall have the right, upon reasonable advance notice and during regular business hours, to inspect and audit, either by itself or through its Affiliates or consultants, the facilities (including any facilities of sub-contractors) being used by FG for production of the Lead Compound to assure compliance with applicable laws, rules and regulations, including, without limitation, Japanese regulatory standards and FG quality control procedures ("Relevant Standards"). FG shall also reasonably comply with inspection

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requests of the Japanese Ministry of Health, Labor & Welfare. Such inspection and audit shall be conducted at Astellas' sole cost and expense in a manner so as to minimize disruption of FG's, or its subcontractor's or Sublicensee's, business operations. FG shall, within **[*]** after FG's receipt of written notice from Astellas detailing any deficiencies which may be noted in any such audit which relate to the Relevant Standards use good faith efforts to remedy such deficiencies, and submit a plan to the Astellas outlining steps proposed to be taken.

12.9 Recall. In the event that Astellas deems it necessary to recall any Lead Compound from the market, it may do so in its sole discretion, after notification to the FG. The costs and expenses for such recall shall be borne by Astellas unless caused by a failure for which FG is required to indemnify Astellas pursuant to Section 17.3, or by FG's gross negligence or willful misconduct, in which event it shall be borne by FG.

12.10 Warranty. FG represents and warrants that the Lead Compounds to be supplied to Astellas under this Agreement shall conform to the Product Specifications and shall, as appropriate, be manufactured in compliance with GMP Guidelines. Subject to Sections 12.9 and 17.3 hereof, FG's sole obligation and Astellas' sole remedy with respect to Lead Compound which does not
meet the warranty contained herein is limited to replacement of such Lead Compound and reimbursement of Astellas' out of pocket expenses for shipping to FG at the address designated by FG.

12.11 Interruption in Supply. For any particular Lead Compound, in order to minimize any interruptions in supply hereunder, FG and Astellas agree that within **[*]**, FG shall maintain two separate, validated manufacturing sites (which may either be its own manufacturing facilities or facilities of a contract manufacturer) for such Lead Compound.

12.12 Reference and Standard Materials. For any Lead Compound provided to Astellas hereunder, upon Astellas' request and pursuant to Section 9.4 hereof, FG shall provide to Astellas reasonable quantities of reference materials, including analogs, metabolites, impurities, degradates and radio-labeled compounds ("Reference Materials") and standard materials, i.e. defined, highly purified Lead Compound ("Standard Materials") for such Lead Compound for the purposes of conducting analytical, release, stability and other studies as may be authorized by the JDC under the Development Program.

ARTICLE 13
LICENSE GRANTS

13.1 Grant to Astellas. Subject to the terms and conditions of this Agreement including Article 12 above, FG hereby grants to Astellas an exclusive license under the FG Technology to: use, package, sell, have sold, import, market and otherwise distribute the Lead Compounds for use solely in the Field in the Astellas Territory

13.2 Sublicenses. The licenses granted under Section 13.1 above include the right to grant and authorize sublicenses, subject to the requirements of this Agreement and Section 7.2. Notwithstanding the foregoing, Astellas shall not have the right to authorize a Sublicensee to market, sell or distribute Lead Compounds without FG's prior written consent

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(which consent shall not be unreasonably withheld). For the purposes of the foregoing, and without limitation, it shall be deemed reasonable for FG to withhold consent for competitive concerns.

13.3 No Rights Beyond Lead Compounds. Except as expressly provided herein, nothing in this Agreement shall be deemed to grant to Astellas rights in FG Technology other than the rights granted hereunder to the Lead Compounds, or for applications outside the Field or outside the Astellas Territory, or to manufacture Lead Compounds; nor shall any provision of this Agreement be deemed to restrict FG's right to exploit any FG Technology and/or the Lead Compounds outside the Astellas Territory.

13.4 Expanded Field Negotiation. Following the signing of this Agreement, FG agrees to negotiate in good faith with Astellas for a license to develop compounds for the Expanded Field in the Astellas Territory, exclusively for a period of **[*]** following such date, and non-exclusively thereafter until the execution of a license agreement with a third party to develop compounds for the Expanded Field. FG and Astellas hereby agree that FG's obligation to negotiate non-exclusively for the Expanded Field shall not constitute a right of first offer, right of first refusal, right of first negotiation or any obligation to enter into any agreement with Astellas at any time, and the failure of such negotiations to result in an agreement between FG and Astellas with respect to the Expanded Field shall not constitute a breach of this Agreement.

ARTICLE 14
INTELLECTUAL PROPERTY

14.1 Ownership of Inventions. Subject to Section 14.1.1, title to all inventions and other intellectual property made related to (i) the Development Program, (ii) the Lead Compounds, (iii) FG Technology or FG Confidential Information, (iv) the Field, or (v) the Expanded Field (subsections 14.1(i)-(v), collectively, the "Protected Field") shall be owned by or is hereby assigned to FG; provided, however that Astellas shall own inventions of general applicability relating solely to drug delivery systems created exclusively by Astellas under subsection 14.1(i), excluding inventions related to or based on subsections 14.1(ii), (iii), (iv), or (v), and provided, further, that Astellas hereby grants to FG a worldwide, fully paid non-exclusive license with the right to sublicense to practice such inventions with respect to the FG Technology. Astellas agrees to execute any and all assignments and other documents necessary to effectuate the foregoing.

14.1.1 Notwithstanding Section 14.1, in the event that Astellas develops, completely independently from any FG Technology and/or any other FG materials, confidential information, intellectual property or other related information provided by or on behalf of FG to Astellas under this Agreement or any other agreement between FG and Astellas relating to the subject matter hereof, any inventions or intellectual property rights related to the Field or the Expanded Field, **[*]**, Astellas shall own such intellectual property and hereby grants to FG and its Sublicensees a non-exclusive, royalty-free, irrevocable license to such intellectual property for the FG Territory. Astellas agrees to execute any and all assignments and other documents necessary to effectuate the foregoing.

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14.2 Patent Prosecution

14.2.1 FG Inventions. FG shall control all Prosecution and Interference Activities pertaining to FG Patents and patent applications and patents related to its, its Affiliate's or its Sublicensee's inventions in the Protected Field worldwide using counsel of its choice and shall bear the costs of such Prosecution and Interference Activities, provided, however, that; and Astellas shall reimburse to FG, within **[*]** of receipt by Astellas of invoice therefor, any such costs to the extent incurred in connection with or reasonably allocable to the FG Patents registered and/or to be registered in the Astellas Territory and related to the Field and the Lead Compounds, provided, further, that, with respect to patents or patent applications excluding those covering composition of matter claims and all patents listed on Exhibit A hereto as of the Effective Date, Astellas may postpone such reimbursement until the respective FG Patent will have been registered in the Astellas Territory if **[*]**, on condition that once the respective FG Patent has been registered in the Astellas Territory, Astellas shall pay to FG such costs, plus interest to the extent permitted by applicable law at the U.S. prime rate per annum quoted in the "Money Rates" column of The Wall Street Journal (U.S., Western Edition), calculated in each case from the date such costs were incurred, plus an additional **[*]** thereof.

14.2.2 Astellas Inventions. Astellas shall not file for or otherwise seek to obtain (directly or indirectly) patent or other intellectual property protection for inventions that are related to the Protected Field, without the prior written consent of FG, which may be withheld at FG's sole discretion, subject to Section 14.1.1, and provided also that Astellas may file for or otherwise seek to obtain patent protection for inventions related to drug delivery systems as described in Section 14.1. To the extent that FG consents to the filing of any patent application or other intellectual property protection related to the foregoing, such patent application or other intellectual property protection shall be subject to Section 14.1, unless otherwise agreed in writing.

14.2.3 Cooperation. Astellas shall cooperate with and assist FG in connection with Prosecution and Interference Activities and shall use best efforts to consult with FG regarding the prosecution and maintenance of the FG Patents for the FG Territory and the Astellas Territory for those FG Patents for which Astellas or its Affiliates, Sublicensees or investigators are inventors, except solely for inventions (i) of general applicability relating solely to drug delivery systems created by Astellas under subsection 14.1(i), or (ii) created in compliance with Section 14.1.1 as determined solely by FG in good faith.

14.3 Defense of Third Party Infringement Claims. If the development, manufacture, sale or use of any Lead Compound pursuant to this Agreement results in a claim, suit or proceeding (collectively, "Actions") alleging patent infringement against FG or Astellas (or their respective Affiliates or Sublicensees), such party shall promptly notify the other party hereto in writing. The party subject to such Action (for purposes of this Section 14.3, the "Controlling Party") shall have the exclusive right to defend and control the defense of any such Action using counsel of its own choice; provided, however, that if such Action is directed to the subject matter of a patent of the other party (*i.e.*, for Astellas, a FG Patent), such other party may participate in the defense and/or settlement thereof at its own expense with counsel of its choice.

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Except as agreed in writing by Astellas and FG, Astellas shall not enter into any settlement relating to a Lead Compound, if such settlement admits the invalidity or unenforceability, or limits any claim, of any patent within the FG Technology. The Controlling Party agrees to keep the other party hereto reasonably informed of all material developments in connection with any such Action. Any cost, liability or expense associated with such action (including amounts paid in settlement) (together, "Expenses") shall be borne by the Controlling Party; provided, that if Astellas is the Controlling Party, and the Action is related to Future Third Party Intellectual Property, with respect to Expenses related solely to such Future Third Party Intellectual Property, it shall be entitled to deduct up to **[*]** of the Expenses incurred on an annual basis from **[*]** in such year under this Agreement, provided, however, that (i) the total amount deducted shall not exceed **[*]** thereunder, and (ii) notwithstanding (i) above, Astellas' right to deduct Expenses incurred shall be further limited such that in no event shall the sum of (a) the Expenses deducted by Astellas under this Section 14.3, and (b) the consideration FG contributes for the acquisition of intellectual property from Third Party Licensors for the Astellas Territory as set forth in Section 14.5, exceed **[*]** hereunder, and, provided further, that if FG is the Controlling Party, it shall be entitled to reimbursement by Astellas of **[*]** of such Expenses, as incurred. Notwithstanding the foregoing, Astellas shall be solely responsible (without right of deduction) for all Expenses related to any Action relating to Preexisting Third Party Intellectual Property.

14.4 Enforcement. Subject to the provisions of this Section 14.4, in the event that FG or Astellas reasonably believes that any FG Technology necessary for the development, manufacture, use or sale of a Lead Compound is infringed or misappropriated by a third party or is subject to a declaratory judgment action arising from such infringement, in each case with respect to the development, manufacture, sale or use of a product within the Field and within the Astellas Territory, Astellas or FG (respectively) shall promptly notify the other party hereto. Promptly after such notice the parties shall meet to discuss the course of action to be taken with respect to an Enforcement Action (as defined below) with respect to such infringement or misappropriation, including the control thereof and sharing of costs and expenses related thereto, for the purposes of entering into a litigation agreement setting forth the same ("Litigation Agreement"). If the parties do not enter such Litigation Agreement, FG shall have the initial right (but not the obligation) to enforce the intellectual property rights with respect to the FG Technology, or defend any declaratory judgment action with respect thereto (such action, for purposes of this Section 14.4, an "Enforcement Action").

14.4.1 Information. Absent a Litigation Agreement, the party initiating or defending any such Enforcement Action within the Field shall keep the other party hereto reasonably informed of the progress of any such Enforcement Action, and such other party shall have the right to participate with counsel of its own choice at its own expense.

14.4.2 Enforcement Costs; Recoveries. Absent a Litigation Agreement, FG shall have the initial right to initiate such an Enforcement Action**,** and shall notify Astellas within a reasonable time whether it elects to exercise such right. In the event that FG elects to initiate or defend such Enforcement Action, FG shall be responsible for **[*]** of the costs and expenses while Astellas shall be responsible for **[*]** of the costs and expenses, and all amounts recovered shall first be applied to reimbursement of each

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party's costs and expenses with the remainder to be allocated to FG and Astellas at the ratio of **[*]** and **[*]**. In the event that FG elects not to initiate or defend such Enforcement Action, Astellas shall have the right to initiate or defend such Enforcement Action in its own name, and to the extent permitted under Third Party Agreements, in the name of FG or in the names of both FG and Astellas, in which case, Astellas shall be responsible for **[*]** of the costs and expenses while FG shall be responsible for **[*]** of the costs and expenses, and all amounts recovered shall first be applied to reimbursement of each party's costs and expenses with the remainder to be allocated to Astellas and FG at the ratio of **[*]** and **[*]**.

14.4.3 Cooperation in Enforcement Action. Absent a Litigation Agreement, at the request of the party which has the right to initiate or defend an Enforcement Action, the other party shall reasonably cooperate in the Enforcement Action, such cooperation to include, without limitation, furnishing records, information and testimony, and attending conferences, discovery proceedings, hearings, trials and appeals; provided, that the requesting party shall reimburse to the cooperating party for the out-of-pocket expenses incurred for such cooperation pursuant to the reimbursement regime set forth in Section 14.4.2.

14.5 Third Party Agreements

14.5.1 Future Agreements. It is understood that FG may find it necessary to utilize in connection with a Lead Compound intellectual property that is controlled by a non-Affiliate third party (such party, a "Third Party Licensor"), in addition to or in lieu of the FG Technology existing as of the Effective Date. FG shall have the right to obtain (by purchase, license, or otherwise) rights to such intellectual property with the right to sublicense to Astellas. In the event that FG determines that it must obtain such rights, it shall provide notice and submit a description of such rights to Astellas, and shall discuss with Astellas the need to obtain such rights. Astellas shall inform FG within **[*]** of receipt of such notice whether it believes it is necessary to obtain such rights for the Astellas Territory and wishes to obtain such rights. In the event Astellas determines to obtain such rights, FG shall obtain a worldwide license for the rights under such terms and conditions as are **[*]**, and such intellectual property of the Third Party Licensor shall be deemed to be the part of FG Technology, provided, however, that, notwithstanding anything contained in this Agreement (i) for Preexisting Third Party Intellectual Property, **[*]** shall pay **[*]** of all consideration due in connection with the acquisition of such rights for the Astellas Territory, and (ii) for Future Third Party Intellectual Property, **[*]** shall **[*]** pay **[*]** of all consideration due in connection with the acquisition of such rights for the Astellas Territory, provided, however, notwithstanding FG's obligation to contribute to the consideration due for Future Third Party Intellectual Property under (ii) above, FG's obligation to contribute shall be limited such that in no event shall the sum of (a) the consideration FG contributes for the acquisition of intellectual property from Third Party Licensors for the Astellas Territory, and (b) the Expenses for which Astellas has the right to deduct under Section 14.3 exceed **[*]** hereunder, and Astellas shall be responsible for all consideration related to the acquisition of rights from Third Party Licensors in excess of such amount. In the event Astellas determines not to obtain such rights for the Astellas Territory, FG shall obtain a license for the FG Territory but not the Astellas Territory, and Astellas shall be solely responsible for the defense of any infringement

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Action, for all Expenses related to any such Action, and any right of Astellas to deduct Expenses under this Agreement against payments required to be made to FG hereunder shall not apply to any action brought with respect to such rights.

14.5.2 Payment; Reports. If FG is obligated to pay amounts to a Third Party Licensor, FG shall notify Astellas **[*]** in advance of the due date of such payment obligation (or such later date as FG may determine), and Astellas shall reimburse its share of such payments within **[*]** after receipt of notice therefor.

14.5.3 Limitation. To the extent that FG Patents includes any intellectual property licensed under FG's License Agreement with Imigen, Inc. relating to HIF stabilization technology dated as of October 30, 2003, and amended as from time to time of which a redacted copy shall have been provided to Astellas prior to the Effective Date, Astellas shall be considered a sublicensee and be subject to the applicable requirements thereunder.

14.5.4 Compliance with Third Party Agreements. Notwithstanding anything to the contrary contained herein, Astellas agrees to comply with the requirements (upon sublicensees or otherwise) of FG's License Agreement with Imigen, Inc. relating to HIF stabilization technology dated as of October 30, 2003. In addition, Astellas agrees to comply with the requirements (upon sublicensees or otherwise) of any future Third Party Agreements for which Astellas obtains rights through an FG license pursuant to Section 14.5.1 hereof.

ARTICLE 15
REPRESENTATIONS AND WARRANTIES

15.1 FG Warranties. FG warrants and represents to Astellas, as of the execution of this Agreement, that (i) it is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware; (ii) the execution, delivery and performance of this Agreement have been duly authorized by all necessary corporate action on the part of FG; (iii) there is no pending litigation which alleges or any communication alleging that Commercialization of any Lead Compound or any compound Controlled by FG for use in the Field has infringed or misappropriated the intellectual property rights of any Third Party or has been obtained by misappropriating any Third Party's intellectual property right; and (iv) subject to the terms and conditions of the agreements for the FG Acquired Patents, FG has complete title to and ownership of the FG Patents, free and clear from any mortgages, pledges, liens, security interests, conditional and installment sale agreements, encumbrances, charges or claims of any kind.

15.2 Astellas Warranties. Astellas warrants and represents to FG, as of the execution of this Agreement, that (i) it is a corporation duly organized, validly existing and in good standing under the laws of Japan; and (ii) the execution, delivery and performance of this Agreement have been duly authorized by all necessary corporate action on the part of Astellas.

15.3 Disclaimer of Warranties. EXCEPT AS OTHERWISE SET FORTH HEREIN, FG AND ASTELLAS EXPRESSLY DISCLAIM ANY WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO

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THE DEVELOPMENT PROGRAM, OR THE FG TECHNOLOGY OR LEAD COMPOUNDS, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, VALIDITY OF FG TECHNOLOGY, PATENTED OR UNPATENTED, AND NONINFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES.

ARTICLE 16
CONFIDENTIALITY

16.1 Confidential Information. Except as expressly provided herein, the parties agree that the receiving party shall not publish or otherwise disclose and shall not use for any purpose other than this Agreement any information furnished to it by the other party hereto pursuant to this Agreement which if disclosed in tangible form is marked "Confidential" or with other similar designation to indicate its confidential or proprietary nature or if disclosed orally is indicated orally to be confidential or proprietary by the party disclosing such information at the time of such disclosure and is confirmed in writing as confidential or proprietary by the disclosing party within a reasonable time after such disclosure (collectively, "Confidential Information"). Notwithstanding the foregoing, Confidential Information shall not include information that, in each case is demonstrated by written documentation:

(a) was already known to the receiving party, other than under an obligation of confidentiality directly or indirectly to the disclosing party at the time of disclosure hereunder;

(b) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the receiving party hereunder;

(c) became generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving party in breach of this Agreement; or

(d) was subsequently lawfully disclosed to the receiving party by any third party without any confidentiality obligation directly or indirectly to the disclosing party or developed by the receiving party without reference to any information or materials disclosed by the disclosing party.

It is agreed and understood that all matters discussed and presented at the meetings of the JDC shall be considered Confidential Information hereunder, subject to the terms and conditions of this Agreement.

16.2 Permitted Disclosures. Notwithstanding the provisions of Section 16.1 above, each party hereto may disclose the other party's Confidential Information to the extent such disclosure is reasonably necessary to exercise the rights granted to it, or reserved by it, under this Agreement (including, without limitation, entering into and/or performing business or scientific relationships with respect to products outside the Field as permitted hereunder), in filing or prosecuting patent applications, prosecuting or defending litigation, complying with applicable governmental regulations, submitting information to tax or other governmental

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authorities (including regulatory authorities), or conducting clinical trials hereunder with respect to Lead Compounds, provided that if a party is required by law to make any such disclosure of the other party's Confidential Information, to the extent it may legally do so, it will give reasonable advance notice to the latter party of such disclosure and, save to the extent inappropriate in the case of patent applications or otherwise, will use its reasonable efforts to secure confidential treatment of such Confidential Information prior to its disclosure (whether through protective orders or otherwise).

16.3 Clinical Data. Except as expressly permitted under Sections 7.2 and 16.2, and for publications or disclosures in accordance with Section 5.2, neither party shall disclose to third parties pre-clinical data, clinical data or regulatory filings, comprising Confidential Information of the other party.

16.4 Press Releases. Except as may already be, or is agreed to be, publicly disclosed, in the event that either party proposes to release a press release with respect to this Agreement or the Development Program, such party shall obtain the prior written consent of the other party, which shall not be unreasonably withheld.

ARTICLE 17
INSURANCE; INDEMNIFICATION

17.1 Insurance. Each party shall secure and maintain in effect during the term of this Agreement and for a period of five (5) years thereafter insurance policy(ies) underwritten by a reputable insurance company and in a form and having limits standard and customary for entities in the biopharmaceutical industry for exposures related to the Lead Compounds. Such insurance shall include general liability, clinical trial liability and products liability coverage with respect to such party's performance of the Development Program and commercialization of Lead Compounds hereunder. Upon request by the other party hereto, certificates of insurance evidencing the coverage required above shall be provided to the other party.

17.2 Indemnification of FG. Astellas shall indemnify each of FG and its Affiliates and the directors, officers, and employees of FG and such Affiliates and the successors and assigns of any of the foregoing (the "FG Indemnitees"), and hold each FG Indemnitee harmless from and against any and all liabilities, damages, settlements, claims, actions, suits, penalties, fines, costs or expenses (including, without limitation, reasonable attorneys' fees and other expenses of litigation) incurred by any FG Indemnitee to the extent not otherwise covered by insurance, arising from or occurring as a result of any claim, action, suit, or other proceeding brought by third parties against a FG Indemnitee arising from or occurring as a result of any development, testing, manufacture, importation, use, offer for sale, sale or other distribution of any Lead Compound by or for the benefit of Astellas or its Affiliates or Sublicensees, distributors or agents (including, without limitation, product liability and infringement claims) except to the extent caused by failure of the Lead Compound supplied by FG to meet the Product Specifications in effect at the time of manufacture, or material deviation by FG or its sub-contractor from GMP Guidelines in manufacturing the Lead Compound, or FG's breach of this Agreement or willful misconduct.

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17.3 Indemnification of Astellas. FG shall indemnify each of Astellas and its Affiliates and the directors, officers, and employees of Astellas and such Affiliates and the successors and assigns of any of the foregoing (the "Astellas Indemnitees"), and hold each Astellas Indemnitee harmless from and against any and all liabilities, damages, settlements, claims, actions, suits, penalties, fines, costs or expenses (including, without limitation, reasonable attorneys' fees and other expenses of litigation) incurred by any Astellas Indemnitee to the extent not otherwise covered by insurance, arising from or occurring as a result of any claim, action, suit, or other proceeding brought by third parties against an Astellas Indemnitee to the extent caused by failure of the Lead Compound supplied by FG to meet the Product Specifications in effect at the time of manufacture, or material deviation by FG or its sub-contractor from GMP Guidelines in manufacturing the Lead Compound, except in each case in this Section 17.3 to the extent caused by Astellas' breach of this Agreement or willful misconduct.

17.4 Procedure. A party (for purposes of this Section 17.4, the "Indemnitee") that intends to claim indemnification under any provision of this Agreement shall promptly notify the indemnifying party (the "Indemnitor") in writing of any claim, action, suit, or other proceeding brought by third parties in respect of which the Indemnitee or any of its Affiliates, or their directors, officers, employees, successors or assigns intend to claim such indemnification hereunder. As between the parties hereto the Indemnitor shall have the right to control the defense and settlement of such claim, action, suit, or other proceeding; provided, that the Indemnitee shall have the right to participate in such defense or settlement with counsel of its own choosing at its expense. The Indemnitee shall not make any settlement of any loss, claim, damage, liability or action without the consent of the Indemnitor, to the extent such consent is not withheld unreasonably or delayed. The failure to deliver written notice to the Indemnitor within a reasonable time after the commencement of any such action, if prejudicial to its ability to defend such action, shall relieve such Indemnitor of any liability to the Indemnitee under this Article 17 but the omission so to deliver written notice to the Indemnitor shall not relieve the Indemnitor of any liability that it may have to any Indemnitee otherwise than under this Article 17. Without limiting the foregoing, the Indemnitee shall keep the Indemnitor fully informed of the progress of any claim, action, suit, or other proceeding for which it intends to claim indemnification under this Article 17.

ARTICLE 18
TERM AND TERMINATION

18.1 Term. This Agreement shall become effective as of the Effective Date and, shall continue in full force and effect until terminated pursuant to this Article 18.

18.2 Termination for Cause or Technical Product Failure

18.2.1 Material Breaches. FG may forthwith terminate this Agreement in the event Astellas fails to make any payment due under Articles 6, 9 or 14, within **[*]** following receipt of written notice of such default, or materially breaches its obligations under Articles 8 or 14, and fails to cure such breach within **[*]** following receipt of written notice of such default. Astellas may forthwith terminate this Agreement in the

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event FG materially breaches its obligations under Article 7 or Article 12, and fails to cure such breach within **[*]** following receipt of written notice of such default. Any termination shall become effective at the end of such **[*]** or **[*]** period unless the defaulting or breaching party (or any other party on its behalf) has cured any such default prior to the expiration of the **[*]** or **[*]** period, as the case may be.

18.2.2 Independent Activities. Notwithstanding anything contained in Section 8.3.2 or Section 14.1.1, in the event that Astellas Commercializes any molecules for the Field or the Expanded Field, except for actions taken within the Field in the course of the exercise of the licenses granted under Sections 8.1 and 13.1 hereof and expressly authorized under this Agreement, even if FG determines that Astellas' activities are completely independent of any FG Technology and/or any other FG materials, confidential information, intellectual property or other related information provided by FG to Astellas under this Agreement or any other agreement between FG and Astellas relating to the subject matter hereof, FG shall have the right at its sole discretion to terminate this Agreement upon **[*]** notice to Astellas.

18.2.3 Technical Product Failure. Astellas may terminate this Agreement upon **[*]** notice to FG upon Technical Product Failure.

18.2.4 Development Diligence Failure. FG may terminate this Agreement upon thirty (30) days notice to Astellas in the event Astellas fails to meet any of its development diligence requirements as set forth in Article 11 hereof, provided, however, that with respect to the development diligence obligations set forth in Section 11.3.2, such termination right on behalf of FG shall be triggered only upon Astellas' failure to meet such development diligence obligations for a Major Indication (except those Major Indications set forth in Section 11.3.1(iv)), and Astellas may terminate this Agreement upon thirty (30) days notice to FG in the event FG fails to meet the development diligence requirement as set forth in Section 11.2 hereof.

18.2.5 Other Material Non-Performance/Misrepresentation. Other than a breach giving rise to a termination right as set forth in Sections 18.2.1 or 18.2.4, or a termination pursuant to a Technical Product Failure as set forth in Section 18.2.3 in the event of (i) a party's breach or default in any other material respect in the performance or observance of any other material term, covenant or provision of this Agreement, or (ii) if any representation by a party contained in this Agreement shall prove to have been incorrect in any material respect when made, resulting in material adverse consequences for the other party, (any such default or material incorrect representation a "Material Non-Performance"), such Material Non-Performance shall be remedied only as provided in Section 18.7.4 below.

18.3 Termination in case of Generic Competition. In the event generic equivalents has captured the **[*]** of the quantity of Lead Compound sold by Astellas during the **[*]** preceding such termination calculated on a annual basis; or in the event, after the entry into the market of generic equivalents, that Astellas' annual sales fall below $**[*]** for all Lead Compounds, Astellas may terminate this Agreement upon **[*]** written notice to FG; provided, that Astellas does not Commercialize any Lead Compound after such termination until the expiration of the last to expire FG Patents applicable to such Lead Compound.

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18.4 Negative Advice from Authorities. Astellas may terminate this Agreement upon **[*]** notice to FG in the event Astellas has commenced Phase III clinical studies in those of the following Indications that FG is developing: "Treatment of anemia in patients with chronic kidney disease undergoing dialysis", "Treatment of anemia in patients with chronic kidney disease not undergoing dialysis" and **[*]**, and the Japanese Ministry of Health, Labor & Welfare has provided written notification that it will not approve the Lead Compounds in such Indications or the JDC determines, after the submission by Astellas of Marketing Approval Applications for such Indications, and the receipt of a response or request of the Japanese Ministry of Health, Labor & Welfare that contains development demands that are so onerous that it is not reasonable to continue with Development of the Lead Compounds in such Indications.

18.5 Admission of Invalidity or Unenforceability of FG Patent. Astellas may terminate this Agreement upon **[*]** notice to FG in the event that FG enters into a settlement under Section 14.3 that admits the invalidity or unenforceability of all patents within the FG Technology, including patents covering Lead Compounds.

18.6 Termination upon Notice. Subject to Section 18.7.2, Astellas may terminate this Agreement upon six (6) months notice to FG for any reason or no reason.

18.7 Effect of Termination

18.7.1 Accrued Obligations. Termination of this Agreement for any reason shall not release either party hereto from any liability which, at the time of such termination, has already accrued to the other party or which is attributable to a period prior to such termination nor preclude either party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement.

18.7.2 Termination. In the event of (a) a termination by Astellas under Section 18.6 during the period from the execution of this Agreement until the last to expire of the FG Patents, or (b) by FG under Section 18.2.1, 18.2.2, 18.2.4 or 18.2.5 hereof, Astellas shall, upon the effective date of such termination, pay to FG (i) a termination fee of $**[*]** U.S. dollars and (ii) any payments to which FG is otherwise entitled to receive hereunder in the period from the date of such termination notice until the **[*]**.

18.7.3 Survival. Articles 1, 5, 14, 16, 17, 18, 19 and 20, and Sections 8.3.3 and 10.5, shall survive any termination of this Agreement, along with FG's rights and Astellas' obligations (but not Astellas' rights or FG's obligations, except to the extent required by the Japanese Ministry of Health, Labor and Welfare) under Section 5.1.1 and Article 7. In addition, the following provisions shall survive termination of this Agreement for any reason: Astellas shall assign or cause to be assigned to FG (or if not so assignable, Astellas shall take all reasonable actions to make available to FG) all regulatory filings and registrations (including MAAs and Marketing Approvals) with respect to the Lead Compounds that have been filed or made by or under authority of Astellas, and the rights in trademark with respect to each Lead Compound as provided for in Section 4.4.1, in each case such assignment (or availability)

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shall be made within **[*]** after the notice of termination. From and after the date of a notice of termination, FG shall have no further obligations under this Agreement beyond those obligations that survive termination in such events as specified in this Section 18.7.3.

18.7.4 Material Non-Performance. In the event of any Material Non-Performance by a party, the other party shall, without reasonable delay following discovery of such Material Non-Performance notify the defaulting party in writing, and the parties shall consult with each other in good faith to endeavor to agree upon the most effective means to cure such Material Non-Performance and, if necessary, to effect a remedy in favor of the non-defaulting party for the consequences of such Material Non-Performance by the defaulting party (collectively, the "Resolution"). In the event (i) the parties are unable to agree upon Resolution, or (ii) the defaulting party, in the exercise of reasonable diligence shall have been unable to remedy such Material Non-Performance, then in either such event the remedy of the non-defaulting party with respect to the Material Non-Performance by the defaulting party shall be determined by arbitration pursuant to Section 19.2 hereof, and the arbitrators shall be authorized to fashion such remedy, including equitable relief, which may include termination of this Agreement in whole or in part, as the arbitrators shall determine appropriate, except that termination of this Agreement in whole shall only be the remedy of last resort.

18.7.5 License Upon Termination. In the event of a termination of this Agreement, FG shall have an irrevocable, exclusive, license, with the right to grant and authorize sublicenses, to any trademarks used by Astellas in association with the Lead Compounds hereunder to make, use, sell, import and otherwise exploit products within the Field in the Astellas Territory. Such license shall be royalty-free, provided, however, if such trademark is not a global trademark (i.e. materially different from the trademark used in the FG Territory) and either (i) if Astellas terminates this Agreement under Section 18.2.1 or 18.2.4, or (ii) if this Agreement is terminated in accordance with the procedure as provided for in Section 18.2.5 as a result of FG's Material Non-Performance, in which event FG and Astellas shall negotiate in good faith a reasonable fee for such license.

ARTICLE 19
DISPUTE RESOLUTION

19.1 Disputes. If the parties are unable to resolve any dispute between them regarding the breach, interpretation or enforcement of this Agreement, either party may, by written notice to the other, have such dispute referred to their Authorized Designees, provided that such individuals are not directly involved in the dispute (i.e., the dispute occurs at the JDC, such individuals shall not be members of the JDC), for good faith negotiations. If after **[*]** such executives are unable to resolve the issue, each of Astellas and FG shall have the right to refer the matter to mediation upon notice to the other party, and the parties shall choose a mediator within **[*]** of the receipt of such notice, and shall negotiate in good faith to resolve such matter through the mediator within **[*]** thereafter.

19.2 Full Arbitration. Any dispute, controversy or claim arising out of or relating to the breach, interpretation or enforcement of this Agreement, including disputes relating to termination of this Agreement, shall be settled by binding arbitration in the manner

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described in this Section 19.2. The arbitration shall be conducted pursuant to the rules of Arbitration of the International Chamber of Commerce then in effect. Notwithstanding those rules, the following provisions shall apply to the arbitration hereunder:

19.2.1 Arbitrators. The arbitration shall be conducted by a panel of three (3) arbitrators, with one (1) arbitrator chosen by each of FG and Astellas and the third appointed by the other two (2) arbitrators. If the parties are unable to agree upon a single arbitrator, or the third arbitrator in case of a panel of three (3), such third arbitrator (as the case may be) shall be appointed in accordance with the rules of the Arbitration of the International Chamber of Commerce.

19.2.2 Proceedings. Except as otherwise provided herein, the parties shall use their best efforts to complete the arbitration within **[*]** after the appointment of the Panel under Section 19.2.1 above, unless a party can demonstrate to the Panel that the complexity of the issues or other reasons warrant the extension of one or more of the time tables. In such case, the Panel may extend such time table as reasonably required. The Panel shall, in rendering its decision, apply the substantive law of the State of California, without regard to its conflicts of laws provisions, except that the interpretation of and enforcement of this Article 19 shall be governed by the U.S. Federal Arbitration Act. The proceeding shall be conducted in English and shall take place in the city of Vancouver, British Columbia, Canada. The judgment of the Panel shall be binding upon the parties and enforceable in any court of competent jurisdiction.

19.2.3 Interim Relief. Notwithstanding anything in this Article 19 to the contrary, FG and Astellas shall each have the right to apply to any court of competent jurisdiction for a temporary restraining order, preliminary injunction, or other similar interim or conservatory relief, as necessary, pending resolution under the above described arbitration procedures. Nothing in the preceding sentence shall be interpreted as limiting the powers of the arbitrators with respect to any dispute subject to arbitration under this Agreement.

ARTICLE 20
MISCELLANEOUS

20.1 Confidential Terms. Except as expressly provided herein, each party agrees not to disclose any terms of this Agreement to any third party without the consent of the other party, except (i) as required by securities or other applicable laws or (ii) to prospective and other investors and such party's accountants, attorneys and other professional advisors, or (iii) to others under reasonable conditions of confidentiality.

20.2 Governing Law. This Agreement and any dispute arising from the performance or breach hereof shall be governed by and construed and enforced in accordance with, the laws of the State of California, without reference to conflicts of laws principles.

20.3 Force Majeure. Nonperformance of any party (except for payment of amounts due hereunder) shall be excused to the extent that performance is rendered impossible by strike, fire, earthquake, flood, governmental acts or orders or restrictions, failure of suppliers, or any other reason where failure to perform is beyond the reasonable control of the non-

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performing party. In such event FG or Astellas, as the case may be, shall promptly notify the other party of such inability and of the period for which such inability is anticipated to continue. Without limiting the foregoing, the party subject to such inability shall use reasonable efforts to minimize the duration of any force majeure event.

20.4 No Implied Waivers; Rights Cumulative. No failure on the part of FG or Astellas to exercise and no delay in exercising any right under this Agreement, or provided by statute or at law or in equity or otherwise, shall impair, prejudice or constitute a waiver of any such right, nor shall any partial exercise of any such right preclude any other or further exercise thereof or the exercise of any other right.

20.5 Independent Contractors. Nothing contained in this Agreement is intended implicitly, or is to be construed, to constitute FG or Astellas as partners in the legal sense. No party hereto shall have any express or implied right or authority to assume or create any obligations on behalf of or in the name of any other party or to bind any other party to any contract, agreement or undertaking with any third party.

20.6 Notices. All notices, requests and other communications hereunder shall be in writing and shall be personally delivered or sent by registered or certified mail, return receipt requested, postage prepaid; facsimile transmission (receipt verified); or express courier service (signature required), in each case to the respective address specified below, or such other address or fax number as may be specified in writing to the other party hereto:

Astellas:	Astellas Pharma Inc. Attn: Director of Legal Department **[*]**
with copy to:	Astellas Pharma Inc. Attn: Licensing, Corporate Strategy **[*]**
FG:	FibroGen, Inc. Attn: Chief Executive Officer 225 Gateway Boulevard San Francisco, California 94080 Fax: 1-650-866-7202
with a copy to:	FibroGen, Inc. Attn: Legal Department 225 Gateway Boulevard San Francisco, California 94080 Fax: 1-650-866-7343

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20.7 Assignment. This Agreement shall not be assignable by either party to any third party without the written consent of the other party hereto; except that either party may assign this Agreement without the other party's consent to an entity that acquires substantially all of the business or assets of the assigning party within the Field, in each case whether by merger, transfer of assets, or otherwise. Upon a permitted assignment of this Agreement, all references herein to the assigning party shall be deemed references to the party to whom the Agreement is so assigned.

20.8 Modification. No amendment or modification of any provision of this Agreement shall be effective unless in writing signed by all parties hereto. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by all parties.

20.9 Severability. If any provision hereof should be held invalid, illegal or unenforceable in any jurisdiction, the parties shall negotiate in good faith a valid, legal and enforceable substitute provision that most nearly reflects the original intent of the parties and all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intentions of the parties hereto as nearly as may be possible. Such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of such provision in any other jurisdiction.

20.10 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, and all of which together, shall constitute one and the same instrument.

20.11 Headings. Headings used herein are for convenience only and shall not in any way affect the construction of or be taken into consideration in interpreting this Agreement.

20.12 Export Laws. Notwithstanding anything to the contrary contained herein, all obligations of FG and Astellas are subject to prior compliance with United States and foreign export regulations and such other United States and foreign laws and regulations as may be applicable, and to obtaining all necessary approvals required by the applicable agencies of the governments of the United States and foreign jurisdictions. FG and Astellas shall cooperate with each other and shall provide assistance to the other as reasonably necessary to obtain any required approvals.

20.13 Language. This Agreement is in the English language only, which language shall be controlling in all respects, and all versions hereof in any other language shall not be binding on the parties hereto. All communications and notices to be made or given pursuant to this Agreement shall be in the English language.

20.14 Entire Agreement. This Agreement (including the Exhibits hereto) constitutes the entire agreement, both written or oral, with respect to the subject matter hereof, and supersedes all prior or contemporaneous understandings or agreements, including the Binding Term Sheet, dated as of February 9, 2004 by and between FG and Astellas, as amended

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on January 25, 2005, whether written or oral, between FG and Astellas with respect to such subject matter.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered in duplicate originals as of the date first above written.

ASTELLAS PHARMA INC.

By: /s/ Toichi Takenaka
Toichi Takenaka
President and Chief Executive Officer

Date: 1.September.05

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas Neff
President and Chief Executive Officer

Date: 23 August 05

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EXHIBIT A
LIST OF PATENTS

[*]

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EXHIBIT B
INDICATIONS

Included indications:

- Treatment of anemia in patients with chronic kidney disease undergoing dialysis
- Treatment of anemia in patients with chronic kidney disease not undergoing dialysis
- **[*]**

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EXHIBIT C
INITIAL DEVELOPMENT PLAN

[*]

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Exhibit 10.12

FIBROGEN – ASTELLAS

Anemia License and Collaboration Agreement

This Anemia License and Collaboration Agreement ("Agreement") is made and entered into, effective as April 28, 2006 ("Effective Date"), by and between Astellas Pharma Inc., having a principal place of business at 3-11, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 103-8411, Japan ("Astellas") and FibroGen, Inc., having a principal place of business at 225 Gateway Boulevard, South San Francisco, California 94080 U.S.A. ("FibroGen").

Definitions:

1. "Affiliate" shall mean any entity which controls, is controlled by or is under common control with Astellas or FibroGen. For purposes of this definition only, "control" shall mean the beneficial ownership (direct or indirect) of at least fifty percent (50%) of the voting power (or equivalent power) of the subject entity for the election or designation of directors (or, in the case of an entity that is not a corporation, for the election or designation of the corresponding managing authority).

2. "Anemia Indication" shall mean a treatment, for anemia, or intended to increase hemoglobin or hematocrit in a pathological deficiency in the oxygen-carrying component of the blood, measured in unit volume concentrations of hemoglobin, red blood cell volume, or red blood cell number. For the avoidance of doubt, Anemia Indication shall not include **[*]**. Furthermore, FibroGen and Astellas agree and acknowledge that the Anemia Indications shall include, without limitation, the indications listed on Exhibit A hereto.

3. "Authorized Designee" shall mean an officer of FibroGen or Astellas, as the case may be, designated by the Chief Executive Officer of the respective corporation, that has been granted full authority to resolve a dispute arising between FibroGen and Astellas.

4. "Bulk Product" shall mean a Product supplied by FibroGen to Astellas as a bulk formulated and finished drug (such as in a form of, including, but not limited, to a capsule, tablet or caplet formulation) without packaging.

5. "Collaboration" shall mean the Product Commercialization activities undertaken by or for either or both parties under this Agreement.

6. "Commercialize" shall mean directly or indirectly develop, manufacture, sell, market or distribute.

7. "Control" or "Controlled" shall mean possession of the ability to grant a license or sublicense as provided for herein without violating the terms of an agreement with a third party.

8. "Core Indications" are defined as "Treatment of anemia in patients with chronic kidney disease undergoing dialysis", "Treatment of anemia in patients with chronic kidney disease not undergoing dialysis",**[*]**.

9. "Development Program" shall mean the activities to be performed hereunder

with respect to the development of Products for applications within the Field, in accordance with the applicable development plans (as established hereunder) in effect at that time.

10. "Development Termination Date" shall mean **[*]** before the Patent Expiration Date, provided, however, that in no event shall the Development Termination Date occur prior to **[*]**. The Development Termination Date shall be adjusted forward or backward (but in no event earlier than **[*]**) in time as appropriate to account for a change in the Patent Expiration Date and for those extensions provided for under the "Designation of Products" section below.

11. "FDA" shall mean the U.S. Food and Drug Administration, or any successor agency.

12. "Field" shall mean the treatment of Anemia Indications, together with any additional indications, if any, added to the Field in accordance with the provisions in the "License" section of this Agreement, by means of the stabilization of HIF causing the stimulation of erythropoiesis (including an increase in endogenous erythropoietin production) and/or a subsequent increase in hematocrit through modulation of prolyl hydroxylase and/or asparaginyl hydroxylase.

13. "First Commercial Sale" shall mean, with respect to each Product in a given country, the first bona fide commercial sale of such Product in such country to a non-Affiliate third party by or under authority of Astellas, or its Affiliates or Sublicensees, as the case may be, in the Territory.

14. "FibroGen Acquired Patents" shall mean those FibroGen Patents not originally owned by FibroGen that are in-licensed or otherwise acquired by FibroGen.

15. "FibroGen Technology" shall mean FibroGen Patents and FibroGen Technical Information.

16. "FibroGen Patents" shall mean all patents including all reissues, renewals, re-examinations, supplemental protection certificates, and extensions thereof, and any patent applications, including all divisionals, substitutions or continuations, in whole or in part, thereof, which claim or otherwise cover the composition, manufacture, sale or use of a Product and that are owned or Controlled by FibroGen or its Affiliates as of the Effective Date or during the term of this Agreement (for the avoidance doubt, regardless of whether originally invented or created before or after the Effective Date). For purposes of this definition, a patent or patent application shall be deemed to "cover" a Product if the manufacture, use or sale of such Product would, but for the license granted herein, infringe, contributorily infringe or constitute inducement to infringement of such patent or patent application, if issued or granted as pending.

17. "FibroGen Technical Information" shall mean confidential information, tangible and intangible, and materials, including, but not limited to: trade

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secrets and know how; pharmaceutical, chemical, biological and biochemical compositions; technical and non-technical data and information, and/or the results of tests, assays, methods and processes; clinical data and regulatory filings (such as INDs, DMFs and NDAs); and plans, protocols, specifications and/or other documents containing said information and data; in each case that is possessed by FibroGen as of the Effective Date or discovered, developed, owned or Controlled by FibroGen or its Affiliates during the term of this Agreement, to the extent any of the foregoing relates to the development, manufacture, sale, marketing or use of a Product, together with any information, know-how, trade secrets or documents related to a candidate HIF Compound for potential use as a Product provided by FibroGen to Astellas in connection with the Product selection decision and consultation process.

18. "Fully Burdened Cost" with respect to a Product shall mean all costs actually incurred by FibroGen or its Affiliate(s) attributable and fairly allocable to produce, package and distribute the Product to Astellas or its carrier and any royalties or other consideration (not reimbursed by Astellas) paid to third parties for the acquisition or sale of such Product, which costs to produce and package the Product to include the direct material and labor and indirect costs (fairly allocated) that are incurred by FibroGen or its Affiliate(s) associated with the manufacture, filling, packaging, labeling, and preparation of product for shipment and/or other preparation of such Product, as applicable, including, but not limited to taxes, fees, and customs incurred, as applicable. Fully Burdened Costs will be determined in accordance with U.S. Generally Accepted Accounting Principles (U.S. GAAP) and will include but not be limited to the attributable and fairly allocable costs of facilities, labor, purchasing, depreciation of equipment, materials, payments to third parties for any necessary contract work for the manufacture or testing of the Product, quality assurance, quality control and other testing (including validation studies), storage (if requested by Astellas), shipping and costs for distribution, excess capacity costs (it being understood that any excess capacity costs included in the Product transfer price actually paid by FibroGen to a subcontractor or supplier for the purchase of such Products from such subcontractor/supplier is not subject to scrutiny hereunder for being "attributable and fairly allocable" as such excess capacity costs would be if incurred by FibroGen in FibroGen's own manufacturing activities) and a reasonable allocation of general and administrative overhead for the manufacturing operations. Costs for distribution consist of the labor, materials and reasonably allocated overhead necessary to prepare and package the final product for shipment to Astellas.

19. "Future Third Party Intellectual Property" shall mean any intellectual property rights, including without limitation all patents, trademarks, or copyrights, and any applications therefor, including any applications for registration, issuance, or grant thereof, owned or Controlled by a third party that are necessary for the practice of the license granted hereunder that were not owned or Controlled by FibroGen as of the Effective Date and that do not qualify as Pre-existing Third Party Intellectual Property.

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20. "Generic" means, with respect to a Product Commercialized by Astellas in a country, a product (other than an actual Product Commercialized by Astellas pursuant to this Agreement — but not excluding that same Product if commercialized by a third party competitor) that (a) contains the same active pharmaceutical ingredient contained in such Product (i.e. the HIF Compound that constitutes such Product, without regard to any other active pharmaceutical ingredients that may or may not also be contained in such product and/or Product), whether in the same or modified formulation, and (b) has the same intended use and therapeutic benefit as such Product (including, without limitation, as evidenced by having been approved for one of the same indications as the Product).

21. "Generic Competition" shall exist during a given calendar quarter with respect to a Product in any country in the Territory if, during such calendar quarter, one or more Generics shall be sold commercially in such country and shall have, in the aggregate, a **[*]** or more market share of the aggregate of Products and Generics (based on data provided by IMS International, or if such data is not available, such other reliable data source as reasonably determined by Astellas and FibroGen) as measured by unit sales.

22. "**[*]** Percentage" shall be determined, for any Product, (i) by dividing (a) the **[*]**, which shall be defined as the difference between (x) the **[*]**, and (y) the **[*]**, by (b) the **[*]**; and (ii) multiplying the result of (i) above by 100.

23. "HIF" shall mean hypoxia inducible factor.

24. "HIF Compound" shall mean any molecule that stabilizes HIF through modulation of prolyl hydroxylase and/or asparaginyl hydroxylase.

25. "IND" shall mean an Investigational New Drug application, as defined in the U.S. Federal Food, Drug and Cosmetic Act and the regulations promulgated thereunder, or comparable filing in a foreign jurisdiction, in each case with respect to a Product for use within the Field.

26. "Indication" shall mean any given indication within the Field.

27. "Initiate" or "Initiation" shall mean with respect to a particular clinical trial for a Product, the initial dosing of the first patient in such trial in accordance with the protocol therefor.

28. "JDCA" shall mean the Japanese Definitive Collaboration Agreement between FibroGen and Astellas effective June 1, 2005.

29. "Marketing Approval" shall mean, with respect to each Product, approval in the Territory by the appropriate regulatory agency to market such Product for an Indication within the Field. It is understood that pricing or reimbursement approval shall constitute a part of the Marketing Approval. For purposes of the Milestone Payments triggered by Marketing Approval set forth below, the First Commercial Sale of a Product (excluding permitted sales for compassionate use — also referred to as named patient supply in Europe — pending diligent efforts to obtain Marketing Approval) shall trigger such

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Milestone Payments (if not already triggered by the applicable Marketing Approval itself) solely in the following manner: a First Commercial Sale in an applicable country **[*]** shall trigger the corresponding Marketing Approval-based Milestone Payments, as applicable.

30. "Marketing Approval Application" or "MAA" shall mean, a New Drug Application or similar application as required under the U.S. Federal Food, Drug and Cosmetics Act and the regulations promulgated thereunder, or such similar filing in Europe, or a comparable filing for Marketing Approval in the Territory, in each case with respect to a Product for use within the Field.

31. "Net Sales" shall mean the gross amount billed or invoiced by Astellas, its Affiliates, and its Sublicensees to non-Affiliated third parties for the Product(s) in bona fide arm's length transaction, less the following deductions:

    31.1. credits, refunds or allowances, if any, given or made on account of rejection or return of the Product(s) or otherwise in respect of Products sold hereunder;

    31.2. trade, quantity and other discounts, as well as retroactive price adjustments in such amounts as are customary in the trade;

    31.3. compulsory government rebates whether now or hereafter existing;

    31.4. duties, customs, sales taxes, excise taxes, insurance and transportation charges actually paid to the extent included in the gross amount actually billed or invoiced, as appropriate; and

    31.5. charge back payments or rebates actually paid to wholesalers.

    In the event that Astellas, its Affiliates and its Sublicensees bundles sales of Products with sales of other products, or if any Product (a) is a combination product that contains an active pharmaceutical ingredient(s) (i.e., a chemical entity performing an identifiable therapeutic or prophylactic function) in addition to the active pharmaceutical ingredient that is the HIF Compound which constitutes that Product, or (b) is sold in combination with a specialized delivery device, then the parties shall negotiate in good faith an appropriate allocation of any amounts that would affect Net Sales.

    In the event that Astellas or any of its Affiliates appoints an exclusive distributor for a Product in one or more countries in the Territory subject to an obligation to promote and market the Product or perform other comparable activities for such Product in such countries and the distributor buys the Product from Astellas or its Affiliates at a reduced sales price to account for such distributor's costs of promotion or marketing or other comparable activities, the Net Sales of Product to such third party for the purposes of transfer pricing or royalties hereunder shall be adjusted upward to account for such reduction in sales price.

32. "Patent Expiration Date" shall mean the date of expiration (or, if applicable, invalidation) of the last patent in the Territory within the FibroGen Patents

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containing a claim (a) which covers the composition of any Product, or (b) for which the entry of a Generic within the Field within the Territory would constitute infringement of such claim (irrespective of any license or sublicense granted under such claim). The JSC shall confirm the Patent Expiration Date (in part to allow for confirmation of the Development Termination Date) within six (6) months of the Effective Date, and shall confirm any changes thereto after the occurrence of an event (such as the designation of new Products or changes with respect to the FibroGen Patents) which would result in such a change.

33. "Phase I" shall mean human clinical trials, the principal purpose of which is preliminary determination of safety in healthy individuals or patients as required in 21 C.F.R. §312.21, or similar clinical study in a country other than the United States, and for which there are no primary endpoints relating to efficacy included in the protocol.

34. "Phase IIb" shall mean human clinical trials, for which the primary endpoints include a determination of dose ranges, if not already determined, and a preliminary determination of efficacy in patients with the Indication being studied as required in 21 C.F.R. §312.21, or similar clinical study in a country other than the United States which design is intended to enable the Initiation of the Phase III or Pivotal clinical trial.

35. "Phase III" or "Pivotal" shall mean human clinical trials, the principal purpose of which is to establish safety and efficacy of one or more particular doses in patients with the Indication being studied in a manner designed to be sufficient to support Marketing Approval for such Indication, as required in 21 C.F.R. §312.21(c), or similar clinical study in a country other than the United States. For purposes of clarity, in the event that a Phase IIb has not already occurred with respect to the Indication being studied, upon the Initiation of a Phase III or Pivotal clinical trial, such clinical trial shall also be considered the Initiation of a Phase IIb clinical trial.

36. "Preexisting Third Party Intellectual Property" shall mean any intellectual property rights, including without limitation all patents, trademarks, copyrights, and any applications therefor, including any applications for registration, issuance, or grant thereof, that are owned or Controlled by a third party and that are necessary for the practice of the license granted hereunder, the existence of which was discoverable or otherwise could have been known on or prior to the Effective Date and were not owned or Controlled by FibroGen as of the Effective Date.

37. "Product" or "Products" shall mean any HIF Compound designated by FibroGen for clinical development in an Anemia Indication in accordance with the terms herein. As of the Effective Date, each of FG-2216 and FG-4592 shall be deemed to be a Product. For the avoidance of doubt, Product shall include the finished form of a pharmaceutical product containing such a HIF Compound described above, whether or not other ingredients (active or otherwise) are contained in such product.

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38. "Sublicensee" shall mean a third party to whom FibroGen or Astellas has directly or indirectly granted the right under FibroGen Technology in its respective territory to make, use or sell a Product. For purposes of this Agreement, FibroGen and Astellas shall not be deemed Sublicensees of the other.

39. "Technical Product Failure" shall mean (i) a **[*]** (as hereinafter defined) which is not attributed to Astellas' failure to fulfill its obligations hereunder (including, without limitation, such a **[*]** based upon results from completed or terminated toxicology or other preclinical studies provided, that for FG-2216 only, results generated pursuant to such a toxicology or other preclinical study performed by or on behalf of Astellas and approved by either FibroGen or the JDRC or performed by or on behalf of FibroGen may be considered for purposes of this subsection (i), and, provided, further that the seven preclinical studies identified on Exhibit C which have already been approved by the JDC shall be deemed approved by FibroGen — obtained after the Effective Date, in which case a party may require (upon written request) that the JSC retain an independent expert panel, such experts to be chosen in equal numbers by each of FibroGen and Astellas, to obtain an opinion as to whether such results constitute such a **[*]**, which opinion the JSC shall consider in good faith (and which procedure shall be subject to the timing provisions set forth in the third paragraph of the "Term and Termination" section below), (ii) a statistically significant (**[*]**) increase over placebo in **[*]**, or a statistically significant (**[*]**) increase over placebo and marketed recombinant erythropoietin products in **[*]** Products, (iii) a serious problem in the safety (including, without limitation, such serious problems based upon toxicology or other preclinical results obtained after the Effective Date) of all of the then existing Products not related to manufacture (provided such manufacturing problem may be remedied) occurs which prevents all of the then existing Products from obtaining required clearance for entering or continuing human clinical trials for all of the Core Indications (or which otherwise results in all Products being prevented from entering human clinical trials) for a period of **[*]** after such event occurs in the event no Product has yet received Marketing Approval, (iv) after a Product has obtained Marketing Approval, the Marketing Approvals in **[*]** for all Products on the market in such countries are revoked or suspended for a period of at least **[*]**, or (v) receipt of non-approvable letters from appropriate regulatory authorities for not less than **[*]** indications each. For the avoidance of doubt, results from clinical studies of **[*]** shall not by themselves form the basis of Technical Product Failure unless and until such results appear in studies in other Anemia Indications with the Product or otherwise arise with respect to commercial use of the Product and such other studies or commercial use are sufficient themselves without reference to the results of the **[*]** studies to trigger one of the instances of Technical Product Failure above (it being understood, for the avoidance of doubt, that results from such **[*]** studies shall not constitute grounds for either party to institute the expert panel procedure for the JSC described in (i) above).

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40. "Territory" shall mean the countries listed in Exhibit B.

41. "Third Party Agreements" shall mean collectively those agreements between FibroGen and a third party existing as of the Effective Date, pursuant to which FibroGen obtained rights applicable to the development, manufacture, sale or use of Products hereunder (but excluding options or similar agreements to acquire such rights). If, after the Effective Date, FibroGen enters into an agreement to license or acquire rights from a third party with respect to Products or subject matter to be utilized in connection with Products, such agreements shall also be deemed Third Party Agreements for purposes of this Agreement.

42. "Valid Claim" shall mean a claim of an issued and unexpired patent within the FibroGen Patents, which claim has not been revoked or held invalid or unenforceable by a court or other government agency of competent jurisdiction from which no appeal can be or has been taken within the time period for doing so and has not been held or admitted to be invalid or unenforceable through re-examination or disclaimer, reissue, opposition procedure, nullity suit or otherwise.

License: FibroGen hereby grants an exclusive license to Astellas in the Field, with the right to sublicense to its Affiliates or third parties, under all FibroGen Technology to Commercialize (including to make, have made, use, sell, have sold, offer to sell and import) Products in the Territory.

Neither party shall Commercialize (directly or indirectly), nor license or authorize third parties or Affiliates to Commercialize FG-2216, FG-4592 or any other Products in the Territory for indications outside of the Field (or knowingly sell or supply any such Products to a third party or Affiliate for such purpose), during the term of the Agreement. However, in the event that FibroGen proposes to develop any Product for any indication outside of the Field it shall notify Astellas thereof, designating such indication (a "Designated Indication") in writing. Upon such designation, Astellas shall have the right to include in this exclusive license for the applicable Product solely for the proposed indication, and in the event it determines to exercise such right, such Designated Indication shall (without payment of any additional upfront fees, milestones or other consideration except for those payments already provided for hereunder) be added to the Field (and included in the license to Astellas hereunder) solely with respect to the applicable Product(s) and solely for so long as such compound is a Product and is being Commercialized for such Designated Indication (i.e., none of (a), (b) and (c) below have occurred), after which time period the Designated Indication shall be immediately removed from the Field for such Product (for the avoidance of doubt, Astellas shall have no rights hereunder with respect to the Designated Indication except with respect to each applicable Product for which FibroGen originally proposed or developed such Designated Indication, and all rights to such Designated Indication for a given Product shall terminate upon (a) the permanent cessation (excluding, for example, suspension, termination or completion pending further review, consideration or development planning) of all clinical studies by both parties with respect to such Product for such Indication prior to Marketing

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Approval in such Indication, (b) the termination of all Marketing Approvals for such Indication without either party intending or considering to restore or replace any such Marketing Approval, or (c) the decision of the JSC to permanently cease all Commercialization of such Product in such Indication). If Astellas chooses to join development for such Designated Indication, such Designated Indication shall be treated as a Joint Indication in accordance with the provisions therefor below, and Astellas shall be responsible for 50% of development costs for such Designated Indication in accordance with the Transatlantic Clinical Development Plan and other provisions governing pursuit of Joint Indications herein, otherwise any subsequent joining of development for such Designated Indication by Astellas shall be subject to the rules governing adoption of a previously independently-pursued Indication as provided below. In the event the addition of a Designated Indication raises issues that require amendment of the terms of this Agreement with respect to such Designated Indication, the parties shall confer in good faith regarding the adoption of any such amendment. For the avoidance of doubt, FibroGen shall have no right to, and shall not, Commercialize (directly or indirectly, by license, supply of Product or otherwise) any Product for a Designated Indication in the Territory during the term of this Agreement.

Except for Astellas' Commercialization of Products in accordance with the other terms and conditions of this Agreement (directly and/or through Affiliates and permitted Sublicensees), neither party shall Commercialize (directly or indirectly), nor license or authorize third parties or Affiliates to Commercialize any HIF Compound (whether or not a Product), within the Field, in the Territory (or knowingly sell or supply HIF Compounds to a third party or Affiliate for such purpose) during the term of the Agreement (which for the avoidance of doubt does not prohibit Astellas nor FibroGen from conducting research nor FibroGen from Commercializing HIF Compounds other than Products in the Territory for any use outside the Field, subject to its obligations with respect to Products hereunder). Astellas agrees that during the term of this Agreement (i) it will not (and will not authorize any third party to) Commercialize any Product for use outside the Field or outside the Territory, (ii) it will not (and will not authorize any third party to) provide any supplies of any Product to any third party which Astellas knows or has reason to know (including because Astellas has been provided notice by FibroGen thereof) is being marketed, sold or distributed for use outside the Territory, (iii) it will use commercially reasonable efforts (which level of efforts shall not take into account any financial gain of Astellas from sales of such Products outside the Field) to not (and will not authorize any third party to) provide any supplies of Product to any third party which Astellas knows or has reason to know (including because Astellas has been provided notice by FibroGen thereof) is being marketed, sold or distributed outside the Field, (iv) with respect to any third party (including without limitation any Affiliates, Sublicensees, distributors) marketing or distributing Product in the Territory pursuant to an agreement with Astellas, it will enforce the terms of any such agreements in the event such entity distributes such Product outside the Territory to prevent such ex-Territory distribution, (v) it will not (and will not authorize any third party to) conduct or sponsor, or knowingly provide any supplies of any Product for use in, any clinical trial designed to demonstrate that a Product can be used outside the

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Field, or (vi) it will not (and will not authorize any third party to) seek regulatory approval of, or label, a Product for use outside the Field. Astellas further agrees that for a period of **[*]** following the termination of this Agreement by Astellas other than For Cause, it will not Commercialize (directly or indirectly), nor license or authorize third parties or Affiliates to Commercialize any HIF Compound (whether or not a Product), in the Territory (or knowingly sell or supply HIF Compounds to a third party or Affiliate for such purpose) (which, for the avoidance of doubt, does not prohibit Astellas from conducting research).

The Milestone Payments and the transfer or royalty payments to be made under "Cost of Supply; Transfer Price Payments" section have substantial present value to FibroGen. Consequently, if, (a) during the term of this Agreement, Astellas performs any Commercialization activities outside this Collaboration with respect to any HIF Compound for use as a therapeutic, Astellas shall notify FibroGen immediately in writing, and even if Astellas establishes **[*]** that such activities are completely independent of FibroGen and its technology and information (including, without limitation, FibroGen Technology), FibroGen shall have the right to terminate the Agreement following notice to Astellas if Astellas has not cured within **[*]** (subject to reasonable extensions solely as required to comply with applicable laws and regulations for cure activities that cannot be completed in such time period without violation of such laws and regulations including, without limitation, regulatory requirements concerning transfer or winding-down of clinical trials) any such activities, including, **[*]**, and (b) in the event that Astellas acquires an entity or all or substantially all of the assets of an entity or is acquired by or merges with an entity and such entity is Commercializing any HIF Compound for use as a therapeutic, Astellas shall notify FibroGen immediately of such acquisition and whether it shall (i) divest itself of such HIF Compound(s), in which event it shall have **[*]** from the date of such acquisition in which to divest itself of such HIF Compound or (ii) cure the Commercialization of any such HIF Compound, within **[*]** from the date of such acquisition, subject to such reasonable extensions solely as required to comply with applicable laws and regulations for cure activities that cannot be completed in such time period without violation of such laws and regulations including, without limitation, regulatory requirements concerning transfer or winding-down of clinical trials) such activities (as described above), and in the event that Astellas fails to meet the timelines for divestiture or cure under (i) and (ii), respectively, of this section FibroGen shall have the right to terminate this Agreement upon notice to Astellas (for the avoidance of doubt, in the case of an event under (b) which Astellas cures by either (i) or (ii), **[*]**). Astellas will not use and apply any of FibroGen's proprietary know-how provided to Astellas by or on behalf of FibroGen under this Agreement or any other Agreement relating to the subject matter hereof and related to HIF Compounds, the Field, HIF, except as part of the Collaboration (including, for the avoidance of doubt, in performing its obligations or exercising the rights granted to Astellas hereunder) for the avoidance of doubt, during the term of this Agreement or at any time after the expiration or termination of this Agreement.

Right of Negotiation: During the term of this Agreement, prior to FibroGen licensing rights to any

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Products in the Field in countries outside the Territory (except for North America (i.e., the US, Canada and Mexico) and Japan) (and, for the avoidance of doubt, with respect to a given country only prior to the execution of a license for such rights in such country), FibroGen shall notify Astellas in writing of its intent to license and Astellas shall have **[*]** to negotiate a license for such rights (during which time FibroGen and Astellas shall make appropriate personnel available for discussions about such a license); provided, however, that if FibroGen fails to execute a license with respect to such countries for the applicable Product or Products within **[*]** after the end of any such sixty day period, the foregoing negotiation right shall again apply with respect to the applicable countries and FibroGen must provide notice for a new **[*]** negotiation period as provided above before licensing such territories for the applicable Product or Products. For the avoidance of doubt, the right of negotiation provided for in this paragraph shall apply to any acquirer or permitted assignee of FibroGen, but shall not apply to any FibroGen sublicensee under this Agreement with respect to a given country so sublicensed, provided the foregoing negotiation rights were afforded to Astellas prior to the grant of such sublicense for such country.

Right to Sublicense: Astellas' right to sublicense to third parties, as provided in the first paragraph of the License Section of this Agreement, is **[** * **]**, provided that **[** * **]**. It shall not be **[** * **]** for a sublicense to any person that **[** * **]**. In the event that Astellas enters into such a sublicense with a third party (which, for the avoidance of doubt, excludes Affiliates, provided that, for the avoidance of doubt, the obligations of Astellas with respect to any activities performed under this Agreement by any Affiliates shall apply to such Affiliates), such sublicense shall (i) obligate any such third party to notify Astellas immediately if (a) such sublicensee initiates a Phase II clinical trial or otherwise engages in Commercialization activities from and after such point of initiation of a Phase II clinical trial) with human therapeutics for the treatment of an Anemia Indication, or (b) the sublicensee is acquired by, merged with, or otherwise comes under control of or common control with any entity that is Commercializing (from and after such point of initiation of a Phase II clinical trial) with a human therapeutic for the treatment of an Anemia Indication, and (ii) provide Astellas the right to terminate the sublicense if such an event described in (i) above occurs. Upon receipt of any such notice from an Astellas sublicensee, or absent such notice, upon becoming aware of any of the events described in (i) (a) or (b) above, Astellas shall exercise its right to terminate the sublicense unless the JSC approves otherwise.

For avoidance of doubt, nothing in this Agreement is intended to preclude FibroGen from licensing, assigning or otherwise transferring rights to any Products in North America and in such case, FibroGen may delegate any obligations set forth herein to such sublicensee or transferee as appropriate; provided, however, for the avoidance of doubt, no such sublicense, transfer or delegation shall release or limit FibroGen's obligations to Astellas under the terms and conditions of this Agreement.

Upon execution of this Agreement, FibroGen shall provide DFCI appropriate notice of Astellas' grant of sublicenses to (i) its Affiliates hereunder and (ii) future permitted sublicensee upon consent by FibroGen to grant such sublicense.

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Designation of Products: In addition to FG-2216 and FG-4592, a HIF Compound shall become a Product hereunder when any such HIF Compound owned or Controlled by FibroGen is so designated by FibroGen (by notice to Astellas as described below) prior to the Final Development Termination Date. FibroGen shall provide notice to Astellas of any such designation, identifying the HIF Compound subject thereto.

FibroGen shall consult with Astellas with respect to HIF Compounds in research and development by FibroGen that show promise for Anemia Indications and shall provide to Astellas information (other than structures) as reasonably necessary to evaluate such HIF Compounds in connection with the designation process (and generally in response to reasonable, periodic requests from Astellas and for providing periodic status reporting to the JSC), including without limitation the information relating to patent situations in the Territory. Without imposing any obligation on the part of FibroGen to identify or generate any additional HIF Compounds, FibroGen shall make good faith and diligent efforts to present potential Products that it reasonably believes offer substantial clinical benefit over then-current Products from such HIF Compounds owned or Controlled by FibroGen to the JSC for review, provided that FibroGen shall present results from any Phase II clinical trial conducted in the Field with a potential Product to the JSC for review. If Astellas, through the JSC, commits to a Development Program (as described in the development sections below) for Commercialization of such HIF Compounds, then FibroGen shall designate such HIF Compounds as Products. For the avoidance of doubt, a given HIF Compound shall be deemed designated as a Product (and written notice thereof provided to Astellas) once FibroGen (directly or indirectly, including by a licensee) Initiates a Phase III clinical trial with such HIF Compound in patients for an Anemia Indication prior to the Final Development Termination Date. Once designated as a Product(s), a given compound shall remain a Product until (a) the permanent cessation (excluding, for example, suspension, termination or completion pending further review, consideration, development planning or regulatory discussions) of all clinical studies by both parties with respect to such Product for all Indications prior to Marketing Approval, (b) the termination of all Marketing Approvals for such Product without either party intending or considering to restore or replace at least one such Marketing Approval or obtain a new Marketing Approval, or (c) the decision of the JSC to permanently cease all Commercialization of such Product for all Indications (provided such cessation of development is not due to the compound having already received Marketing Approval or otherwise being commercially successful), and upon the occurrence of any such event, said HIF Compound shall no longer be a Product hereunder and all rights granted to Astellas by FibroGen hereunder to such HIF Compound shall revert to FibroGen. For the avoidance of doubt, when a given HIF Compound (including FG-2216 and FG-4592) becomes a Product, such designated Product shall include all salts, esters, complexes, chelates, crystalline and amorphous morphic forms, pegylated forms, enantiomers (excluding regioisomers), prodrugs, solvates, metabolites and catabolites of the active pharmaceutical ingredient that is the HIF Compound of such Product, except to the extent any of the foregoing has a different basic chemical structure than the active pharmaceutical ingredient that is the HIF Compound of such Product.

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During the **[*]** period beginning on the date that is **[*]**, (each such period, a "Look-in Period") Astellas shall be given the opportunity to review and to perform due diligence on the HIF Compounds currently being researched and developed by FibroGen for the purposes of determining whether it shall continue, after such Development Termination Date, development under the Agreement of additional Products other than those Products already designated under this Agreement. In the event the **[*]** is accelerated (due to **[*]** or similar causes), such that Astellas does not get the benefit of such a **[*]** look period at such time, such **[*]** shall be extended to the extent required to allow for such a **[*]** period.

During any aforementioned Look-in Period, FibroGen shall provide such information, consultation and assistance (excluding disclosure of actual compound structures) as reasonably requested by Astellas to allow Astellas to conduct diligence on all eligible HIF Compounds of FibroGen that show some promise for Anemia Indications and to determine if Astellas desires to continue with Commercialization of additional Products other than those Products already designated under this Agreement under the Collaboration. Astellas shall indicate in writing, prior to such Development Termination Date, whether it wishes to extend this Agreement beyond the current (at that time) term and fund further pre-clinical and clinical development (as more fully described below) for Commercialization of additional potential Products other than those Products already designated under this Agreement under the Collaboration after the Development Termination Date. If Astellas so notifies FibroGen in writing prior to such Development Termination Date of its intent to extend the Agreement: (a) the term of the Agreement shall be extended for a minimum of ten (10) years from the then applicable Development Termination Date and the Development Termination Date itself shall be reset for a minimum of five (5) years after the then applicable Development Termination Date, with both such dates otherwise subject to extension (e.g., depending on the Patent Expiration Date) as provided for under the terms of this Agreement; (b) Astellas shall commit to participating in the Development Program for any new Product designated by FibroGen hereunder during the term of this Agreement (including the Core Indications as set forth below), in accordance with the terms hereof (including by Astellas funding fifty percent (50%) of the Transatlantic Clinical Development Plan (as defined below) therefore); and (c) Astellas shall fund fifty percent (50%) of any preclinical development work of any newly designated Products conducted in accordance with a JSC approved preclinical development plan following Product designation by FibroGen, provided that all Indications for which a Product has received Marketing Approval in the Territory or shall receive Marketing Approval in the Territory in the **[*]** following such Development Termination Date shall be the only Core Indications for purposes of this Agreement with respect to Products designated after such Development Termination Date.

Governance: The parties shall form a Joint Steering Committee (JSC) that will oversee and coordinate all activities of the Collaboration and manage two subcommittees:

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A. the Joint Development and Regulatory Committee (JDRC), and

B. the Joint Commercialization Committee (JCC).

Each Subcommittee is co-chaired by one representative from each party and responsible for planning and implementation of actions and activities to support the Products.

Joint Steering Committee: A Joint Steering Committee (JSC) shall be formed with an equal number of representatives from FibroGen and Astellas (which such number shall initially be set at **[*]** for each party, unless and until the parties agree upon a different number). The JSC shall have as its overall purpose the responsibility of overseeing and reviewing (i) development, registration, marketing, manufacturing, and sale of the Product in the Territory for the Core and Joint Indications, (ii) the status and implementation of the Transatlantic Clinical Development Plan, and (iii) coordination issues in worldwide Commercialization of Products marketed both within and outside the Territory. The JSC shall also be responsible for resolving any disputes that cannot be decided at the subcommittee level. The JSC shall meet at least **[*]** times per year (**[*]** of which may be by teleconference), unless the parties agree otherwise. Actions to be taken by the JSC (as well as the JDRC and JCC) pursuant to the terms of this Agreement shall be taken only following the unanimous vote of the members of the JSC (or such other committee as the case may be). The JSC shall attempt to have all decisions approved by all members of the JSC. Except as otherwise set forth herein, disputes that cannot be resolved by the JSC shall be resolved via the Dispute Resolution process outlined below.

Joint Development and Regulatory Committee: A Joint Development and Regulatory Committee (JDRC) shall be formed with an equal number of representatives from FibroGen and Astellas (to be set by the JSC or as otherwise agreed by the parties). The JDRC shall have as its overall purpose the responsibility of achieving the necessary Marketing Approvals for Products in the Territory through a transatlantic Development Program. Disputes arising at the JDRC level shall be elevated to the JSC for resolution.

Joint Commercialization Committee: A Joint Commercialization Committee (JCC) shall be formed with an equal number of representatives from FibroGen and Astellas. The JCC shall have as its overall purpose the responsibility of coordinating the launch of the Product(s) in the Territory including trademarking, however, Astellas shall lead and retain control over marketing and commercialization in the Territory. Disputes arising at the JCC level shall be elevated to the JSC for resolution.

Development: During the term of the Agreement, Astellas shall use commercially reasonable efforts to develop Products in the Territory and FibroGen shall use commercially reasonable efforts to develop Products in North America, in each case for the Core Indications and all other indications for which it agrees to pursue development hereunder. During the term of this Agreement, Astellas will use commercially reasonable efforts to sell, market and distribute the Products for Indications for which such Products have received Marketing Approval. Notwithstanding the foregoing, in the event that Astellas Commercializes any product that **[*]** for an Anemia Indication outside of this Agreement (a “Competing Product”), commercially reasonable efforts shall be determined without consideration of the fact that it is (i.e. as if it were not) Commercializing any such Competing Product.

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FibroGen and Astellas will coordinate through the JSC and the JDRC a development strategy for North America and the Territory and will conduct those studies and pursue such clinical trials and regulatory filings that are necessary and sufficient for Marketing Approval of the Products therein (the "Transatlantic Clinical Development Plan"). The JDRC shall periodically review and update the Transatlantic Clinical Development Plan as appropriate, provided that in any event all changes and updates to the Transatlantic Clinical Development Plan shall require approval by the JSC. Astellas shall be responsible for handling regulatory filings and approvals in the Territory and shall hold and own all filings, approvals and registrations for the Products in the Territory, which shall be assigned to FibroGen upon the termination of this Agreement (excluding expiration or termination by Astellas for FibroGen's breach). The parties shall regularly exchange information and status updates with respect to their activities conducted and results obtained under the Transatlantic Development Plan (including by providing periodic status updates to the JDRC) and shall provide such assistance as is reasonably requested by the other party in its performance of the Transatlantic Development Plan.

Either party may decide whether or not to pursue Indications outside of the Core Indications at any time in the Development Program. If either party decides to pursue development of such an additional Indication(s), it shall notify the other party so that the parties can create and execute a joint development plan in accordance with the provisions herein (e.g., incorporation into the Transatlantic Clinical Development Plan as well as, if applicable, local Product development plans for activities specific to a party's respective territory) for such Indication (a "Joint Indication"). If, however, either party decides not to pursue such non-Core Indication which the other party is pursuing, such Indication shall not be a Joint Indication and the other party may pursue such Indication independently; provided, however, that if the declining party later decides to join in the development of any such other Indications outside of the Core Indications it shall be considered a Joint Indication and such joining party must work with the existing developing party to develop a new plan hereunder that is based on, and is designed to work with (and not interrupt), the existing developing party's development plan and timelines for its respective territory, and such joining party shall reimburse the developing party for **[*]** of any development costs incurred previously by such developing party for that Indication from the Effective Date.

Reporting of adverse experiences under this Agreement shall be governed by the terms and conditions of Section 4.4.2 of the JDCA (as reasonably applied to this Agreement — e.g., "Lead Compound" therein shall refer to "Product" for purposes of this Agreement), provided that Astellas shall have responsibilities regarding PSURs in the Territory, such documents to be subject to final approval by the JDRC and further provided that non-serious adverse events are reported from Astellas to FibroGen and from FibroGen to Astellas, on a quarterly basis, as determined by both parties at the JDRC for the respective compound. Notwithstanding the foregoing, the parties shall meet and agree upon a

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pharmacovigilence agreement that shall comply with applicable laws and regulations and shall include by way of example, but not limitation, (i) establishment and maintenance of a global safety database in accordance with mutually agreed specifications, terms and conditions, which will provide each party with access thereto in order to fulfill their respective reporting duties and obligations, and (ii) review and approval of PSURs in North America and the Territory by the JDRC to the extent compatible with applicable laws and regulations.

Subject to the confidentiality obligations hereunder, each party shall provide the other party access to, and, where practical, copies of, preclinical and clinical data (including raw data thereof), analyses, reports, protocols and correspondence, as well as all regulatory filings and approvals, in such party's possession with respect to the Products at reasonable times and upon reasonable request by the other party. The other party shall have the right to use and the right to reference such information and materials, and the associated regulatory filings and approvals, for the purpose of the other party's Commercialization activities for the Products hereunder (including for the purpose of including and referencing the same in its regulatory filings for Products in its respective territory). Each party shall reasonably cooperate with the other, including by executing such documents, as may be necessary to evidence or implement the foregoing rights of reference with respect to regulatory filings.

For the avoidance of doubt notwithstanding anything to the contrary in this Agreement, neither party shall be obligated hereunder (a) to develop (or fund development of) a Product for a non-Core Indication, unless the parties have otherwise agreed to develop a Product for such an Indication, e.g., without limitation, a Designated Indication or a Joint Indication, nor (b) to develop (or fund development of) more than two Products at any one time (plus, if applicable, potentially a pre-clinical development program for a third Product following Astellas' decision to extend the Collaboration after a Development Termination Date) unless FibroGen designates a Product based upon Astellas' commitment, through the JSC, to Commercialize such Product hereunder in accordance with the "Designation of Product" Section, it being understood and agreed that such limitations on the number of Products a party is obligated to develop shall exclude for the purposes of such calculation Products for which Marketing Approval has been received. Either party may decline to pursue development of any Product in excess of the two or three Products limits specified above, provided that if the declining party later decides to join in the development of any such other Product, such joining party shall work with the existing developing party to develop a new plan hereunder that is based on, and is designed to work with (and not interrupt), the existing developing party's development plan and timelines for its respective territory, and such joining party shall reimburse the developing party for **[** * **]** of any development costs incurred previously by such developing party for that Product from the Effective Date to the extent not already shared.

Development Plan: Astellas and FibroGen each agrees to pursue Marketing Approval of the Core Indications and Joint Indications in the Territory and North America, respectively, on a concurrent basis. Astellas and FibroGen will develop and agree to the initial

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Transatlantic Clinical Development Plan for such concurrent development within 6 months of the signing of the Agreement and until then, the parties shall cooperate on a reasonable transition of Product development to the Collaboration based on FibroGen's existing clinical development plan as coordinated through the JDRC. For avoidance of doubt, FibroGen's current or planned clinical studies with FG-2216 for **[*]** in Phase II, treatment of anemia in patients with chronic kidney disease not undergoing dialysis in Phase IIb, treatment of anemia in patients with chronic kidney disease undergoing dialysis in Phase Ib/IIa, treatment of anemia in patients with chronic kidney disease undergoing dialysis in Phase IIb, and treatment of **[*]** in Phase II, and FG-4592 in Phase IIa as set forth in Exhibit D attached hereto shall be included in the initial Transatlantic Clinical Development Plan unless later modified by the JDRC.

Each party shall have the right to designate two (2) Priority Indications (which designation can be adjusted on an annual basis by no more than one changed Indication per year), so long as any such indication is not then approved for treatment with recombinant erythropoietin in the respective Territory. In the event that the parties cannot agree on a matter relating to a Priority Indication whether designated by FibroGen or Astellas (following appropriate efforts to resolve such matters in the JDRC and JSC) resulting in a significant delay (e.g. **[*]**) from the timeline in the Transatlantic Clinical Development Plan, either party shall have the right to pursue the affected Priority Indication in its respective territory without involvement of the JSC, the JDRC and the other party; provided, however, that in such event (a) each such party shall fund its own development costs for such Indication, (b) in the event that a party desires to use the other party's data (or references to regulatory filings) for obtaining approval for such Indication in its own territory, such party shall reimburse the other party for **[*]** of any development costs incurred previously by such other party to generate such data and make such filings for such Indication (excluding any portion of such costs that were already subject to sharing before the foregoing was triggered).

FibroGen and Astellas agree to use commercially reasonable efforts to pursue development of **[*]** on an expedited approval basis in North America and the EU, unless mutually agreed by the parties. Results from clinical studies of **[*]** shall not form the basis of the termination of this Agreement.

In the event that either party is acquired by, or grants a license to develop and market a Product for a Core Indication to another company that manufactures and markets recombinant erythropoietin (whether at the time of the acquisition or license grant, or thereafter), and thereafter, a significant delay (e.g. 3 months) occurs on a Core Indication (or the relevant Core Indication in case of said grant of license) beyond the timeline set forth in the Transatlantic Clinical Development Plan in effect at the time of the acquisition, at the time of said grant of license, as applicable, as a result of a failure of the parties to agree within the JDRC or JSC or a failure of cooperation by the acquired party or its successor, the licensor party or its licensee, as applicable, in accordance with the terms of this Agreement, then the other party shall have the right to pursue such Core Indication in its respective territory without involvement of the JSC, the JDRC or the other party, or its successor; provided, however, that in such event (a) each such party shall fund its

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own development costs for such Core Indication, and (b) in the event that a party desires to use the other party's data (or references to regulatory filings) for obtaining approval for such Indication in its own territory, such party shall reimburse the other party for **[*]** of any development costs incurred previously by such other party to generate such data and make such filings for such Core Indication (excluding any portion of such costs that were already subject to sharing before the foregoing was triggered).

Development Costs: All costs and expenses (including reasonable FTE costs and the Fully Burdened Cost of clinical supplies of the Product) incurred by either party for the Transatlantic Clinical Development Plan after the Effective Date shall be reported, adjusted and reconciled between them on a quarterly basis so that FibroGen and Astellas are to share such costs and expenses equally. For avoidance of doubt, the foregoing costs and expenses are exclusive of those relating to Japan, which are governed by the terms of the JDCA. Any costs and expenses to be reimbursed under this Agreement shall be limited to amounts reasonably incurred and fairly allocated to development activities hereunder and shall be consistent with the Transatlantic Clinical Development Plan, or other plan approved by the JSC or JDRC and with the cost principles of mitigating the total cost of the Development Program as much as possible by adequately allocating the work among FibroGen, Astellas and their respective contractors, the specifics of which will be agreed upon hereafter between the parties. At least two (2) months before the beginning of each calendar year, the JDRC shall prepare a detailed annual budget for the calendar year covering the development activities of each party specified the Transatlantic Clinical Development Plan based upon the cost principles of this paragraph for review and approval by the JSC. The JDRC shall review the annual budget at least quarterly and propose any necessary amendments, such amendments shall be subject to review and approval by the JSC. In the event that a party expects to exceed the annual budget by more than **[*]** in any given quarter or by more than **[*]** for a given year, the party shall promptly notify the JDRC and the JDRC shall determine whether amendment of the annual budget is reasonably required and, if so, propose an amendment of the budget, which shall be subject to the review and approval of the JSC. In the event that a party exceeds the annual budget (with any JSC approved amendment thereto) by more than **[*]** in any given quarter or **[*]** for the annual budget, the party shall not be in breach of this agreement as a result of exceeding the budget; provided, however, that the party shall not be entitled cost sharing with the other party in accordance with the Section "Development Costs" for that portion of its costs and expenses in excess of the annual budget for that quarter plus **[*]** or that year plus **[*]**, as applicable, except that development costs incurred in conducting the Transatlantic Clinical Development Plan in excess of **[*]** for the quarter or **[*]** for the year, as applicable, of the amounts so budgeted shall also be reimbursed if both Parties approve the excess Development Expenses (either before or after they are incurred), and each party shall determine in good faith whether such development costs were reasonably incurred in the performance of the Transatlantic Clinical Development Plan. Within six (6) months of the Effective Date, the JSC shall establish a procedure for controlling and monitoring the budget to ensure that all clinical trials approved in the Transatlantic Clinical Development Plan shall have appropriately allocated and approved budgets in a timely manner.

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Astellas and FibroGen shall conduct all clinical and regulatory development activities specifically required in the Territory and North America, respectively, if any (i.e., to the extent not included in the Transatlantic Clinical Development Plan) at each of their own respective cost and expense in accordance with a local development plan to be approved by the JSC and JDRC (provided that the budget and costs therefore shall not be subject to JSC or JDRC approval).

FibroGen and Astellas will negotiate in the Transatlantic Clinical Development Plan the reasonable allocation of the costs for the Core Indications incurred from the Effective Date until the date such plan takes effect, for the currently open clinical trials in the Territory.

Manufacturing & Supply: Each of FibroGen and Astellas may manufacture (which shall include have manufactured by third parties for purposes of this Agreement) Product for development, use and sale in the Territory. In the event that FibroGen manufactures, FibroGen shall provide Astellas with Product in the form of Bulk Product (as described in the JDCA) and FibroGen shall be obligated to maintain two separate, validated manufacturing sites within **[*]**.

The parties agree that FibroGen shall manufacture and supply all of both parties' requirements for Product for non-commercial and commercial use for so long as Astellas desires FibroGen to do so, provided, however, that during such period of time as FibroGen is manufacturing and supplying all Product on behalf of Astellas, Astellas shall not grant to any Sublicensee or other third party (which, for the avoidance of doubt, excludes Affiliates) any right to make or have made any Product. Prior to completion of the first Phase III clinical trials for the Products, the parties shall negotiate and enter into a commercial supply agreement with respect to the commercial supply of Products to Astellas by FibroGen, consistent with the terms and conditions hereof and otherwise containing customary terms and conditions.

In connection with the supply of any Product for non-commercial use: (a) for supplies needed for the Transatlantic Clinical Development Plan, FibroGen shall provide such supplies in accordance therewith or, if not so specified, as necessary for the conduct of such trials on the timelines specified in such Transatlantic Clinical Development Plan, (b) for supplies needed to conduct trials specific to the Territory and not part of the Transatlantic Clinical Development Plan, Astellas shall provide FibroGen with a firm purchase order reasonably prior to its requirements as mutually agreed by the parties. FibroGen shall provide such Product to Astellas as soon as practicable within such time period, subject to the reasonable lead time requirements of third party contract manufacturers. All forecasts shall be prepared in good faith in order to facilitate FibroGen's manufacture and shipment of the Product in compliance with this Agreement. All Products supplied by FibroGen to Astellas hereunder (whether for commercial or non-commercial use) shall be manufactured in compliance with applicable laws and regulatory requirements, including cGMP and ICH, and Marketing Approvals therefor, and in accordance with the terms and conditions of Section 12.4 through 12.12 of the JDCA (as reasonably applied to this Agreement, including that shipment shall be Ex-Works (Incoterms 2000)) and shall conform to the specifications therefore.

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In connection with the supply of any Product for commercial use in the Territory upon FibroGen's request, Astellas and FibroGen shall negotiate in good faith for inclusion in the commercial supply agreement appropriate forecasting and firm purchase order lead times, taking into consideration the reasonable notice requirements of FibroGen and its third party manufacturers. All forecasts shall be prepared in good faith in order to facilitate FibroGen's manufacture and shipment of the Product in compliance with this Agreement.

In the event that Astellas determines to manufacture, whether directly or through Affiliates or third parties, Product for the Territory, Astellas shall provide FibroGen with not less than **[*]** notice, or such other notice as reasonably required to comply with FibroGen's obligations to third party manufacturers (for the avoidance of doubt, manufacture by Astellas' Affiliates or other third parties at the direction of Astellas or its Affiliates in breach of this sentence shall be deemed Astellas' breach); provided, however, that in the case of FibroGen's material failure to supply Astellas' reasonably forecasted commercial requirements under the terms and conditions contained in the supply agreement, Astellas may initiate the process of taking over manufacturing its own requirements immediately upon reasonable notice to FibroGen with a reasonable opportunity to cure. In the event that Astellas determines to manufacture Products for the Territory hereunder, FibroGen shall provide to Astellas such information (including know-how, processes, procedures, formulas and protocols), consultation and assistance as is reasonably necessary for Astellas and/or its contract manufacturer to set and implement manufacturing operations for the Product and to manufacture Products for the Territory (at Astellas' expense unless resulting from FibroGen's material and uncured breach of its manufacture and supply obligations hereunder or under the supply agreement, provided, that, a force majeure event shall not be considered a material breach of the obligation to supply under this Agreement or the supply agreement).

Cost of Supply; Transfer Price Payments:

For Products to be used for a non-commercial purpose in the Territory (as described below), (a) FibroGen's Fully Burdened Cost therefore shall be divided equally between the parties to the extent such supplies are for use in conducting the Transatlantic Clinical Development Plan, and (b) Astellas will pay FibroGen's Fully Burdened Cost of such Products to the extent (i) such supplies are for use by Astellas other than as part of the Transatlantic Clinical Development Plan or (ii) such supplies are for use as promotional samples to be disseminated by Astellas.

For Products to be used for a commercial purpose in the Territory (as described below), if FibroGen manufactures Product, Astellas will pay to FibroGen a transfer price based upon a good faith estimation as agreed by the parties equal to **[*]** of Net Sales on Net Sales up to $**[*]** US dollars per year in the Territory, and **[*]** on Net Sales above $**[*]** US dollars per year in the Territory, such price to be set at the beginning of each calendar year for the upcoming year, with a reconciliation of such transfer price paid for Products to conform to the actual Net Sales on a quarterly basis for such Products (with a corresponding payment or

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credit adjustment made between the parties so that Astellas will have paid the -amounts based on actual Net Sales for such Products, rather than the estimated transfer price, after applying such reconciliation). If Astellas manufactures Products, Astellas will pay to FibroGen **[*]** of its Net Sales on Net Sales up to $**[*]** US dollars per year in the Territory, and **[*]** on Net Sales above $**[*]** US dollars per year in the Territory with respect to such Products, to be paid and calculated on a quarterly basis. In the event that both FibroGen and Astellas manufacture, calculation of Net Sales within the Territory shall be aggregated for the purposes of calculation of the $**[*]** annual threshold. In the event that FibroGen materially fails to manufacture and supply Astellas' requirements for Products for the Territory under the commercial supply agreement (following reasonable opportunities to cure such failure in accordance with such supply agreement), and Astellas determines to manufacture Product for the Territory, Astellas shall be entitled to reduce the foregoing payments to FibroGen by the amount of its fully burdened manufacturing costs of Products (so that it is incurring the same aggregate amount with respect to Product supply and sale that it would have incurred if FibroGen was manufacturing such Product). The foregoing transfer price and royalty rates shall be reduced from **[*]** down to **[*]**, on a country-by-country and Product-by-Product basis upon the first to occur of (a) the onset of Generic Competition with respect to a particular Product in a particular country, or (b) the expiration (or invalidation, revocation or unenforceability, as the case may be) of the last Valid Claim within the FibroGen Patents in a particular country that cover the particular Product in such country (provided that, with respect to countries in which there are no such Valid Claims to begin with, **[*]**, (ii) the onset of Generic Competition in such country as per (a) above, or (iii) expiration (or invalidation, revocation or unenforceability, as the case may be) of the last Valid Claim within the FibroGen Patents that cover the particular Product **[*]**.

In the event that FibroGen is manufacturing Product and the weighted average percentage of payment amount for supply of the FibroGen-manufactured Products per unit (across the entire Territory) drops below **[*]** as provided above due to Generic Competition or patent expiry, FibroGen shall have the following **[*]** protection: if the **[*]** Percentage on the Products for FibroGen fall below **[*]** after the entry of Generic Competition, FibroGen shall have the right to renegotiate the manufacturing and supply payment terms, or terminate the supply obligations. If FibroGen elects to terminate (or the parties fail to reach new terms following negotiation as per below), Astellas shall have the right to manufacture the product under the terms and conditions to be then agreed upon between FibroGen and Astellas, and FibroGen shall upon request continue to provide Product for a reasonable time to facilitate technology transfer for the manufacturing process. If FibroGen elects to renegotiate, FibroGen and Astellas shall use best efforts in good faith to renegotiate reasonable terms.

All transfers of Products for use following Marketing Approval shall be deemed transfers for a commercial purpose, except transfers for the purpose of conducting clinical trials, which shall be considered transfers for a non-commercial purpose. All transfers of Products for use as samples shall be at the Fully Burdened Cost of such Products such price to be set at the beginning of each calendar year for the upcoming year.

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Upfront and Milestone Payments to FibroGen: In return for the foregoing rights Astellas shall pay FibroGen the following installments (except for (i), within thirty (30) days of the occurrence of the applicable event below):

i) $40 million US dollars within fourteen (14) business days in Japan of execution of this Agreement, $40 million US dollars within fourteen (14) business days in Japan of the earlier of the execution of the Detailed Commercialization Agreement (as defined below) or the conversion of the Agreement into the final operative Agreement, $70 million US dollars on January 31, 2007, $70 million US dollars on January 31, 2008, and $80 million US on January 31, 2009 (collectively, the "Upfront Payments");

ii) $40 million US dollars upon Initiation of the first Phase IIb clinical trial (provided such trial is included within the Transatlantic Clinical Development Plan) for a first Product in any of the Core Indications (except for **[*]**) in any country in the EU or the US;

iii) $**[*]** US dollars upon Initiation of the first Phase IIb clinical trial (provided such trial is included within the Transatlantic Clinical Development Plan) for a second Product in any of the Core Indications (except for **[*]**) in any country in the EU or the US;

iv) $50 million US dollars upon the Initiation of the first Phase III or Pivotal clinical trial (provided such trial is included within the Transatlantic Clinical Development Plan) in any of the Core Indications (except for **[*]**) in any country in the EU or the US);

v) $**[*]** US dollars upon filing of the first Marketing Approval Application for any Product for any of the Core Indications (except for **[*]**) in any country in the EU; and

vi) $**[*]** US dollars upon filing of the second Marketing Approval Application for any Product for any of the Core Indications (except for **[*]**) in any country in the EU.

Each of the payments to be made under (ii) – (vi) above and under the "Milestone Payments to FibroGen for Approval Success" section below shall be a "Milestone Payment" for the purposes of this Agreement.

Milestone Payments to FibroGen for Approval Success: Astellas shall pay FibroGen $**[*]** US dollars upon granting of each of the first three Marketing Approvals in the Core Indications (except for **[*]**) in the EU (for a total aggregate amount of $**[*]** US dollars).

Astellas shall pay FibroGen $**[*]** US dollars upon the first Marketing Approvals in a Core Indication (except for **[*]**) in **[*]**.

Net Payments: All Upfront Payments and Milestone Payments made by Astellas to FibroGen set forth herein are net amounts and shall be made free and clear of, and without any reduction for, withholding taxes or similar deductions, except as may be required under applicable law. In the event Astellas is required to withhold taxes or make

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similar deductions from any Upfront Payments to FibroGen hereunder, Astellas shall **[*]** such payment to FibroGen by **[*]** so that after such withholding or deduction is made, FibroGen will have received **[*]**; provided, however, that with respect to both Upfront Payments and Milestone Payments (a) in the event that a change in applicable tax laws after the Effective Date requires that such a withholding or deduction be made (despite efforts to minimize them consistent with applicable law as provided below) that would not have been required prior to such change in law, the parties shall **[*]** the cost of such withholding or deduction (so that the amount of increase in payment above shall **[*]** of the applicable withholding or deduction), and (b) should FibroGen be able, within the maximum period allowable by applicable law, to utilize as a tax credit or tax deduction any amounts withheld or deducted by Astellas as provided above, FibroGen shall promptly notify Astellas of the amount of such tax credit or other tax benefit within **[*]** after such amount can first be calculated and, at the time of such notice, refund the amount of such credit (or amount of tax saved with respect to such deduction) to Astellas to the extent any payment to be made hereunder is increased on account of and up to the amount of such withholding or deduction. For the avoidance of doubt, Astellas shall not be required to increase or make additional payments to FibroGen in the event withholding or deduction is required with respect to any royalty or transfer payments to FibroGen hereunder (and to the extent so required Astellas may deduct or withhold from such payments thereby reducing the amount paid to FibroGen). The parties shall reasonably cooperate and take such reasonable actions (solely to the extent consistent with applicable law), including by executing such documents, providing such information and changing the method of payment, as may be reasonably required to minimize or obtain exemption from any such deduction or withholding from amounts payable hereunder and to enable the applicable party to claim tax credits and/or tax deductions with respect thereto.

Reporting and Audit Rights: Each party shall provide the other party with quarterly reports setting forth costs and expenses incurred by the party which are subject to sharing or reimbursement hereunder (or which are otherwise relevant to payments to be made hereunder, such as FibroGen's Fully Burdened Cost of Products) during such quarter and, in the case of Astellas, setting forth the Net Sales of Products in such quarter (broken down by country and by Product) within **[*]** of the end of such quarter.

Each party shall keep complete and accurate books, records and accounts as required to verify costs and expenses to be reimbursed or shared hereunder and as otherwise necessary to verify the amount and accuracy of payments required to be made hereunder for a period of **[*]** following the end of the calendar quarter to which they pertain. Each party shall have the right, on at least **[*]** advance written notice and not more than once in any twelve (12) month period, to have an independent accounting firm that is reasonably acceptable to the other party (the "Auditor") examine such books, records and accounts of the other party during the other party's normal business hours solely to verify the accuracy of the amount of payments made or required to be made by the other party hereunder, provided that in no event shall a party be entitled to audit a given period of such books, records and accounts of the other party more than once. The Auditor shall execute a

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confidentiality agreement with the audited party in a form reasonably acceptable to audited party that prohibits the Auditor from disclosing or using information obtained in connection with the examination (other than the disclosure to the auditing party of the amount of any underpayment or overpayment). Any such examination shall be at the auditing party's expense; provided, however, that if such audit reveals an underpayment (or overcharge, as the case may be) by the audited party of more than **[*]** during the audited period, the audited party shall pay all reasonable costs of the audit.

Intellectual Property Rights: FibroGen shall own all intellectual property rights developed by either party under the Collaboration related to the Products, the Field and/or stabilization of HIF, excluding intellectual property created exclusively by Astellas (or its contractors, licensees, Affiliates and similar third parties other than FibroGen itself), (i) relating solely to drug delivery systems (unless such delivery systems are derived from FibroGen Technology or confidential information of FibroGen obtained by Astellas from FibroGen (excluding in, each case, FibroGen Technical Information that would qualify under one or more of the exceptions in 16.1(a), (b) or (d) in the JDCA)), or (ii) which is or corresponds to other generally applicable technologies, unless such generally applicable technologies are derived from FibroGen Technology or confidential information of FibroGen obtained by Astellas from FibroGen (excluding in, each case, FibroGen Technical Information that would qualify under one or more of the exceptions in 16.1(a), (b) or (d) in the JDCA), (i.e. such technology can be directed towards at least one product or indication outside the HIF Compounds, Field or HIF and could be similarly used with or applied to other products or indications that are not (and do not contain) any HIF Compound, the Field or HIF — such as generally applicable clinical trial technologies or generally applicable manufacturing technologies — and such technology (and corresponding intellectual property) does not completely comprise, cover, or prevent or block the use or exploitation of any HIF Compound, the Field or HIF, or the modulation or stabilization thereof), which intellectual property to such delivery systems in (i) above and other generally applicable technologies in (ii) above (collectively, "General Applicable Technology") shall be owned by Astellas but will be licensed back (with the right to sublicense) to FibroGen solely for use with Products (outside the Territory and Japan) within the Field and under Collaboration during the term of this Agreement and thereafter to the extent necessary to Commercialize HIF Compounds, on a fully paid, free of charge, irrevocable basis. Astellas agrees to execute any and all assignments and other documents, if any, if and to the extent necessary, to effectuate the foregoing and the assignment of all other rights contemplated under this Agreement.

In the event that Astellas develops, during the term of the Agreement, completely independently (as determined **[*]**) from any FibroGen Technology and/or any other FibroGen proprietary materials, confidential information, intellectual property or other related information relating to HIF Compounds, the Field or HIF, or the stabilization or modulation thereof (excluding, in each case, any of the foregoing FibroGen Technical Information that would qualify under one or more of the exceptions in 16.1(a), (b) or (d) in the JDCA) provided by or on behalf of

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FibroGen to Astellas under this Agreement or any other agreement between FibroGen and Astellas relating to the subject matter hereof, any inventions or intellectual property rights which comprise, cover, or prevent or block the use or exploitation of, any HIF Compounds, the Field or HIF (or the modulation thereof), Astellas shall own such intellectual property and hereby grants to FibroGen and its Sublicensees a non-exclusive, royalty-free, fully paid irrevocable license to such intellectual property during the term of this Agreement and thereafter (provided, that to the extent any intellectual property qualifies as Generally Applicable Technology, the license granted shall be limited to the extent necessary to Commercialize HIF Compounds), on a fully-paid, free-of-charge, irrevocable basis.

For the avoidance of doubt, to the extent that Section 14.2.2 of the JDCA would prevent Astellas from pursuing patent protection for any Generally Applicable Technology created solely under this Agreement, so long as Astellas is not prohibited from pursuing such patent protection under this Agreement, that Astellas is entitled to own, Section 14.2.2 of the JDCA shall be deemed amended by the parties to allow Astellas to prepare, file, prosecute and maintain such patents, provided, that, for the avoidance of doubt, the foregoing sentence shall not in any way limit FibroGen's rights under this Agreement.

FibroGen shall control all patent-related efforts, including filing, prosecution, maintenance, and defense of patent rights owned or Controlled by FibroGen (subject to Astellas' rights to enforce patents and participate in suits by third parties alleging infringement in the Territory as provided below). FibroGen and Astellas will split equally all costs incurred after the Effective Date in filing, prosecution, and maintenance of the FibroGen Patents which cover the Products, and in defending interference and opposition proceedings to which such FibroGen Patents may be subject, in all such cases in the Territory and North America. FibroGen shall reasonably consult with Astellas regarding the filing, maintenance, prosecution and defense of the FibroGen Patents.

Astellas will have the right to enforce applicable FibroGen patents against third party infringers within the Territory in the event FibroGen fails to enforce such rights, under terms and conditions that are otherwise consistent with Section 14.4 of the JDCA (as reasonably applied to the this Agreement and the Territory), except that, if FibroGen is the party bringing the suit to enforce the intellectual property rights, Astellas shall be responsible for **[*]** of the costs and expenses of such litigation and shall receive **[*]** any proceeds (with FibroGen being responsible for, and entitled to, **[*]** of such expenses and proceeds respectively), and if Astellas is the party bringing the suit to enforce the intellectual property rights, Astellas shall be responsible for **[*]** of the costs and expenses of such litigation and shall receive **[*]** of any proceeds (with FibroGen being responsible for, and entitled to, **[*]** of such expenses and proceeds respectively).

Future Third Party Agreements regarding intellectual property controlled by a non-Affiliate third party shall be governed by terms and conditions consistent with Section 14.5 of the JDCA (as reasonably applied to this Agreement). Furthermore, Astellas shall have the right to propose to FibroGen obtaining rights to third party

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intellectual property with the right to sublicense to Astellas and FibroGen shall in good faith determine whether such intellectual property is necessary to Commercialize any Product hereunder. If FibroGen agrees to license such intellectual property, it shall be governed by Section 14.5 (as applied to this Agreement); however, if FibroGen refuses to license such intellectual property and a license thereto is required to Commercialize Products in the Territory without infringing such intellectual property, Astellas may enter into such license itself and, to the extent such license includes Future Third Party Intellectual Property and the use of a Product in the Field in the Territory would constitute infringement of applicable claims contained in the patents and patent applications, if issued, that are the subject of the license, Astellas may deduct from any payment due to FibroGen hereunder **[*]** of the costs therefor with respect to Products in the Territory not to exceed **[*]** of the total annual amounts due FibroGen hereunder, provided that in no event shall the sum of (a) the consideration FibroGen contributes or Astellas deducts for the acquisition of intellectual property from third parties for the Territory in this paragraph and (b) the costs, liabilities and expenses that Astellas has the right to deduct under the last paragraph of this Intellectual Property Rights Section exceed **[*]** hereunder. FibroGen shall use reasonable efforts to provide Astellas with relevant terms of any third party licenses that FibroGen is negotiating pursuant to this paragraph prior to execution of such license for review and comment. Astellas shall have the right to see the relevant final terms of any third party license entered into by FibroGen that apply or relate to the rights granted to Astellas hereunder (including all terms that Astellas is obligated to comply with hereunder), and to reject the sublicense of rights thereunder if it so chooses, before becoming responsible for any costs, expenses, payments or other obligations with respect thereto, provided, that Astellas shall not be entitled to deduct consideration with respect to Future Third Party Intellectual Property under any license thereto entered into by itself in excess of the consideration that it would have been entitled to deduct had FibroGen obtained a license for the Territory on the terms presented to Astellas or on the terms finally agreed to, at FibroGen's discretion. Nothing herein shall otherwise limit Astellas' right to enter into third party license agreements at its own expense. For the avoidance of doubt, third party licensing costs that are not specific to a territory (e.g., up fronts and milestones) shall be fairly allocated between the Territory (and Japan) and North America with respect to the parties respective obligations therefore. Notwithstanding anything to the contrary contained herein, Astellas agrees to comply with the applicable requirements provided to Astellas prior to its acceptance thereof (imposed upon sublicensees or other third parties such as distributors) of FibroGen's License Agreement with DFCI. In addition, Astellas agrees to comply with the applicable requirements (imposed upon sublicensees or other applicable third parties similarly situated to Astellas with respect to such agreements) of any future Third Party Agreements for which Astellas obtains rights through a FibroGen license pursuant this Agreement, and to obligate any of its Affiliates granted sublicenses hereunder, sublicensees or other third parties to comply with any such requirements and to enforce the compliance with such obligations upon such sublicensees or other third parties, provided that FibroGen has provided Astellas with copies of the provisions in such future Third Party Agreements that impose and set forth such requirements prior to Astellas' acceptance thereof.

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FibroGen shall be solely responsible for all payments due to any third party licensors of FibroGen (including DFCI) in effect as of the Effective Date (as well as any amended or successor agreements thereto to the extent covering the same or similar licensed subject matter) without any obligation of Astellas to reimburse or share the cost thereof. FibroGen shall comply with its obligations under any third party license agreement for which rights are licensed to Astellas hereunder and shall not amend any such agreements in a manner that restricts, reduces or limits the rights granted to Astellas hereunder. If FibroGen is obligated to pay amounts to a Third Party Licensor (as defined under the JDCA, as reasonably applied to this Agreement), FibroGen shall notify Astellas [*] in advance of the due date of such payment obligation (or such later date as FibroGen may determine), and Astellas shall reimburse its share of such payments within [*] after receipt of notice therefor.

Third party claims or infringement actions against Astellas or FibroGen that the manufacture, development, sale or use of any Product in the Territory pursuant to this Agreement infringes a patent controlled by such third party shall be governed by terms and conditions consistent with Section 14.3 of the JDCA (as reasonably applied to this Agreement; provided that, subject to the FibroGen's right to participate as set out in Section 14.3 of the JDCA as reasonably applied to this Agreement, Astellas shall have the right, without limitation, to take any action it deems necessary to resolve any such claim or infringement action to which it is a party, provided, however, that neither party shall enter into any settlement that admits the invalidity or unenforceability, or limits any claims, of any patent of the other party (for the avoidance of doubt, all FibroGen Technology, including without limitation all claims and patents, licensed to Astellas hereunder shall be sole property of FibroGen for purposes of this paragraph), without the prior written consent of the other party, and provided further that if Astellas is subject to an infringement action or otherwise named as a party with respect to any claims or infringement actions regarding the manufacture, development, importation, sale or use of any Product in the Territory, irrespective of whether FibroGen is subject to such infringement action or otherwise named as a party with respect to such claims, Astellas shall be the Controlling Party thereof and bear all costs, liability and expense associated with such claims or infringement action (subject to the [*] deduction with respect to Future Third Party Intellectual Property described below, applying Section 14.3 of the JDCA), provided, that FibroGen shall participate in the defense and/or settlement thereof at its own expense with counsel of its choice as provided for in Section 14.3 of the JDCA. For the avoidance of doubt, FibroGen shall be fully responsible for any cost, liability and expenses of any Action or other infringement action regarding the Products outside the Territory and Japan, and, notwithstanding anything to the contrary in this Agreement, FibroGen shall have the right, without limitation, to take any action regarding FibroGen Technology it deems necessary to resolve any claim or infringement action, irrespective of whether it may affect the Territory or Japan.

For the avoidance of doubt, with respect to Preexisting Third Party Intellectual

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Property, Astellas shall be responsible for and pay 100% of all consideration due in connection with the acquisition or defense of infringement of such rights for the Territory and with respect to Future Third Party Intellectual Property, Astellas shall have the right to deduct up to **[*]** of any cost, liability and expenses for the Territory in accordance with Section 14.3 of the JDCA (as reasonably applied to this Agreement).

Trademark: Astellas and FibroGen will make commercially reasonable efforts to develop a worldwide trademark approved by the JCC and owned by FibroGen and exclusively licensed to Astellas in the Territory (without additional consideration) for the duration of the term of the Agreement (and thereafter as set forth in the "Effect of Termination and Expiration" section below). Costs for the filing, registration, prosecution and maintenance of the worldwide trademark will be split equally by the parties. If a worldwide trademark cannot be developed, or if localized trademarks have compelling marketing or regulatory advantages within the Territory, Astellas will develop at its own expense and own any trademark(s) for the Territory. If in the case of termination (but not expiration) except for the Technical Product Failure, Astellas will assign the Product trademark(s) to FibroGen with the sole consideration to be reimbursement of the actual costs incurred in filing, registration, prosecution and maintenance of the trademark (provided, however, that in the event this Agreement is terminated for material breach or non-performance by FibroGen, the parties shall negotiate reasonable consideration for the assignment of such trademark).

Term and Termination: This Agreement shall become effective on the Effective Date, and, unless earlier terminated as provided herein, shall continue in full force and effect until the later of (i) the onset of Generic Competition with respect to all Products in the entire Territory (considered in the aggregate, i.e., after the total sales of all Generics is **[*]** of the sales of all Products and all Generics combined, even if total sales of a Generic with respect to the corresponding Product is less than **[*]** of their combined sales), and (ii) the Patent Expiration Date.

Astellas may terminate this Agreement if (i) there has occurred Technical Product Failure, or (ii) if FibroGen materially breaches the Agreement consistent with the terms of Section 18.2.1, 18.2.4, or 18.2.5 as governed by the terms of 18.7.4 of the JDCA (in each case as reasonably applied to this Agreement including cross-references to the applicable provisions herein as opposed to the cross-referenced Sections of the JDCA and Astellas having the corresponding rights to terminate for FibroGen's act or omission under Sections 18.2.4 of the JDCA that FibroGen has for Astellas' act or omission under those sections) or if FibroGen has materially breached (a) its non-compete obligations hereunder, (b) the Section on "Intellectual Property Rights," or (c) its payment obligations under Development Costs, provided, that for the avoidance of doubt, Astellas may not terminate the Agreement for breach by FibroGen in the event that FibroGen disputes such breach in good faith until an arbitral decision in accordance with the Section "Dispute Resolution" is made holding that FibroGen is in breach (the triggers under (i) and (ii) being "For Cause"), or (iii) otherwise without cause. Such termination of this Agreement shall take effect, immediately upon the receipt by FibroGen of notice from Astellas that it shall terminate due to the occurrence of

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Technical Product Failure (subject to the provisions regarding timing of termination in the event of a dispute below), immediately upon expiry of such cure period in case of (ii), and six (6) months after notice to FibroGen in case of (iii).

In the event of termination prior to February 1, 2009, by Astellas for any reason, or termination by FibroGen as provided for hereunder, Astellas will pay FibroGen any as yet unpaid Upfront Payments; provided, however, that if this Agreement is terminated by Astellas for Technical Product Failure within nine (9) months of the Effective Date, Astellas shall pay to FibroGen a total of **$[*]** of Upfront Payments after subtracting for any previously paid Upfront Payments (but no other termination fees) prior to such date of termination, and if this Agreement is terminated by Astellas for Technical Product Failure between nine (9) months and eighteen (18) months of the Effective Date, Astellas shall pay to FibroGen a total of **$[** * **]** of Upfront Payments after subtracting for any previously paid Upfront Payments (but no other termination fees) prior to such date of termination, and if this Agreement is terminated by Astellas for Technical Product Failure beyond eighteen (18) months after the Effective Date, Astellas shall pay to FibroGen a total of **$[** * **]** of Upfront Payments after subtracting for any previously paid Upfront Payments (but no other termination fees) prior to such date of termination. In the case where an adverse event or testing results occur which leads to Technical Product Failure and termination as determined by the JSC as described in subclause (i) of the Technical Product Failure Definition above, the effective date of termination for purposes of the foregoing clause regarding relief from Upfront Payments, if applicable, shall be the date Astellas provides written notice to the JSC that it intends to terminate the Agreement due to Technical Product Failure and irrevocably commits that the Astellas members of the JSC will vote for termination of the Agreement rather than, for the avoidance of doubt, the date of any such event or results or the date the JSC ultimately determines that a Technical Product Failure occurs (or the date when a dispute with respect thereto is ultimately resolved under dispute resolution hereunder), and in such a case of such written notice, the JSC shall convene within a reasonable period of time to consider the question of whether a Technical Product Failure has occurred or not. In the case where an adverse event or trial results occur which lead to Technical Product Failure and termination as described in subclause (iii) of the Technical Product Failure Definition above, the effective date of termination for purposes of the foregoing clause regarding relief from Upfront Payments, if applicable, shall be the date Astellas provides written notice to the JSC that it intends to terminate the Agreement due to such an event or trial results (for the avoidance of doubt, Astellas may provide such notice based upon the lack of clearance to conduct the applicable clinical trials, and would not have to wait until the end of the **[*]** period for which such lack of clearance must persist for Technical Product Failure to occur under (iii)) and irrevocably commits that the Astellas members of the JSC will vote for termination of the Agreement, rather than the date, for the avoidance of doubt, that a event or trial results occur (or the date when a dispute with respect thereto is ultimately resolved under dispute resolution hereunder).

Notwithstanding the receipt of any notice of intention to terminate due to

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Technical Product Failure, this Agreement and the obligations hereunder shall continue until the actual termination of this Agreement, and in the event that this agreement terminates due to such Technical Product Failure and Astellas has made any Upfront Payment(s) between the date of such notice and the date of termination, FibroGen shall **[*]**.

In the event of a termination by Astellas other than For Cause:

(i) from the Effective Date until January 31, 2009, in addition to and without limitation of any payments obligations under this Agreement, Astellas will pay FibroGen a $**[*]** termination fee;

(ii) from February 1, 2009 until Marketing Approval in three (3) Core Indications, Astellas will pay FibroGen the greater of (x) a $**[*]** termination fee, and (y) **[*]**; and

(iii) after Marketing Approval in three (3) Core Indications until expiration of the Agreement, Astellas shall pay to FibroGen the lesser of (x) a $**[*]** termination fee, and (y) **[*]**; provided that the amount of the payment under this (iii) shall be no less than $**[*]**.

In the event of a termination by Astellas For Cause, Astellas shall have no further payment obligations other than specifically described above. All payments due upon termination shall be paid within **[*]** of such termination.

FibroGen may terminate the Agreement in the case of certain material breaches by Astellas consistent with the terms of Sections 18.2.1, 18.2.4, or 18.2.5 as governed by the terms of 18.7.4 of the JDCA (in each case as reasonably applied to this Agreement including cross-references to the applicable provisions herein as opposed to the cross-referenced Sections of the JDCA). For the avoidance of doubt, subject to FibroGen's right to terminate upon notice following Astellas' failure to cure as set forth in the License section above, FibroGen may not terminate the Agreement for breach by Astellas in the event that Astellas disputes such breach in good faith until an arbitral decision in accordance with the Section "Dispute Resolution" is made holding that Astellas is in breach.

Effect of Termination and Expiration: In the event of expiration of this Agreement (as opposed to early termination other than as per mutual agreement), all licenses granted to Astellas hereunder (including trademark license if Astellas uses the worldwide trademark of FibroGen) shall survive and become fully paid-up and royalty-free and Astellas shall be able to continue Commercialization of Products in the Territory in the Field at its own discretion. Upon such expiration, Astellas shall not owe any royalties, milestones or other payments to FibroGen with respect to subsequent Commercialization of Products; provided, however, that all products supplied to Astellas by FibroGen shall be compensated at a price set at the point where **[*]**. FibroGen shall continue to manufacture and supply Astellas' requirements of Products after expiration (under the terms of this Agreement and the commercial supply agreement, except for the foregoing stated transfer price) for a period of up to **[*]**, during which time the parties shall arrange for a transition of manufacturing to Astellas or its designee in accordance with the provisions governing manufacturing technology transfer above.

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Without limiting the foregoing, the following provisions shall survive expiration or any termination of this Agreement: Definitions (to the extent required to interpret surviving provisions), Reporting and Audit Rights (until the parties are no longer required to keep such books, records and accounts), Term and Termination, Indemnification, Intellectual Property Rights (to the extent such Intellectual Property Rights terms on their face or would when reasonably applied extend beyond expiration or termination of this Agreement (e.g., without limitation, infringement with respect to activities conducted during the term of the Agreement, restrictions on Astellas' right to use FibroGen know-how) and to the extent regarding ownership of intellectual property that was developed, invented, created or protected during the term of this Agreement), Confidentiality, Dispute Resolution (to the extent required to resolve disputes ongoing as of termination or expiration or required to resolve disputes regarding surviving provisions), Limitation of Liability, and each party's obligation to provide the other party with (a) data (including raw data) analyses, reports, protocols and correspondence under development during the term of the Agreement and (b) data created during, or results from, activities performed during the Agreement, following such expiration or termination. In addition, during the period from notice of any termination until such termination, and following such a termination of this Agreement, Astellas shall have the obligation to comply with regulatory requirements to provide FibroGen with all data reasonably necessary for FibroGen to continue to supply existing patients and to meet its legal obligations based on Astellas' Commercialization activities including the list of entities to whom Astellas and its Affiliates sell Product; provided that FibroGen shall maintain such data confidential in accordance with the Section "Confidentiality" hereunder and shall only use such data in Commercialization of Products in the Territory.

To the extent provided therein the following provisions shall survive termination of this Agreement: Trademark (regarding assignment of the trademark), Development (regarding Astellas' obligation to transfer Marketing Approvals) and the final sentence of License.

From and after the date of a notice of termination, FibroGen and Astellas shall have no further obligations under this Agreement beyond those obligations that expressly survive termination in such events as specified herein.

Representations and Warranties: FibroGen warrants and represents to Astellas, as of the Effective Date, that (i) it is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware; (ii) the execution, delivery and performance of this Agreement have been duly authorized by all necessary corporate action on the part of FibroGen and will not violate or conflict with any agreement or other instrument to which it is a party; (iii) there is no pending litigation which alleges or any communication alleging that Commercialization of FG-2216 or FG-4592 or any compound Controlled by FibroGen for use in the Field has infringed or misappropriated the intellectual property rights of any third party or has been obtained by misappropriating any third party's intellectual property right; (iv) subject to the terms and conditions of the agreements for the FibroGen Acquired

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Patents, FibroGen has complete title to and ownership of the FibroGen Patents, free and clear from any mortgages, pledges, liens, security interests, conditional and installment sale agreements, encumbrances, charges or claims of any kind; (v) FibroGen has the right to grant the licenses granted to Astellas hereunder; (vi) the only agreement under which FibroGen has in-licensed FibroGen Technology (including FibroGen Acquired Patents) from a third party is the DFCI Agreement and FibroGen has obtained all necessary consents thereunder to grant Astellas the rights therein to be conveyed hereunder including, without limitation, the consent of DFCI for FibroGen to grant the sublicense granted to Astellas hereunder and for Astellas to further sublicense such rights to its Affiliates; (vii) all such in-license agreements are in full force and effect, and FibroGen is not in breach of any such agreement and has not received any notice of breach; and (viii) FibroGen has not knowingly breached its duty of candor (including, without limitation, it obligation under 37 C.F.R. 56) to the USPTO, or any foreign equivalent thereof to the applicable foreign patent office, in preparing, filing, prosecuting, or maintaining any FibroGen Patent.

Astellas warrants and represents to FibroGen, as of the Effective Date, that (i) it is a corporation duly organized, validly existing and in good standing under the laws of Japan; (ii) the execution, delivery and performance of this Agreement have been duly authorized by all necessary corporate action on the part of Astellas.

EXCEPT AS SET FORTH IN THIS AGREEMENT, FIBROGEN AND ASTELLAS MAKE NO, AND EXPRESSLY DISCLAIM ANY, WARRANTIES OR REPRESENTATIONS, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE DEVELOPMENT PROGRAM OR CONCERNING THE SUBJECT MATTER OF THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, VALIDITY OF FIBROGEN TECHNOLOGY, PATENTED OR UNPATENTED, AND NONINFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES.

Indemnification: Astellas shall indemnify each of FibroGen and its Affiliates and the directors, officers, and employees of FibroGen and such Affiliates and the successors and assigns of any of the foregoing (the “FibroGen Indemnitees”), and hold each FibroGen Indemnitee harmless from and against any and all liabilities, damages, settlements, claims, actions, suits, penalties, fines, costs or expenses (including, without limitation, reasonable attorney’s fees and other expenses of litigation) to the extent not otherwise paid for by insurance, incurred by any FibroGen Indemnitee arising from or occurring as a result of any claim, action, suit, or other proceeding brought by third parties against a FibroGen Indemnitee arising from or occurring as a result of any development or testing (except for the avoidance of doubt, by or jointly with FibroGen), manufacture (if applicable), importation, use, offer for sale, sale or other distribution of any Product with respect to all of the foregoing, solely to the extent such manufacture, importation, use, offer for sale, sale or other distribution activities occur in the Territory by or for the sole benefit of Astellas or its Affiliates or Sublicensees, distributors or agents (excluding FibroGen to the extent any of the foregoing could be deemed to include FibroGen)

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(including, without limitation, product liability and infringement claims subject to the section on "Intellectual Property Rights" above) except, in all cases above, to the extent caused by failure of the Product supplied by FibroGen to meet the Product Specifications in effect at the time of manufacture, or material deviation by FibroGen or its subcontractor from cGMP (or ICH) guidelines in manufacturing the Product, or FibroGen's breach of this Agreement, or willful misconduct.

FibroGen shall indemnify each of Astellas and its Affiliates and the directors, officers, and employees of Astellas and such Affiliates and the successors and assigns of any of the foregoing (the "Astellas Indemnitees"), and hold each Astellas Indemnitee harmless from and against any and all liabilities, damages, settlements, claims, actions, suits, penalties, fines, costs or expenses (including, without limitation, reasonable attorney's fees and other expenses of litigation) to the extent not otherwise paid for by insurance, incurred by any Astellas Indemnitee arising from or occurring as a result of any claim, action, suit, or other proceeding brought by third parties against a Astellas Indemnitee (i) arising from or occurring as a result of any development or testing (except for the avoidance of doubt, by or jointly with Astellas), manufacture (excluding manufacture for Astellas), importation (excluding importation into the Territory), use, offer for sale, sale or other distribution of any Product with respect to all of the foregoing, solely to the extent such manufacture, importation, use, offer for sale, sale or other distribution activities occur outside the Territory and Japan by or for the sole benefit of FibroGen or its Affiliates or Sublicensees, distributors or agents (excluding Astellas to the extent any of the foregoing could be deemed to include Astellas) (including, without limitation, product liability and infringement claims subject to the section on "Intellectual Property Rights" above) and (ii) to the extent caused by any failure of the Product supplied by FibroGen to meet the Product Specifications in effect at the time of manufacture, or material deviation by FibroGen or its subcontractor from cGMP (or ICH) guidelines in manufacturing the Product, except, in all cases above, to the extent caused by Astellas' breach of this Agreement, or willful misconduct.

Claims for indemnification under this Agreement shall be governed by terms and conditions consistent with the procedures set forth in Section 17.4 of the JDCA (as reasonably applied to this Agreement).

Confidentiality: Disclosures of confidential information under this Agreement shall be governed by terms and conditions consistent with Section 16 of the JDCA (as reasonably applied to this Agreement) provided that Confidential Information (as that term is defined in the JDCA) under this Agreement shall also be deemed Confidential Information under the JDCA and vice-versa thereby allowing the parties to use and disclose Confidential information exchanged under one agreement for the purpose of the other agreement in accordance with Section 16 of the JDCA.

Except with the prior written consent of the other party, each party agrees not to disclose the terms of this Agreement except as such party believes is reasonably necessary to comply with securities laws or other applicable laws (subject to the provisions below), or to investors, accountants, attorneys or other advisors, or

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other consultants or representatives under reasonable obligations of confidentiality. If a party desires to make a public announcement regarding the terms of this Agreement, such party shall submit any such press release or public disclosure to the other party for review and comment, and the receiving party shall promptly review such public disclosure within **[*]** of receipt to determine whether to provide or withhold consent thereto (provided that, without relieving any party of the obligation to submit any such disclosure to the other party for review and comment (to the extent practicable under the circumstances and legally allowed), no consent shall be required with respect to legal obligations to disclose). If the receiving party does not respond within such **[*]** period, the press release or public disclosure shall be deemed approved. In addition, if a public disclosure is required by law, including without limitation in a filing with the Securities and Exchange Commission, the disclosing party shall provide copies of the disclosure reasonably in advance of such filing or other disclosure for the nondisclosing party's prior review and comment, and consent may not be unreasonably withheld (provided that no consent shall be required with respect to legal obligations to disclose). Upon execution of this Agreement, the parties shall agree to a redacted version of this Agreement to be used for any and all submissions permitted under this Section unless otherwise agreed by the parties in writing or required to comply with law (in which case the parties shall cooperate to work to limit such disclosure as may be allowed by law).

FibroGen and Astellas shall jointly agree on any proposed press release or other public disclosure prior to issuance regarding this Collaboration between the parties. The parties agree to immediately undertake the issuance of a mutually agreed press release upon execution of this Agreement and, as applicable, upon execution of the Detailed Commercialization Agreement or this Agreement becoming the final operative agreement relating to the Collaboration. Notwithstanding any of the foregoing to the contrary, neither party shall require consent to publicly disclose information that has already been consented to by the other party in a previous disclosure (or which is otherwise publicly known without the fault of the disclosing party).fmil

Subject to the International Committee of Medical Journal Editors ("ICMJE") Uniform Requirements for Manuscripts Submitted to Biomedical Journals and applicable legal requirements, the JDRC (with approval of the JSC) will determine the overall strategy for publishing and presenting results of studies pertaining to the Products and the JDRC or JSC shall approve all publications in the Territory or North America prior to publication. Publication of results shall be governed by terms and conditions consistent with Section 5.2 of the JDCA (as reasonably applied to this Agreement). Publication cannot include any information that the JSC has determined to be a trade secret.

Dispute Resolution: Any dispute between the parties under this Agreement that cannot be resolved by the JSC may, at the written request of either party, be referred to an Authorized Designee of each party who has the authority to resolve such dispute; except that the Authorized Designee shall not be directly involved in the dispute. Such representatives of both parties shall meet within twenty-one (21) days of such request to resolve such disputes. In case the representatives fail to resolve the

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dispute within thirty (30) days of the original request, all disputes shall be settled exclusively by arbitration in accordance with the rules of Arbitration of the International Chamber of Commerce. The place of arbitration shall be Vancouver, B.C., Canada. The arbitration proceedings shall be conducted in English. The decision shall be final and binding upon both parties. Judgment upon the award may be entered in any court having jurisdiction thereof. The parties shall be entitled to obtain injunctive relief from the courts where appropriate, pending the outcome of any arbitration hereunder. This Agreement shall be governed by the laws of California, without reference to conflict of laws principles.

Legal Effect: This Agreement shall constitute the operative agreement between FibroGen and Astellas and shall be in full force and effect as of its execution by the parties. The parties shall make best efforts to enter into a more detailed collaboration agreement reflecting more fully the terms and conditions of this Agreement (the "Detailed Commercialization Agreement") within ninety (90) days of the execution of this Agreement unless mutually extended. If the parties do not enter into a Detailed Commercialization Agreement in such period, then this Agreement shall become the final operative agreement governing the relationship between the parties.

Limitation of Liability: IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, PUNITIVE OR SPECIAL DAMAGES OF THE OTHER PARTY ARISING OUT OF OR RELATED TO THIS AGREEMENT, HOWEVER CAUSED, UNDER ANY THEORY OF LIABILITY EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

This Agreement constitutes the entire understanding between the parties with respect to the subject matter hereof. No modification or waiver of this Agreement will be effective unless in writing and signed by both parties hereto. If any provision of this Agreement should be held invalid or unenforceable, the remaining provisions will be unaffected and will remain in full force and effect, to the extent consistent with the intent of the parties as evidenced by this Agreement as a whole. Titles and headings are for convenience only and are not to be used for interpreting this Agreement. This Agreement is governed by the laws of the State of California, excluding application of, or reference to, its conflicts of laws principles. This Agreement may not be assigned, in whole or in part, except (a) in connection with the merger, acquisition or sale of a party or of the business of such party to which this Agreement relates or (b) with the prior written consent of the other party. Subject to the foregoing, this Agreement shall inure to the benefit of and bind parties and their respective successors and permitted assigns. The relationship of the parties under this Agreement is that of independent contractors, and nothing contained in this Agreement shall be construed to (a) give either party the power to direct or control the day-to-day activities, expressly including marketing activities, of the other, (b) constitute the parties as partners, joint venturers, co-owners or otherwise as participants in a joint or common undertaking, or (c) allow either party to have any right or authority, express or implied, to assume or create any obligation of any kind, or to make any representation or warranty, on behalf of the other party or to bind the other party in any respect whatsoever. This Agreement may be executed in one or more counterparts, including, without limitation, by facsimile or electronic transmission counterparts, each of which shall be deemed an original and all of which shall be taken together and deemed to be one instrument. All notices and other communications hereunder will be deemed to have been duly given only if delivered personally, by facsimile with confirmation of receipt, by mail (first class, postage prepaid), or by overnight delivery using a globally-recognized carrier, to the parties at the addresses

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provided in the first paragraph of this Agreement or to such other address as the addressee shall have last furnished in writing in accord with this provision to the addressor. All notices shall be deemed effective upon receipt by the addressee. Astellas may perform its obligations and exercise its rights hereunder by or through one or more of its Affiliates or one or more contractors or subcontractors (subject to limitations on sublicensing herein) or otherwise avail its Affiliates of Astellas' benefits hereunder, provided that Astellas shall remain subject to all of its obligations hereunder and the terms and conditions of this Agreement.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their respective duly authorized representatives as set forth below.

FIBROGEN	ASTELLAS
By: /s/ Thomas B. Neff	By: /s/ Toichi Takenaka
Name: Thomas B. Neff	Name: Toichi Takenaka, Ph.D.
Title: President & CEO	Title: President & CEO

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EXHIBIT A
INDICATIONS

Included Indications:

- Treatment of anemia in patients with chronic kidney disease undergoing dialysis
- Treatment of anemia in patients with chronic kidney disease not undergoing dialysis
- [*]

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EXHIBIT B
TERRITORY

- Albania
- Andorra
- Armenia
- Austria
- Azerbaijan
- Belarus
- Belgium
- Bosnia & Herzegovina
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Georgia
- Germany
- Greece
- Hungary
- Iceland
- Ireland
- Italy
- Kazakhstan
- Kyrgyzstan
- Latvia
- Liechtenstein
- Lithuania
- Luxembourg
- Macedonia
- Malta
- Moldova
- Monaco
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Russia
- San Marino
- Serbia and Montenegro (Yugoslavia)
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Tajikistan
- Turkey
- Turkmenistan
- Ukraine
- United Kingdom
- Uzbekistan
- Vatican City
- Bahrain
- Egypt
- Iran
- Iraq
- Israel
- Jordan
- Kuwait
- Lebanon
- Oman
- Qatar
- Saudi Arabia
- Syria
- United Arab Emirates
- Yemen
- South Africa

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EXHIBIT C
JDCA Preclinical Trials

Test Name	Current Status	Timing
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]

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EXHIBIT D
FibroGen's Current and Planned Clinical Studies

FibroGen's current or planned clinical studies with FG-2216 include:

Study	Protocol	Status
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]

FibroGen's current or planned clinical studies with FG-4592 include:

Study	Protocol	Status
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]

NOTE: It is expected that sufficient time exists for newly formed JDRC and JSC to have input into the design and execution of the clinical studies for FG-2216 and FG-4592 listed above in the shaded boxes.

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Exhibit 10.13

Amendment to Anemia License and Collaboration Agreement

This Amendment (the "Amendment") to the Anemia License and Collaboration Agreement dated as of April 28, 2006, by and between Astellas Pharma Inc. and FibroGen, Inc. (the "Agreement") shall be effective as of August 31, 2006.

The Parties, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agree as follows:

(1) Item i) of the Section of the Agreement entitled "Upfront and Milestone Payments to FibroGen" (hereinafter the "Upfront Section") shall be amended in its entirety to read as follows: "$40 million US dollars within fourteen (14) business days in Japan of execution of this Agreement, $20 million US dollars within fourteen (14) business day in Japan of issuance by FibroGen to Astellas of an invoice after the execution of this Amendment, $20 million US dollars within fourteen (14) business days in Japan of the earlier of the execution of the Detailed Commercialization Agreement (as defined below) or the conversion of the Agreement into the final operative Agreement, $70 million US dollars on January 31, 2007, $70 million dollars on January 31,2008, and $80 million US dollars on January 31,2009 (collectively, the "Upfront Payments");"

(2) Item ii) of the Upfront Section shall be amended in its entirety to read as follows: "$20 million US dollars upon submission by FibroGen to Astellas of written notice that the first Phase IIb clinical trial (provided such trial is included within Exhibit D attached hereto) has been Initiated for a first Product in any of the Core Indications (except for [*]) in any country in the EU or the US;"

(3) A new Item iii) of the Upfront Section shall be added as follows: "$20 million US dollars upon Initiation after the execution of this Amendment of the next Phase IIb clinical trial (provided such trial is included within the Transatlantic Clinical Development Plan, contained in Exhibit D attached hereto, or is otherwise agreed by the Parties, and such trial is for a different Core Indication than the Core Indication studied under the Phase IIb clinical trail in item ii) above) for the same Product that triggered the milestone payment under ii) above in any of the Core Indications (except for [*]) in any country in the EU or the US;"

(4) The current Items iii) through vi) of the Upfront Section shall be renumbered as Items iv) through vii), respectively, and the paragraph immediately below new Item vii) shall be amended in its entirety to read as follows: "Each of the payments to be made under (ii)–(vii) above and under the "Milestone Payments to FibroGen for Approval Success" section below shall be a "Milestone Payment" for the purposes of this Agreement."

(5) The Section of the Agreement entitled "Legal Effect" shall be amended in its entirety to read as follows: "This Agreement shall constitute the operative agreement between FibroGen and Astellas and shall be in full force and effect as of its execution by the parties. The parties shall make best efforts to enter into a more detailed collaboration agreement reflecting more fully the terms and conditions of this Agreement (the "Detailed Commercialization Agreement") by December 1, 2006. If the parties do not enter into a Detailed Commercialization Agreement by such date, then this Agreement shall become the final operative agreement governing the relationship between the parties."

(6) Except as otherwise provided herein, the Agreement has not been modified or amended and remains in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment to Anemia License and Collaboration Agreement as of the date first set forth above.

FIBROGEN, INC.

By: /s/ William Hodder
William Hodder
Vice President, Business Development

ASTELLAS PHARMA INC.

By: /s/ Masaki Doi
Masaki Doi
Vice President, Business Development

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Exhibit 10.14

Amendment No. 2 to Anemia License and Collaboration Agreement

This Amendment No 2. (the "Amendment") to the Anemia License and Collaboration Agreement dated as of April 28, 2006, as amended on August 31, 2006, by and between Astellas Pharma Inc. and FibroGen, Inc. (the "Agreement") shall be effective as of December 1, 2006.

The Parties, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agree as follows:

(1) Item i) of the Section of the Agreement entitled "Upfront and Milestone Payments to FibroGen" (hereinafter the "Upfront Section") shall be amended in its entirety to read as follows: "$40 million US dollars within fourteen (14) business days in Japan of execution of this Agreement, $20 million US dollars on September 15, 2006, $20 million US dollars on or prior to December 28, 2006, $50 million US dollars on January 31, 2007, $20 million US dollars within fourteen (14) business days in Japan of the earlier of the execution of the Detailed Commercialization Agreement (as defined below) or the conversion of the Agreement into the final operative Agreement, $70 million US dollars on January 31, 2008, and $80 million US dollars on January 31, 2009 (collectively, the "Upfront Payments");"

(2) The Section of the Agreement entitled "Legal Effect" shall be amended in its entirety to read as follows: "This Agreement shall constitute the operative agreement between FibroGen and Astellas and shall be in full force and effect as of its execution by the parties. The parties shall make best efforts to enter into a more detailed collaboration agreement reflecting more fully the terms and conditions of this Agreement (the "Detailed Commercialization Agreement") by March 31, 2007. If the parties do not enter into a Detailed Commercialization Agreement by such date, then this Agreement shall become the final operative agreement governing the relationship between the parties."

(3) Except as otherwise provided herein, the Agreement has not been modified or amended and remains in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment to Anemia License and Collaboration Agreement as of the date first set forth above.

FIBROGEN, INC.

By: */s/ William Hodder*
William Hodder
Vice President, Business Development

ASTELLAS PHARMA INC.

By: */s/ Masaki Doi*
Masaki Doi, Ph.D.
Vice President, Business Development

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Exhibit 10.15

Supplement to Anemia License and Collaboration Agreement

This Supplement (this "Supplement") to the Anemia License and Collaboration Agreement dated as of April 28, 2006, as amended, by and between Astellas Pharma Inc. and FibroGen, Inc. (the "Agreement") is dated as of November 12, 2009, and shall be effective as of April 28, 2006. Astellas and FibroGen are each referred to herein by name or, individually, as a "Party" or, collectively, as the "Parties." All capitalized terms not otherwise defined in this Supplement have the same meanings as set forth in the Agreement.

Whereas, the Development Costs section of the Agreement provides that reasonable FTE costs shall be included in the costs shared under the Agreement, and the Parties have been in discussions to clarify the cost structure governing development activities for which costs are shared under the Agreement;

Now, therefore, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree, for the purposes of clarification, as follows:

(1) The Parties agree that the rate for reasonable FTE costs for which each Party will charge the other for eligible activities performed by employees of such Party and its Affiliates and for which costs are shared under the Agreement shall be calculated on an hourly basis for the hours actually worked (the "Hourly Rate"). The Hourly Rate shall be, for the period commencing on the Effective Date of the Agreement and ending December 31, 2007, $[*] per hour; for the period from January 1, 2008 to December 31,2008, the FTE Rate shall be $[*] per hour; for the period from January 1, 2009 to December 31, 2009, the FTE Rate shall be $[*] per hour; and thereafter, the FTE Rate shall be adjusted annually as of January 1, beginning on January 1, 2010, in accordance with the average annual percentage [*] for the preceding year, calculated from the [*] of [*] and [*] for the [*] for such annual period, except as otherwise mutually agreed by the Parties. For the purposes of clarity, the [*] shall be [*], and the [*] for the [*] shall be [*]; and the current [*] for these [*] are located on Exhibit A hereto, as may be amended from time to time. The intent of the Hourly Rate is to represent a fully loaded rate that includes, but is not limited to, the following general expense categories: salaries and wages (including bonuses, moving expenses, and payroll taxes), benefits provided (including health benefits, defined contribution, defined benefit plans, vacations, etc.), direct employee costs (including recruitment costs, internal and external training costs, computer charges, automobile leases, subscriptions and reference materials, telephone, fax, cellular phone, and copy machines and related costs), and allocation of other overhead costs (including rent, insurance, and utilities).

(2) Except as otherwise provided herein, the Agreement has not been modified or amended and remains in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Supplement to Anemia License and Collaboration Agreement as of the date first set forth above.

FIBROGEN, INC.

By: /s/ William Hodder
William Hodder
Vice President, Business Development

ASTELLAS PHARMA INC.

By: /s/ C. Yokota
Chihiro Yokota, R.Ph.
Vice President, Licensing & Alliances

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

EXHIBIT A

[*]

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Confidential

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit 10.16

AMENDMENT NO. 3 TO ANEMIA LICENSE AND COLLABORATION AGREEMENT

This Amendment No. 3 (the "**Amendment**") to the Anemia License and Collaboration Agreement dated as of April 28, 2006, by and between Astellas Pharma Inc. ("**Astellas**") and FibroGen, Inc. ("**FibroGen**"), as amended on August 31, 2006 and December 10, 2006 (the "**Agreement**") is dated as of May 10, 2012 (the "**Third Amendment Effective Date**"). All capitalized terms not otherwise defined in this Amendment have the same meanings as set forth in the Agreement.

WHEREAS, the Parties have entered into the Agreement, which provides that all costs and expenses (including, without limitation, reasonable FTE costs and the Fully Burdened Cost of clinical supplies of the Product) incurred by either party for the Transatlantic Clinical Development Plan after the Effective Date shall be reported, adjusted and reconciled between them on a quarterly basis so that FibroGen and Astellas are to share such costs and expenses equally;

WHEREAS, the Parties intend to conduct multiple Phase 3 studies within the Transatlantic Clinical Development Plan under the Agreement, including two (2) or more Phase 3 renal anemia studies in patients not on dialysis or in patients on dialysis treatment; and

WHEREAS, the Parties would like to amend the cost sharing arrangement under the Agreement with respect to certain activities performed in the conduct of the Phase 3 renal anemia studies to be conducted under the Agreement under a "payment in kind" schema, such that each Party shall bear solely the cost of such activities for the study for which it is the Sponsor (as defined below), and such costs shall not be subject to the cost sharing provisions of the Agreement;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Notwithstanding the provisions of the Agreement entitled "**Development Costs**" that outlines certain development costs that are to be shared by the Parties, solely with respect to the studies listed on Exhibit A hereto (any such study sponsored by Astellas, an "**Astellas Study**"; and any such study sponsored by FibroGen, a "**FibroGen Study**"; each such Study, a "**PIK Study**"; and the Party sponsoring such study, respectively, the "**Sponsor**") all Development costs and expenses incurred for an Astellas Study or FibroGen Study, as the case may be, on and after the Third Amendment Effective Date, including, without limitation, those incurred in connection with the following activities performed in the conduct of the study, including internal employee costs or out-of-pocket costs, whether incurred directly by the Sponsor or on the Sponsor's behalf by any third party (including, for the avoidance of doubt, the Party that is not the Sponsor of the Study upon express request of the Sponsor Party), shall be borne solely by the Sponsor (the "**PIK Activities**"):

— **[*]**

(2) For the avoidance of doubt, notwithstanding Paragraph (1) above, all Development costs and expenses incurred in connection with the following activities performed in the conduct of the study, including internal employee costs or out-of-pocket costs, whether incurred directly by the Sponsor or on the Sponsor's behalf by any third party, shall be subject to the cost-sharing provisions of the Agreement:

— **[*]**

(3) The Parties agree and acknowledge that notwithstanding anything to the contrary in this Amendment, the conduct of all activities discussed in this Amendment shall remain subject to compliance with the terms and conditions of the Agreement, and remain subject to JSC approval as set forth in the Agreement, irrespective of whether the costs relate to PIK Activities, except that JSC approval is not required with respect to the budget for the Development costs and expenses set forth in Paragraph (1) above.

(4) Except as otherwise provided herein, the Agreement has not been modified or amended and remains in full force and effect. All capitalized terms not defined herein shall have the meaning as set forth in the Agreement.

IN WITNESS WHEREOF, the Parties have executed this Amendment No. 3 to Anemia License and Collaboration Agreement as of the Third Amendment Effective Date.

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff, CEO

ASTELLAS PHARMA INC.

By: /s/ C. Yokota
Chihiro Yokota, R.Ph.
Corporate Executive
Vice President, Licensing & Alliances

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

EXHIBIT A: ONGOING OR PLANNED PIK STUDIES

	Sponsor	Study Code	Study description
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]

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Exhibit 10.19

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LICENSE AGREEMENT

This Agreement, made and entered into this 23rd day of May, 1997 (the Effective Date"), by and between the UNIVERSITY OF MIAMI and its SCHOOL OF MEDICINE, having its principal office at 1600 N.W. 10th Avenue, Miami, Florida 33136 (hereinafter "LICENSOR") and FIBROGEN, INC., a corporation duly organized under the laws of Delaware and having its principal office at 260 Littlefield Avenue, South San Francisco, California 94080 and its Affiliates (hereinafter collectively, "FIBROGEN").

WITNESSETH:

WHEREAS, LICENSOR is the sole owner of the Technology and Product identified under the Patent Rights (as hereinafter defined) relating to Connective Tissue Growth Factor, and has the right to grant licenses under said Patent Rights;

WHEREAS, LICENSOR desires to have the Patent Rights utilized in the public interest and is willing to grant an exclusive sublicense thereunder;

WHEREAS, FIBROGEN intends to develop, produce, manufacture, market and/or sell products similar to the Licensed Product(s) (as hereinafter defined) and is willing to commit itself to a diligent program of exploiting the Patent Rights so that public utilization shall result-therefrom; and

WHEREAS, FIBROGEN desires to obtain a sublicense under the Patent Rights upon the terms and conditions hereinafter get forth.

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein, the parties agree as follows:

ARTICLE 1
Definitions

1.1 "Affiliate" shall mean any corporation, company or other entity which directly or indirectly controls, or is controlled by, or is under common control with, FIBROGEN. For this purpose, "control" shall mean direct or indirect beneficial ownership of at least fifty percent (50%) of the voting stock of, or at least a fifty percent (50%) interest in the income of such corporation or other business entity, or such other relationship as in fact, constitutes actual control.

1.2 "FIBROGEN" shall mean FIBROGEN and shall include any Subsidiary (as hereinafter defined) or Affiliate (as hereinafter defined) of FIBROGEN.

1.3 "Subsidiary" shall mean any corporation, company or other entity at least fifty percent of whose voting stock is owned or controlled directly or indirectly by FIBROGEN.

1.4 "Patent Rights" shall mean United States Patent Application Serial Number **[*]** (hereinafter referred to as the "Patent Rights Patent Application"), and the United States and foreign patents issuing from said United States and foreign patent applications or later-filed foreign applications based on the said United States Patents and applications (hereinafter referred to as the "Patent Rights Patent(s)") and any continuations, continuations-in-part, divisions, reissues or extensions of any of the foregoing.

1.5 "Licensed Method(s)" shall mean the methods of treatment comprising the application and/or administration of connective tissue growth factor and related molecules which are covered in whole or in part by (i) a pending claim contained in a Patent Rights Patent Application, or (ii) a valid and unexpired claim contained in a Patent Rights Patent.

1.6 "Licensed Process(s)" shall mean a process for making Licensed Product(s) which is covered in whole or in part by (i) a pending claim contained in a Patent Rights Patent Application, or (ii) a valid and unexpired claim contained in a Patent Rights Patent.

1.7 "Licensed Product(s)" shall mean any product used or sold and any process used by or for FIBROGEN, which at the time of manufacture, use or sale:

(a) is covered in whole or in part by (i) a pending claim contained in a Patent Rights Patent Application in the country in which the Licensed Product(s) is made, used or sold, or (ii) a valid and unexpired claim contained in a Patent Rights Patent in the country in which the Licensed Product(s) is made, used or sold; or

(b) is manufactured by using a process that is a Licensed Process in the country in which such product is made, used or sold.

1.8 "Net Sales" shall mean the sum of all amounts invoiced on account of sales or use of Products by FIBROGEN and any sublicensees to non-Affiliated third-party purchasers or users of Products, less the sum of the following:

(a) discounts allowed in amounts customary in the trade;

(b) sales, use, value-added, tariff duties or other excise taxes directly imposed and with reference to particular sales;

(c) outbound transportation prepaid or allowed; and

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(d) amounts allowed or credited on returns.

"Net Sales" shall not include any sale between or among FIBROGEN and its Affiliates or Subsidiaries, but shall include any subsequent sales by FIBROGEN or its Affiliates or Subsidiaries.

No deductions shall be made for commissions paid to individuals, whether they be with independent sales agencies or regularly employed by FIBROGEN and on its payroll, or for cost of collections. Licensed Product(s) shall be considered sold when used, billed out or invoiced. If the Licensed Product is exchanged for a consideration other than money, billings shall be gross selling price of comparable Licensed Product(s) and in arm's-length transactions by FIBROGEN or, if no sales of comparable Licensed Products have been made, then the fair market value thereof.

1.9 "Net Royalties" shall mean the net royalties actually received by FIBROGEN in connection with sublicensing of any of the Patent Rights.

1.10 "Effective Date" shall mean the date first shown above.

1.11 "Territory" shall mean all the countries of the world.

ARTICLE 2
Grant Of License

2.1 LICENSOR hereby grants to FIBROGEN an exclusive worldwide right and license, with the right to sublicense others, to make, have make, use, sell and have sold Licensed Product(a), and to practice Licensed Process(es) and/or Licensed Method(s), to the full end of the term for which the Patent Rights are granted (the "Contract Period") unless sooner terminated according to the terms hereof.

2.2 FIBROGEN agrees to forward to LICENSOR a copy of any and all fully executed sublicense agreements, and further agrees to forward to LICENSOR annually a copy of such reports received by FIBROGEN from its sulicensees during the preceding twelve-month period under the sublicenses as shall be pertinent to a royalty accounting under said sublicense agreements.

2.3 LICENSOR reserves to itself the right to practice under the Patent Rights for the University's noncommercial research and education purposes.

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2.4 The license granted hereunder shall not be construed to confer any rights upon FIBROGEN by implication, estoppel or otherwise as to any technology except as specifically set forth herein.

2.5 FIBROGEN agrees that any sublicenses granted by it shall contain such provisions as are necessary for it to meet its obligations under this Agreement and to reasonably protect the interests of LICENSOR with regard to such sublicense.

2.6 Termination under any of the provisions of this Agreement of the license granted to FIBROGEN in this Agreement shall terminate all sublicenses which may have been granted by FIBROGEN, provided that any sublicensee may elect to continue its sublicense by advising LICENSOR in writing, within sixty days of the sublicensee's receipt of written notice of such termination, of its election and of its agreement to assume in respect to LICENSOR all the obligations (including obligations for payment) contained in its sublicensing agreement with FIBROGEN. Any sublicense granted by FIBROGEN shall contain provisions corresponding to those of this paragraph respecting termination and the conditions of continuance of sublicenses.

ARTICLE III
Due Diligence

3.1 FIBROGEN shall use best faith efforts to bring one or more Licensed Product(s), Licensed Method(s) and/or Licensed Process(es) to market through a diligent program for exploitation of the Patent Rights.

3.2 FIBROGEN's failure to perform in accordance with paragraph 3.1 above shall be grounds for LICENSOR to terminate this Agreement pursuant to Paragraph 13.3 hereof.

3.3. FIBROGEN agrees to submit under confidence annual reports, upon LICENSOR's request, as to its efforts to develop markets for the Licensed Products and Licensed Method(s). Such reports shall include assurance by FIBROGEN of its intent to actively develop commercial embodiments of the inventions of the Licensed Patents and a summary of its efforts in this regard.

3.4 Unless FIBROGEN has a Licensed Product available for commercial sale prior to January 1, 2008 or FIBROGEN has made available for commercial sale a product which, when administered, may be used in a Licensed Method, FIBROGEN agrees that LICENSOR may terminate this Agreement

ARTICLE 4
Royalties

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

4.1 For the rights, privileges and license granted hereunder, FIBROGEN shall pay fees and royalties to LICENSOR, in the manner hereinafter provided, to the end of the term of the Patent Rights or until this Agreement shall be terminated as hereinafter provided:

(a) FIBROGEN License Fee of **[*]** Dollars ($**[*]**) which said Fee shall be deemed earned and due immediately upon the execution of this Agreement;

(b) Running Royalties equal to **[*]** Of Net Sales of the Licensed Products and/or the sale of product which is labeled for a Licensed Method use; except that on Net Sales by or for sublicensees, FIBROGEN shall pay the lesser of **[*]** Of Net Sales or **[*]** of all royalties received by FIBROGEN from any sublicense for Net Sales of the Licensed Products by or for the sublicensee; and

(c) **[*]** of all License Fees received by FIBROGEN from any sublicensee. As used in the preceding sentence, the term "License Fees" means any fees received by FIBROGEN for license of rights to the Licensed Products, Licensed Methods, Patent Rights, and Licensed Processes, excluding (a) royalties and payments which are advances of future royalties and (b) payments for which FIBROGEN must render technical development services.

4.2 In the case of sales in a country of a Licensed Product or Licensed Method based on a claim of a Patent Rights Patent Application that has not issued as a Patent Rights Patent after **[*]** (**[*]**) years from the date of filing, the above-stated royalty rate shall be reduced by **[*]** (**[*]**) on Net Sales of such Licensed Product and/or the sale of product which is labeled for a Licensed Method use in such country until such claim issues as a Patent Rights Patent or is rejected with no right of appeal or to which rejection neither party chooses to appeal.

4.3 In the event that FIBROGEN manufactures, uses or sells a product which is related to connective tissue growth factor, including derivatives of connective tissue growth factor, wherein the product is labeled for a Licensed Method use, FIBROGEN's royalty payments under this Article 4 may be reduced in proportion to contributions to the development of the product by FIBROGEN, to be determined through best faith negotiations of the parties.

4.4 If it is necessary to acquire one or more royalty bearing licenses from third parties in order to fully exercise the rights granted by LICENSOR hereunder, then FIBROGEN shall be entitled to a credit against the royalty payments due hereunder, which credit shall be equal to the amount of the royalties actually paid to such third parties, provided, in no case will the royalty otherwise due LICENSOR be reduced by more than fifty percent (50%) for such credit.

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4.5 All payments shall be made hereunder in U.S. dollars; provided however, that if the proceeds of the sales upon which such royalty payments are based are received by FIBROGEN in a foreign currency or other form that is not convertible or exportable in dollars, and FIBROGEN does not have ongoing business operations or bank accounts in the country in which the currency is not convertible or exportable, FIBROGEN shall pay such royalties in the currency of the country in which such sales were made by depositing such royalties in LICENSOR's name in a bank designated by the LICENSOR in such country. Royalties in dollars shall be computed by converting the royalty in the currency of the country in which sales were made at the exchange rate for dollars prevailing at the close of the business day of FIBROGEN's period for which royalties are being calculated as published the following day in the Wall Street Journal (or, if it ceases to be published, a comparable publication to be agreed upon from time to time by the parties), and with respect to those countries for which rates are not published in the Wall Street Journal, the exchange rate fixed for such date by the appropriate United States governmental agency.

4.6 In the event the royalties set forth herein are higher than the maximum royalties permitted by law or regulation of a particular country, the royalty payable for sales in such country shall be equal to the maximum permitted royalty under such law or regulation.

4.7 In the event that any taxes, withholding or otherwise, are levied by any taxing authority in connection with accrual or payment of any royalties payable to LICENSOR under this Agreement, FIBROGEN shall have the right to pay such taxes to the local tax authorities on behalf of the LICENSOR and the payment to LICENSOR of the net amount due after reduction by the amount of such taxes, shall fully satisfy FIBROGEN's royalty obligations under this Agreement.

ARTICLE 5
Reports And Records

5.1 FIBROGEN shall keep full, true and accurate books of account containing all particulars that may be necessary for the purpose of showing the amounts payable to LICENSOR by way of royalty as aforesaid. Said books of account shall be kept at FIBROGEN's principal place of business or the principal place of business as of the appropriate division of FIBROGEN to which this Agreement relates. Said books and the supporting data shall be open at all reasonable times, but not exceeding **[*]** per calendar year, for three (3) years following the end of the calendar year to which they pertain, to the inspection of LICENSOR and/or an independent certified public accountant retained or employed by LICENSOR for the purpose of verifying FIBROGEN's royalty or other payment statement.

Such Accountant or Accounting Firm shall not disclose to LICENSOR any information other than that information relating solely to the accuracy of, or necessity for, the reports and payments made hereunder. The fees and expense of the Certified Public Accountant or Accounting Firm performing such verification shall be borne by LICENSOR unless in the event that the audit reveals underpayment of royalties by an amount more than ten (10) percent, the cost of such audit shall be paid by FIBROGEN.

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5.2 FIBROGEN, within sixty (60) days after March 31, June 30, September 30, and December 31 of each year, shall deliver to LICENSOR true and accurate reports, giving such particulars of the business conducted during the preceding three month period under this Agreement as shall be pertinent to a royalty accounting hereunder. These shall include at least the following:

(a) all Licensed Product(s) manufactured and sold;

(b) total billings for Licensed Product(s) sold;

(c) accounting for all the Licensed Process(es) used or sold;

(d) deductions applicable as provided in the definition of Net Sales;

(e) Net Royalties paid FIBROGEN, if relevant to the calculations of royalties to be paid to LICENSOR;

(f) royalties due LICENSOR; and

(g) names and addresses of all sublicensees.

5.3 With each such report submitted, FIBROGEN shall pay to LICENSOR the royalties due and payable under this Agreement. It no royalties shall be due, FIBROGEN shall so report.

5.4 The royalty payments sat forth in this Agreement shall, if overdue, bear interest until payment at a **[*]** rate per annum. The payment of such interest shall not foreclose LICENSOR from exercising any other rights it may have as a consequence of the lateness of the payment.

ARTICLE 6
Patent Prosecution

6.1 FIBROGEN agrees to pay for the filing, prosecution and maintenance of all Patent Rights, and to diligently pursue same. If, in any country agreed upon by FIBROGEN and LICENSOR for the filing of a Patent Rights Patent Application, FIBROGEN fails so to file, prosecute and maintain, LICENSOR may take over the responsibilities of filing, prosecution and maintenance, at the expense of FIBROGEN, and will thereafter provide FIBROGEN with all relevant documentation.

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6.2 FIBROGEN agrees promptly to furnish to LICENSOR copies of:

(a) Patent Rights Patent Applications filed in any Patent Office;

(b) papers received from a Patent Office pertaining to a Patent Rights Patent Application; and

(c) papers filed in a Patent Office pertaining to a Patent Rights Patent Application.

ARTICLE 7
Infringement

Infringement By Third Parties

7.1 The parties shall promptly inform each other in writing of any alleged infringement by a third party, of which it shall have notice, of any patents within the Patent Rights, and provide the other party with any available evidence of infringement.

7.2 During the term of this Agreement, FIBROGEN shall have the right, but shall not be obligated, to prosecute at its own expense any such infringements of the Patent Rights and, in furtherance of such right, LICENSOR hereby agrees to join FIBROGEN as a nominal party plaintiff in any such suit where required for jurisdictional purposes, and to render to FIBROGEN every assistance within its power, except financial assistance. If LICENSOR should incur any out-of-pocket costs in connection with assisting FIBROGEN with said suit, such costs shall be reimbursed to LICENSOR by FIBROGEN. The total cost of any such infringement action commenced or defended solely by FIBROGEN shall be borne by FIBROGEN, and FIBROGEN shall keep any net recovery or damages for patent infringement derived therefrom, subject to reimbursement to LICENSOR for any royalties past due or withheld and applied pursuant to Section 7.3 below.

7.3 In the event that FIBROGEN shall undertake the enforcement of the Patent Rights by litigation, FIBROGEN may withhold up to **[*]** of the royalties otherwise thereafter due LICENSOR hereunder, and apply the same toward **[*]** of its expenses, including reasonable attorney's fees, in connection therewith.

7.4 If within **[*]** months after having been notified of any alleged infringement, FIBROGEN shall have been unsuccessful in persuading the alleged infringer to desist, and shall not have brought or shall not be diligently prosecuting an infringement action, or if FIBROGEN shall notify LICENSOR at any time prior thereto of its intention not to bring suit against any alleged infringer, then, and in these events only, LICENSOR shall have the right, but shall not be obligated, to prosecute at its own expense any infringement of the Patent Rights. No settlement, consent Judgment or other voluntary final disposition of the suit may be entered into without the consent of FIBROGEN, which consent shall not be unreasonably withheld. The total cost of any such infringement action commenced solely by LICENSOR shall by borne by LICENSOR, and LICENSOR shall keep any recovery or damages for past infringement derived therefrom.

7.5 In any infringement suit that either party may institute to enforce the Patent Rights pursuant to this Agreement, the other party hereto shall, at the request and expense of the party initiating such suit, cooperate in all respects and, to the extent possible, have its employees testify when requested, and make available relevant records, papers, information, samples, specimens, and the like.

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Infringement By LICENSOR and FIBROGEN

7.6 FIBROGEN shall promptly notify LICENSOR in writing of any claim of patent infringement which has been asserted against FIBROGEN or LICENSOR, its Affiliate and any sublicensees because of the manufacture, use, promotion or sale of Licensed Products or Licensed Processes or the sale of products used according to the Licensed Methods.

7.7 FIBROGEN shall have the first and primary right and responsibility to defend and control the defense of any such claim, by counsel of its choice and at its expense. FIBROGEN will defend, indemnify and hold harmless LICENSOR, its Trustees, officers, directors, employees and its Affiliates against any and all judgment and damages arising from any and all third party claims of Patent Rights infringement which may be asserted against LICENSOR, and its Affiliates because of the manufacture, use, promotion and sale of products.

7.8 It is understood that any settlement of such action must be approved by LICENSOR, and that such approval shall not be unreasonably withheld. LICENSOR agrees to cooperate with FIBROGEN in any reasonable manner necessary in defending such action. FIBROGEN shall reimburse LICENSOR for any reasonable out-of-pocket expenses incurred in providing such assistance.

7.9 LICENSOR shall have no responsibility with respect to FIBROGEN's own trademarks and tradename, and FIBROGEN in respect to the use thereof will defend, indemnify and hold harmless LICENSOR against any and all third party claims.

7.10 In the event FIBROGEN deems it necessary to seek a license from any third party in order to avoid infringement or settle an infringement action in any country of such third party's patent rights brought about by the sale of Licensed Products or use of Licensed Processes, **[*]** of all fees or royalties paid under such license may be deducted from royalty payments due LICENSOR on Sale of Licensed Products in such country to an extent not exceeding **[*]** of each such royalty payment as it becomes due.

7.11 LICENSOR warrants and represents that it has the lawful right to grant the license provided in this Agreement and that, to its knowledge and belief, it has not granted rights or licenses in derogation of the rights granted to FIBROGEN under this Agreement. LICENSOR agrees that during the term of this Agreement, it shall use reasonable efforts to avoid granting rights to third parties or incurring obligations which will interfere with the rights and obligations of parties under this Agreement, including any rights and obligations that survive termination of this Agreement.

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ARTICLE 8
Product Liability, Indemnification and Warranties

8.1 FIBROGEN agrees to release, indemnify and hold harmless the LICENSOR, its Trustees, officers, faculty, employees and students against any and all losses, expenses, claims, actions, lawsuits and judgments thereon (including attorney's fees through the appellate levels) which may be brought against LICENSOR, its Trustees, officers, faculty, employees or students as a result of or arising out of use, production, manufacturer, sale, lease, consumption or advertisement by FIBROGEN or any third party of any Licensed patent, Product, Invention or Technology licensed under this Agreement.

8.2 LICENSOR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND HEREBY DISCLAIMS ALL SUCH WARRANTIES, AS TO ANY MATTER WHATSOEVER, INCLUDING, WITHOUT LIMITATION, THE CONDITION OF ANY INVENTION(S) OR PRODUCT, WHETHER TANGIBLE OR INTANGIBLE, LICENSED UNDER THIS AGREEMENT; OR THE MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OF THE INVENTION OR PRODUCT; OF THAT THE USE OF THE LICENSED PRODUCT WILL NOT INFRINGE ANY PATENT, COPYRIGHT, TRADEMARK, OR OTHER RIGHTS, LICENSOR SHALL NOT BE LIABLE FOR ANY DIRECT, CONSEQUENTIAL, OR OTHER DAMAGES SUFFERED BY ANY LICENSEE OR ANY THIRD PARTY RESULTING FROM THE USE, PRODUCTION, MANUFACTURE, SALE LEASE, CONSUMPTION, OR ADVERTISEMENT OF THE PRODUCT.

8.3 The provisions of 8.1 and 8.2 above shall continue beyond the termination of this Agreement.

ARTICLE 9
Assignment

9.1 Except as otherwise provided in this Article, this Agreement is not assignable by FIBROGEN or by operation of law without the prior written consent of LICENSOR at its sole discretion.

9.2 This Agreement shall extend to and be binding upon the successors and legal representatives and permitted assigns of LICENSOR and FIBROGEN.

9.3 FIBROGEN may assign or otherwise transfer this Agreement and the license granted hereby and the rights acquired by it hereunder, so long as such assignment or transfer shall be accompanied by a sale or other transfer of substantially all of FIBROGEN's entire business, or that part of FIBROGEN's business to which the license granted hereby relates.

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9.4 FIBROGEN may assign or otherwise transfer this Agreement and the license granted hereby and the rights acquired by it hereunder, so long as such assignment or transfer is made to a FIBROGEN subsidiary or Affiliate.

ARTICLE 10
Use Of Names

FIBROGEN shall not use the name of the University of Miami, or any of its employees, or any adaptation thereof, in any publication, including advertising, promotional or sales literature without the prior written consent of Mr. Alan J. Fish, Assistant Vice President of Business Services, 327 Max Orovitz Building, 1507 Levante Avenue, Coral Gables, FL 33124-1432. Notwithstanding this provision, FIBROGEN may state that it has licensed one or more patents comprising the Patent Rights from LICENSOR.

ARTICLE 11
Export Controls

11.1 It is understood that LICENSOR is subject to United States laws and regulations controlling the export of technical data, computer software, laboratory prototypes and other commodities (including the Arms Export Control Act, as amended, and the Export Administration Act of 1979), and that its obligations hereunder are contingent upon compliance with applicable United States export laws and regulations. The transfer of certain technical data and commodities may require a license from the cognizant agency of the United States Government and/or written assurances by LICENSOR that FIBROGEN shall not export data or commodities to certain foreign countries without prior approval of such agency. LICENSOR neither represents that a license shall not be required, nor that, if required, it shall be issued.

ARTICLE 12
Termination

12.1 LICENSOR and FIBROGEN shall have the right to terminate this Agreement if the other party commits a material breach of an obligation under this Agreement or provides a false report and continues in default from more than **[*]** after receiving written notice of such default or false report. Such termination shall be effective upon further written notice to the breaching party after failure by the breaching party to cure such default. If LICENSOR commits a material breach or defaults, the FIBROGEN has no duty to continue the payment of royalties as set forth in Article IV of this Agreement.

12.2 The license and rights granted in this Agreement have been granted on the basis of the special capability of FIBROGEN to perform research and development work leading to the manufacture and marketing of the Products. Accordingly, FIBROGEN covenants and agrees

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that in the event any proceedings under the Bankruptcy Act of any amendment thereto, be commenced by or against FIBROGEN, and, if against FIBROGEN, said proceedings shall not be dismissed with prejudice before either an adjudication in bankruptcy or the confirmation of a composition, arrangement, or plan of reorganization, or in the event FIBROGEN shall be adjudged insolvent or make an assignment for the benefit of its creditors, or if a writ of attachment or execution be levied upon the license hereby created and not be released or satisfied within **[*]** days after thereafter, or if a receiver be appointed in any proceedings or action to which FIBROGEN is a party with authority to exercise any of the rights or privileges granted hereunder and such receiver be so discharged within a period of **[*]** days after his appointment, any such event shall be deemed to constitute a breach of this Agreement by FIBROGEN and, LICENSOR, at the election of LICENSOR, but not otherwise, ipso facto, and without notice or other action by LICENSOR, shall terminate this Agreement and all rights of LICENSOR hereunder and all rights of any and all persons claiming under FIBROGEN.

12.3 FIBROGEN shall have the right to terminate this Agreement upon ninety (90) days notice.

12.4 Any termination of this Agreement shall be without prejudice to LICENSOR's right to recover all amounts accruing to LICENSOR prior to such termination and cancellation. Except as otherwise provided, should this Agreement be terminated for any reason, FIBROGEN shall have no rights, express or implied, under any patent property which is the subject matter of this Agreement, nor have the right to recover any royalties paid LICENSOR hereunder. Upon termination of this Agreement for any reason, nothing herein shall be construed to release either party from any obligation that matured prior to the effective date of such termination. FIBROGEN and/or any sublicensee of FIBROGEN may, however, after the effective date of such termination, sell all Licensed Product(s), and complete Licensed Product(s) in the process of manufacture at the time of such termination and sell the same, provided that FIBROGEN shall pay to LICENSOR the royalties thereon as required by Article 4 of this Agreement, and shall submit the report required by Article 5 hereof on the sales of Licensed Product(s).

ARTICLE 13
Payments, Notices And Other Communications

Any notice, payment, report or other communication (hereinafter collectively referred to as "correspondence") required to be given hereunder shall be mailed by certified mail or delivered by hand to the party to whom such correspondence is required or permitted to be given hereunder. If mailed, any such notice shall be deemed to have been given when mailed as evidenced by the postmark at point of mailing. If delivered by hand, any such correspondence shall be deemed to have given when received by the party to whom such correspondence is given, as evidenced by written and dated receipt of the receiving party.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

All correspondence to FIBROGEN shall be addressed as follows:

FibroGen, Inc.
260 Littlefield Avenue
South San Francisco, CA 94080
Attention: President

All correspondence to LICENSOR shall be addressed, in duplicate, as follows:

FOR NOTICE BY MAIL:

University of Miami
School of Medicine
Research and Graduate Studies
P.O. Box 016960 (R64)
Miami, FL 33101
Attention: Dr. Norman H. Altman

Assistant Vice President for Business Affairs
327 Max Ororvitz Building
1507 Levante Avenue
Coral Gables, FL 33124-1432
Attention: Mr. Alan J. Fish

FOR NOTICE AND PAYMENT:

BY MAIL:

Director
Office of Technology Transfer
P.O. Box 016960 ((M811)
Miami, FL 33101
Attention: Dr. Gary S. Margules

BY HAND:

Director
Office of Technology Transfer
P.O. Box 016960 (M811)
Miami, FL 33101
Attention: Dr. Gary S. Margules

Either party may change the address to which correspondence to it is to be addressed by notification as provided herein.

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ARTICLE 14
Governing Law

This Agreement shall be construed, governed, interpreted and applied in accordance with the laws of the State of Florida, except that questions affecting the construction and effect of any patent shall be determined by the law of the country in which such patent was granted.

ARTICLE 15
Captions

The captions and paragraph headings of this Agreement are solely for the convenience of reference and shall not affect its interpretation.

ARTICLE 16
Entire Agreement

This Agreement constitutes the entire Agreement between the parties hereto respecting the subject matter hereof, and supersedes and terminates all prior agreements respecting the subject matter hereof, whether written or oral, and may be amended only by an instrument in writing executed by both parties hereto.

ARTICLE 17
Amendment

No amendment or modification of the terms of this Agreement shall be binding on either party unless reduced to writing and signed by an authorized officer of the party to be bound.

ARTICLE 18
Severability

Should any part or provision of this Agreement be held unenforceable or in conflict with the applicable laws or regulations of any jurisdiction, the invalid or unenforceable part of provision shall be replaced with a provision which accomplishes, to the extent possible, the original business purposes of such part or provision in valid and enforceable manner, and the remainder of the Agreement shall remain binding upon the parties hereto.

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ARTICLE 19
Waiver

No failure or delay on the part of a party in exercising any right hereunder will operate as a waiver of, or impair, any such right. No single or partial exercise of any such right will preclude any other or further exercise thereof or the exercise of any other right. No waiver of any such right will be deemed a waiver of any other right hereunder.

ARTICLE 20
Marking

Prior to the issuance of patents on the Invention(s), FIBROGEN agrees to mark and have sublicensees mark Licensed Products (or their containers or labels) made, sold, or otherwise disposed of by it under the license granted in this Agreement with a proper notice as specified under the patents laws of the United States. All Licensed Product(s) shipped to or sold in other countries shall be marked in such a manner as to conform with the patent law and practice of the country of manufacture or sale.

ARTICLE 21
Standards

FIBROGEN further agrees to maintain satisfactory standards in respect to the nature of the Product manufactured and/or sold by FIBROGEN. FIBROGEN, agrees that all Licensed Product(s) manufactured and/or sold by it shall be of a quality which is appropriate to products of the type here involved. FIBROGEN agrees that similar provisions shall be included by sublicensees of all tiers.

ARTICLE 22
United States Law, Public Law 96-517 as Amended

This Agreement is subject to all of the terms and conditions of Public Law 96-517 as amended, and FIBROGEN agrees to take all action necessary on its part as LICENSEE to enable LICENSOR to satisfy its obligation thereunder, relating to Invention(s).

ARTICLE 23
Certificate of Insurance

23.1 FIBROGEN shall maintain liability insurance coverage for the Licensed Product in the amount of five million dollars ($5,000,000.00) and at no expense to LICENSOR, FIBROGEN shall name LICENSOR as an additional insured. Prior to the first human use of the Licensed Product, FIBROGEN shall provide a certificate of insurance to LICENSOR.

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23.2 FIBROGEN agrees to carry and keep in force, at its expense, general liability insurance with limits not less than one million ($1,000,000.00) per person and three million ($3,000,000.00) aggregate to cover liability for damages on account of bodily injury or personal injury or death to any person, or damage to property of any person; such insurance shall not be canceled for any cause without at least thirty (30) days prior written notice to University of Miami. Such insurance shall contain an endorsement naming the University as an additional insured with respect to this Agreement. Insurance Certificates should be sent to the University of Miami, attention Mr. William Coombs, 333 Max Orovitz Building, 1507 Leavante Avenue, Coral Gables, FL 33124-1437.

ARTICLE 24
Survival

24.1 The provisions of Article7, and Article 8 shall survive the termination or expiration of this Agreement and shall remain in full force and effect.

24.2 The provisions of the Agreement which do not survive termination or expiration hereof (as the case may be) shall, nonetheless, be controlling on, and shall be used in construing and interpreting, the rights and obligations of the parties hereto with regard to any dispute, controversy or claim which may arise under, our of, in connection with, or relating to this Agreement.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals and duly executed this License Agreement on the day and year first set forth below.

Dated: May 23, 1997

UNIVERSITY FOR MIAMI

By: /s/ Alan J. Fish
[name] Alan J. Fish
[title] Assistant Vice Pres. Business Services

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Dated: May 2, 1997

FIBROGEN, INC.

By: /s/ Thomas B. Neff
Thomas B. Neff
Chief Executive Officer

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Exhibit 10.20

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FIRST AMENDMENT TO
May 23, 1997 LICENSE AGREEMENT

The First Amendment to the May 23, 1997 License Agreement (the "1997 License Agreement") by and between University of Miami (the "University") and FibroGen, Inc., and its Affiliates (the "Company") (collectively, the "Parties") is effective July 29, 1999. Except as otherwise set forth herein, the defined terms in the 1997 License Agreement shall be incorporated by reference herein.

The Parties hereby agree to amend the 1997 License Agreement as follows:

1. Section 1.4 shall be amended and restated in its entirety to read as follows:

"Patent Rights" shall mean the University's share of (a) United States Patent No. **[*]**, United States Patent Application Serial Number **[*]**, and the two United States Patent Applications filed on **[*]** entitled **[*]** for which numbers have not yet been assigned, (b) any applications filed prior to this date relating to CTGF, homologs to CTGF, **[*]** and/or methods of use or treatment thereof which University's employees are joint or sole inventors thereon or any applications filed hereafter for which the Company has provided research funding pursuant to the November 29, 1995 Research Agreement between the Parties, as amended, or any subsequent funding arrangement between the Parties, (c) and the United States and foreign patents issuing from said United States and foreign patent applications collectively, hereinafter referred to as the "Patent Rights Patent Application") or later filed domestic or foreign applications based on the said United States Patents and applications (hereinafter referred to as the "Patent Rights Patents") and any continuations, continuations-in-part, divisions, reissues or extensions of any of the foregoing. In the event that the University has or acquires any rights to United States Patent Nos. **[*]**; or United States Patent Application Serial Number **[*]**, and foreign application (including PCT No. **[*]**), continuations, continuations-in-part, divisions, reissues or extensions thereof, such rights shall be included in "Patent Rights", "Patent Rights Patent Application" or "Patent Rights Patents" as appropriate.

2. Section 4.1 (b) shall be amended and restated in its entirety to read as follows:

(b) (i) Subject to clause (ii) below, Company shall pay University a running royalty equal to:

(x) **[*]** of Net Sales of any Licensed Products and/or the sale of product labeled for a Licensed Method use (a "Royalty Product") in cases other than specified in (y) or (z),

(y) **[*]** of Net Sales of any Royalty Product in the case that such Royalty Product is also covered by a patent or patent application owned or held by the University of South Florida.

(z) **[*]** of Net Sales of any Royalty Product in the case that any of the Patent Rights covering such Royalty Product is jointly owned or held by the Company.

(ii) The applicable running royalty set forth in Section 4.2.(b)(i) may be reduced by any royalty obligations of the Company to other third parties (except the University of South Florida) on the sale of Royalty Products; provided, however that the University's royalties shall not be offset by more than seventy-five percent (75%) (i.e. so that the royalty rate may be reduced to **[*]** in (b)(i)(x) or **[*]** in (b)(i)((y) and (z)). In the event that the Company reduces the royalty to the University pursuant to the foregoing, the Company must disclose to the University the third party royalty payment and the identity of such third party.

3. Section 4.1(c) shall be amended and restated in its entirety to read as follows:

The Company shall pay the University milestone payments on the first Royalty Product to reach the following milestone in the first major country (United States, Japan, U.K., France, Italy, Spain or Germany):

Upon acceptance of an IND with the FDA or commencement of any human clinical trial	$**[*]**
Upon successful completion of Phase II in the U.S. (or comparable foreign clinical trial)	$**[*]**
Upon written notice of FDA (or comparable foreign body) approval for marketing	$**[*]**

In no event shall the foregoing be construed to require the Company to pay any of the above milestones the University more than once.

In addition, the Company shall pay the University $**[*]** for any subsequent approval by the first of the FDA or comparable foreign body in a major country for an additional indication for such previously approved Royalty Product or additional Royalty Product (but not the same indication or same Royalty Product in additional markets or countries).

Payment to the University by the Company shall be made within **[*]** days of the achievement of the applicable milestone.

4. Section 4.4 shall be deleted.

5. With respect to the United States Patent Application No. **[*]** filed in **[*]** and any divisionals, continuations or continuations in part thereof or foreign counterparts filed relating to the foregoing, the Company shall pay no more than a **[*]** royalty in total to the University and/or University of South Florida on sales of Royalty

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Products and to the extent that questions of inventorship arise as to whether the patent covers such Royalty Product or whether the University should be included as an assignee to such patent, such issue shall be resolved by mutually agreed upon third party patent attorney. The royalty shall be allocated based upon the proportion of patents held by each institution or such other reasonable method of allocation agreed to by the Parties in good faith. For example, assuming that no other offsets apply, if University has 1 solely-held patent, University of South Florida has 3 solely-held patents and they jointly-hold 1 patent, then University of South Florida would be entitled to 70% (3.5/5) and the University would be entitled to 30% (1.5/5) of the **[*]** royalty. Accordingly, the University of South Florida would receive a **[*]** royalty and the University would receive a **[*]** royalty. This Section 5 would not be effective unless University of South Florida agrees to a comparable provision.

6. Section 6.1 is amended to add the following sentence:

The University agrees that the Company shall control the prosecution and maintenance of the United States Patent Applications filed on **[*]** entitled **[*]** and any other Patent Rights Patents.

Except as set forth above, the 1997 License Agreement shall remain in full force and effect in accordance with all other terms and conditions specified therein.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date set forth below.

UNIVERSITY OF MIAMI

/s/ Alan Fish Date: 8/5/99

FIBROGEN, INC.

/s/ Thomas B. Neff Date: 8/3/99

Thomas B. Neff
Chief Executive Officer

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Exhibit 10.21

CONFIDENTIAL

RESEARCH AND COMMERCIALIZATION AGREEMENT

THIS RESEARCH AND COMMERCIALIZATION AGREEMENT (the "Agreement"), effective as of July 9, 1998, is entered by and between GenPharm International, Inc., a wholly owned subsidiary of Medarex, Inc., and Medarex, Inc., a New Jersey corporation, with a principal place of business at 1545 Route 22 East, Annandale, New Jersey 08801 (together "Medarex"), and FibroGen, Inc. and its wholly-owned subsidiary, FibroPharma, Inc., with a principal place of business at 225 Gateway Boulevard, South San Francisco, California 94080 (together "FibroGen").

BACKGROUND

A. Medarex is the sole and exclusive owner of certain transgenic Mice useful for the preparation of fully human monoclonal antibodies;

B. FibroGen desires to have Medarex conduct research with the Mice for the development of fully human monoclonal antibodies to certain Antigens (as defined below) and to evaluate the utility of such antibodies as potential therapeutics involved in fibrosis or fibroproliferative disease, and Medarex is willing to conduct such Research, on the terms and conditions herein; and

C. FibroGen wishes to acquire from Medarex an option to acquire a commercial license for the use of monoclonal antibodies with specificity for the Antigens to commercialize Products (as defined below), on the terms and conditions herein.

NOW, THEREFORE, Medarex and FibroGen agree as follows:

1. DEFINITIONS

1.1 "Affiliate" means any corporation or other entity which is directly or indirectly controlling, controlled by or under the common control with FibroGen. For the purpose of this Agreement, "control" shall mean the direct or indirect ownership of fifty percent (50%) or more of the outstanding shares or other voting rights of the subject entity to elect directors, or if not meeting the preceding, any entity owned or controlled by or owning or controlling at the maximum control or ownership right permitted in the country where such entity exists.

1.2 "Antibody" shall mean a human monoclonal antibody with binding affinity for an Antigen, which antibody is derived from cells obtained from one or more of the Mice.

1.3 "Antigen" shall mean each of twelve (12) antigens listed on Exhibit A hereto as such list may be revised from time to time by the mutual agreement of the parties.

1.4 "Confidential Information" shall mean (i) any proprietary or confidential information or material in tangible form disclosed hereunder that is marked as "Confidential" at the time it is delivered to the receiving party, or (ii) proprietary or confidential information disclosed orally hereunder which is identified as confidential or proprietary when disclosed and such disclosure of confidential information is confirmed in writing within thirty (30) days by the disclosing party.

1.5 "Control" or "Controlled" shall mean possession of the ability to grant the licenses or sublicenses as provided for herein without violating the terms of any agreement or other arrangement with any third party.

1.6 "Effective Date" means forty-five (45) days after the date of this Agreement.

1.7 "Excluded Claim" shall having the meaning set forth in the Cross License Agreement entered into by GenPharm International, Inc. and Cell Genesys, Inc., Abgenix, Inc., Xenotech, L.P., and Japan Tobacco, effective March 26, 1997.

1.8 "FibroGen Technology" shall mean all United States and foreign patents (including all reissues, extensions, substitutions, confirmations, re-registrations, re-examinations, revalidations and patents of addition) and patent applications (including, without limitation, all continuations, continuations-in-part and divisions thereof) owned by FibroGen during the term of the Agreement, in each case, which claims an invention which is necessary or useful to make, use or sell Antibodies and/or Products.

1.9 "Medarex Fees" shall mean any commercial fee, milestone payment and one-half of any research support payment made by FibroGen to Medarex pursuant to Sections 2.2, 4.1 and 4.2.

1.10 "Medarex Technology" shall mean the Patent Rights and Know How.

1.10.1 "Know How" shall mean the Confidential Information and Mice owned or Controlled by Medarex during the term of the Agreement and transferred to FibroGen by Medarex necessary or useful for the exercise of the Patent Rights, including, without limitation, technical data, protocols and methods and processes. For the avoidance of doubt, the Know How does not include any Patent Rights.

1.10.2 "Patent Rights" shall mean all United States and foreign patents (including all reissues, extensions, substitutions, confirmations, re-registrations, re-examinations, revalidations and patents of addition) and patent applications (including, without limitation, all continuations, continuations-in-part and divisions thereof) owned or Controlled by Medarex during the term of the

Agreement, in each case, which claims an invention which is necessary or useful for the use of the Antibodies or the hybridoma cell lines transferred hereunder to make, use or sell Products.

1.11 "Mice" shall mean immunizable transgenic mice containing unrearranged human immunoglobulin genes.

1.12 "Mice Materials" shall mean any parts or derivatives of the Mice prepared by Medarex in connection with the Research, including without limitation, cells, hybridomas Antibodies, genes, DNA sequences or other biological materials derived directly or indirectly from the Mice.

1.13 "Net Sales" shall mean, with respect to Section 4.3.1(a), the amount received by FibroGen or its Affiliates, and with respect to clause (i) of Section 4.3.1(b) and Section 4.3.1(c), the amount received by Sublicensees, for the sale of Products to bona fide independent third parties, less to the extent included in such amount (i) normal and customary rebates, and cash and trade discounts, actually taken, (ii) sales, use and/or other excise taxes or duties, actually paid, (iii) the cost of any bulk packages and packing, and (iv) amounts actually allowed or credited due to returns paid and separately identified on the invoice or other documentation maintained in the ordinary course of business. All sales of Products between FibroGen and its Affiliates and Sublicensees shall be disregarded for purposes of computing Net Sales, unless such a purchaser is the end-user of such Product, A "sale" shall include any transfer or other disposition for consideration, cash or otherwise; provided, it is understood that Net Sales shall not include amounts received by FibroGen for the purchase of equity, research and development funding, license fees, milestone payments, or reimbursements paid by Sublicensees to FibroGen for milestone payments or research payments paid by FibroGen to Medarex. In no event shall Sublicensee Revenues be included in Net Sales.

In the case of discounts on "bundles" of products or services which include Products, FibroGen may calculate Net Sales by discounting the bona fide list price of such product by the average percentage discount of all products of the selling party and/or its Affiliates or Sublicensees in a particular "bundle", calculated as follows:

Average percentage discount on a particular bundle:	=	(1 - A/B) x 100

where *A* equals the total discounted price of a particular "bundle" of products, and B equals the sum of the undiscounted bona fide list prices of each unit of every product in such "bundle". FibroGen shall provide Medarex documentation, reasonably acceptable to the other party, establishing such average discount with respect to each "bundle". If FibroGen cannot so establish the average discount of a "bundle", Net Sales shall be based on the undiscounted list price of the products in the "bundle". If a Product in a "bundle" is not sold separately and no bona fide list price exists for such Product,

the parties shall negotiate in good faith an imputed list price for such Product, and Net Sales with respect thereto shall be based on such imputed list price.

1.14 "Phase I", "Phase II" and "Phase III" shall mean Phase I (or Phase I/II), Phase II, and Phase III clinical trials, respectively, in each case as prescribed by the U.S. Food and Drug Administration or a corresponding foreign entity.

1.15 "Product" shall mean any product for the treatment or diagnosis of human disease containing an Antibody provided by Medarex or produced from any hybridoma provided by Medarex or a portion thereof.

1.16 "Research" shall mean the activities conducted by FibroGen and Medarex in the Research Period in connection with the development and assessment of the usefulness and effectiveness of the Antibodies.

1.17 "Research Invention" shall mean any invention by Medarex or FibroGen in connection with the performance of the Research.

1.18 "Research Period" shall mean the period from the Effective Date until the earlier of (i) the first anniversary of the Effective Date, unless the Research Period is extended pursuant to Section 2.6, in which case the last day of the extension period, or (ii) the termination of the Research or the Agreement.

1.19 "Sublicensee" shall mean a third party (except an Affiliate) to whom FibroGen has granted a license or sublicense to make, have made, import, use, sell, offer for sale or otherwise exploit Products in the Territory. As used in this Agreement, "Sublicensee" shall also include a third party (except an Affiliate) to whom FibroGen has granted the right to distribute a Product.

1.20 "Sublicensee Revenues" shall mean all amounts (except royalties) received by FibroGen from a Sublicensee with respect to a grant of rights to the Medarex Technology and/or FibroGen Technology or the right to sell Products, including without limitation, option fees, license fees and milestone payments. Notwithstanding the foregoing, the parties agree that "Sublicensee Revenues" shall exclude any purchases of equity in FibroGen at fair market value, reimbursements paid by Sublicensees to FibroGen for any payments hereunder and (a) prior to the commencement of Phase III clinical trials for any Product, on a Product-by-Product basis, any research and development funding, whether paid in advance or as reimbursement for work performed (except research and development funding in excess of FibroGen's fully allocated costs of conducting the funded research and development, as determined in accordance with U.S. GAAP) and (b) upon the commencement of Phase III clinical trials for any Product, on a Product-by-Product basis, and thereafter, any project funding for such Product, whether paid in advance or as reimbursement for work performed (except funding in excess of FibroGen's reasonably allocatable direct and indirect project expenses).

FibroGen agrees that it will not disguise any license fees or milestone payments in the form of research and development funding. In no event shall Sublicensee Revenues include any amounts received from Sublicensee with respect to Net Sales of any Product.

1.21 "Territory" shall mean all countries of the world.

2. RESEARCH

2.1 Research. Subject to the terms and conditions set forth herein, during the Research Period Medarex will immunize Mice with up to twelve (12) Antigens selected by FibroGen to produce Antibodies for evaluation by FibroGen for commercial development. FibroGen shall have the right to have immunizations for up to two (2) Antigens conducted concurrently. FibroGen shall be entitled to have Medarex immunize a total of fifty (50) Mice each year; provided, however, that with respect to three Antigens to be selected by FibroGen ("Special Antigens"), Medarex shall immunize twenty (20) Mice for each of the Special Antigens. In any year in which immunizations for a Special Antigen are conducted, the number of Mice which Medarex is obligated to immunize Mice against Antigens other than Special Antigens shall be reduced by thirteen and one-third (13 ⅓) Mice for each Special Antigen for which immunizations are conducted in such year. For the remaining Antigens with respect to which immunizations are conducted, Medarex shall immunize a minimum of ten (10) Mice with the applicable Antigen. In each case, Medarex shall isolate Antibodies from the immunized Mice as soon as practicable. FibroGen shall have the option to direct Medarex to immunize the Mice and, on a rolling basis, fuse all the resulting spleens, unless otherwise agreed by a committee consisting of one (1) scientist selected by Medarex and one (1) scientist selected by FibroGen. FibroGen acknowledges that the exercise of the rolling basis option may delay the receipt of all Antibodies. Medarex shall use reasonably diligent efforts to conduct the Research in a professional manner and agrees to commit the personnel, facilities and other resources necessary to perform its obligations under the Research and the work plan attached hereto as Exhibit B; provided, however, it does not warrant that the Research shall result in the preparation of any Antibody suitable for development as a Product or that immunizations with five (5) Antigens can be completed in the initial year of the Research Period. Notwithstanding the foregoing, Medarex shall warrant that FibroGen shall have the ability to conduct immunization with at least three (3) Antigens in any year of the Research Period. Medarex shall perform tasks 1-6 of the work plan except that FibroGen shall be responsible for testing for neutralization as part of task 6. During the Research Period, all Antigens shall be considered exclusive to FibroGen in accordance with Section 2.6.5.

2.2 Research Support. During the Research, FibroGen shall pay to Medarex a quarterly research support payment of ninety-five thousand dollars ($95,000). The first payment shall be due forty-five (45) days from the Effective Date, and subsequent payments shall be due on the quarterly anniversary thereof unless work is suspended pursuant to Section 2.6.1; provided that Medarex is not

in breach of this Agreement. However, if FibroGen fails to make any research support payment for any reason, Medarex shall have no obligation to conduct any further Research activities.

2.3 Identification and Delivery of Antigens. FibroGen shall promptly notify Medarex of each Antigen prior to immunization of the Mice in the Research and deliver to Medarex a mutually agreed quantity of such Antigen in a substantially pure form prior to the immunization.

2.4 Delivery of Antibodies. Upon the preparation of an Antibody for each Antigen, Medarex shall deliver to FibroGen ten (10) milligrams of such Antibody and a hybridoma cell line producing such Antibody for evaluation by FibroGen.

2.5 Research License. Medarex hereby grants to FibroGen and its Affiliates an exclusive, non-transferable license solely to use the Antibodies and hybridoma cell lines producing such Antibodies prepared by Medarex in connection with the Research for research and evaluation purposes; provided, however, that FibroGen and its Affiliates may transfer the Antibodies and hybridoma cell lines producing such Antibodies to its scientific collaborators and consultants for purposes of furthering the Research. Such license shall convert into a non-exclusive research only license upon the termination of the Research, if FibroGen does not acquire a commercial license pursuant to Section 3.1.2; provided, upon the termination of the Research, FibroGen shall promptly return to Medarex, or destroy, all hybridoma cell lines provided by Medarex (and progeny thereof) which produce Antibodies to which FibroGen has not acquired a commercial license from Medarex.

2.6 Research Period.

2.6.1 Suspension. With notice to Medarex at least thirty (30) days prior to the proposed date of suspension, FibroGen may suspend Medarex's work under this Agreement, its obligations to, make the Research support payment under Section 2.2 relating thereto and the lapse of the commercial option pursuant to Section 3.1 at any time during the Research Period with respect to each Antigen, for a period of up to forty-five (45) days after FibroGen (i) receives an Antibody for the applicable Antigen, which Antibody is acceptable to FibroGen, or (ii) after Medarex has conducted Research for at least six (6) months with regard to the applicable Antigen, FibroGen determines that a suitable Antibody to the applicable Antigen cannot be made, in each case, to allow FibroGen to prepare the next Antigen for immunization hereunder. In addition, if FibroGen does not have adequate preclinical data to evaluate an Antibody candidate at the end of the Research Period, FibroGen may with notice to Medarex extend the Research Period for up to nine (9) additional months without any Research support payments solely to obtain in-vivo proof of concept and to evaluate whether to exercise the commercial option with respect to such Antibody. FibroGen shall also give Medarex at least fifteen (15) days notice prior to having Medarex resume its work hereunder. During the applicable suspension period, FibroGen's obligations to make Research support payments to Medarex and Medarex's obligations to conduct any Research shall be suspended.

2.6.2 Extension. With notice to Medarex at least thirty (30) days prior to the first anniversary of the Effective Date, FibroGen may extend the term of the Research until the second anniversary of the Effective Date and, with notice to Medarex at least thirty (30) days prior to the second anniversary of the Effective Date, FibroGen may further extend the term of the Research until the third anniversary of the Effective Date, and in each case, FibroGen shall continue to make quarterly research support payments as provided in Section 2.2. If FibroGen (i) extends the Research Period for at least six (6) months (so that the Research Period is at least eighteen (18) months and Medarex has received at least five hundred seventy thousand dollars ($570,000) of research support payments pursuant to Section 2.2), and (ii) exercises its option and acquires a commercial license pursuant to Section 3.1.2, then FibroGen shall be considered to have exclusivity of all the Antigens listed on Exhibit A in accordance with Section 2.6.5.

2.6.3 If No Extension: Option Antigens. If FibroGen fails to provide Medarex with notice at least thirty (30) days prior to the first anniversary of the Effective Date that it will not extend the Research for at least six (6) months (i.e., until at least eighteen (18) months following the Effective Date so that Medarex will receive at least five hundred seventy thousand dollars ($570,000) of research support payments pursuant to Section 2.2), then before the first anniversary of the Effective Date, if FibroGen has exercised its option and acquires a commercial license pursuant to Section 3.1.2, FibroGen may select six (6) of the Antigens for which FibroGen shall have exclusivity in accordance with Section 2.6.5, and with respect to the remainder (each an “Option Antigen”) FibroGen shall have an option to obtain exclusivity and shall concurrently with its selection above notify Medarex of the identity of such Option Antigens. With respect to each Option Antigen, during the Research Period FibroGen shall have an option to immunize against such Option Antigens and/or preclude Medarex from immunizing Mice against such Option Antigens. FibroGen may exercise its option by providing notice to Medarex identifying the Option Antigen and concurrently paying to Medarex fifty thousand dollars ($50,000) for such Option Antigen. In addition, before entering into a written agreement with a third party to immunize Mice with any Option Antigen, Medarex shall notify FibroGen, and FibroGen shall have ten (10) business days to exercise its option for the applicable Option Antigen by notifying Medarex that it wishes to retain its rights to such Option Antigen and concurrently paying to Medarex fifty thousand dollars ($50,000) for such Option Antigen.

2.6.4 Option Antigen Immunization Terms. In the event that FibroGen exercises its option pursuant to Section 2.6.3 with respect to any Option Antigen and wishes to have Medarex immunize Mice against such Option Antigen, the parties shall agree on amendments to this Agreement which shall specify the schedule of such immunizations and a Research Period for such Option Antigen. FibroGen shall have the right to acquire a commercial license to any Antibodies against such Antigen as provided in Section 3.1.2, subject to the terms and conditions of this Agreement, including, without limitation, the payments required under Article 4.

2.6.5 Exclusivity.

(a) During the Research Period, Medarex shall be precluded from (i) knowingly immunizing or permitting any third party to immunize any Mice against any Antigen, (ii) granting any third party a commercial license under the Medarex Technology which covers such Antigen or any Antibodies specifically directed to the Antigen, or (iii) using any Antibodies derived from the Research except to the extent necessary to (y) perform the services and research for-the benefit of FibroGen pursuant to this Agreement, or (z) prosecute patent applications pursuant to Section 2.7.2 and Article 10 herein.

(b) For any Antigen that FibroGen is deemed to have exclusivity, after the Research Period, Medarex shall be precluded from (i) knowingly immunizing or permitting any third party to immunize any Mice against any such Antigen, (ii) granting any third party a commercial license under the Medarex Technology which covers the Antigen or any Antibodies specifically directed to the Antigen or (iii) using any Antibodies derived from the Research except to the extent necessary to (y) perform the services and research for the benefit of FibroGen pursuant to this Agreement, or (z) prosecute patent applications pursuant to Section 2.7.2 and Article 10 herein.

(c) Notwithstanding Sections 2.6.5(a) and (b) above, it is understood and agreed that Medarex is in the business of providing Mice to third parties for research and evaluation, and grants research licenses for such activities, and that one or more of third parties may, without the knowledge of Medarex, immunize Mice against one or more of the Antigens.

2.7 Ownership.

2.7.1 Mice. Except as provided in Section 3.3, title to the Mice and Mice Materials shall at all times remain with Medarex.

2.7.2 Intellectual Property.

(a) Any Research Invention that is or relates to the Mice or Mice Materials shall be owned solely by Medarex, subject to subsections 2.7.2(b) and (c) below. Any Research Invention made by FibroGen in the course of activities in connection with the Research that is or relates to the Antigens shall be owned solely by FibroGen.

(b) Medarex shall own all claims in patent applications and patents claiming Research Inventions directed to (i) one or more compositions of matter (e.g., an Antibody), except formulations of Antibodies for therapeutic or diagnostic use, or (ii) one or more methods of production.

(c) FibroGen shall own all claims in patent applications and patents claiming Research Inventions directed to (i) one or more methods of use of an Antibody, or (ii) formulations of Antibodies for therapeutic or diagnostic use.

(d) It is understood and agreed that any patent applications and patents containing claims owned by Medarex pursuant to Section 2.7.2(b) shall be included in the Medarex Technology and shall be subject to (i) any commercial licenses to Antibodies granted to FibroGen pursuant to Section 3.1.2 herein to the extent that such claims cover an Antibody to which FibroGen acquires a commercial license, or (ii) any nonexclusive license granted to FibroGen pursuant to Section 3.2.

(e) FibroGen hereby agrees to grant and grants to Medarex an exclusive (subject to any nonexclusive license granted to FibroGen pursuant to Section 3.2), worldwide, royalty-free, perpetual, irrevocable license, with the right to grant and authorize sublicenses, to all claims subject to Section 2.7.2(c) for all uses, excluding any use of any Antibody, or any formulation of any Antibody, in each case, to which FibroGen has acquired a commercial license.

(f) The parties agree to cooperate and consult with each other with respect to any claims covering Research Inventions subject to Section 2.7.2 which FibroGen or Medarex wishes to file in any patent office. The parties further agree that if a party wishes to file patent applications relating to a particular Antibody to which the other party has an ownership interest pursuant to this Section 2.7.2, then the other party shall be given at least thirty (30) days notice and, if it also wishes to file at that time a patent application relating to such Antibody, the two parties' applications shall be filed simultaneously, by way of submission in the same envelope or some such similar means.

2.7.3 Assignment. At the request of either party, the parties shall discuss in good faith the assignment by one party to the other of any patent application claiming any Research Invention. In the event that the parties agree that it is advantageous for one party to solely own any patent application claiming any Research Invention in order that the scope of the patent coverage may be broadened (i.e., terminal disclaimer), the ownership of such patent application shall be assigned to such party by the other party (the "Assigning Party"). However, in the case of such assignment (a) if the Assigning Party is Medarex, the sole owner shall be deemed to grant to the Assigning Party an exclusive (subject to any nonexclusive license granted to FibroGen pursuant to Section 3.2), worldwide, royalty-free, perpetual, irrevocable, license under the applicable patent applications or patents, with the right to sublicense, for all uses, excluding any use of any Antibody, or any formulations of any Antibody, in each case, to which FibroGen has acquired a commercial license, and (b) if the Assigning Party is FibroGen, the applicable patent applications or patents shall be included in the Medarex Technology and shall be subject to (i) any commercial licenses to Antibodies granted to FibroGen pursuant to Section 3.1.2 herein to the extent that the claims thereof

cover an Antibody to which FibroGen acquires a commercial license, or (ii) any nonexclusive license granted to FibroGen pursuant to Section 3.2.

3. OPTION; COMMERCIAL LICENSE

3.1 Option; License.

3.1.1 Option. During the Research Period, FibroGen shall have an option to obtain an exclusive (even as to Medarex), worldwide commercial license as set forth in Section 3.1.2 solely to develop Antibodies for use in the development and commercialization of Products. FibroGen may exercise such option by notice to Medarex during the Research Period specifying one or more Antibodies (up to three (3) per Antigen) to be covered by the commercial license and concurrently paying to Medarex the applicable license fee due pursuant to Section 4.1. If FibroGen has not previously exercised its option to acquire a commercial license and achieves any milestone subject to Section 4.2, then FibroGen shall be deemed to have exercised its option to acquire a commercial license and shall pay to Medarex the commercial license fee due pursuant to Section 4.1 within thirty (30) days of the achievement of such milestone, in addition to the applicable milestone fee due pursuant to Section 4.2.

3.1.2 Commercial License. Effective upon FibroGen's election to acquire a commercial license, subject to the terms and conditions of this Agreement, including without limitation, the payment of the license fee set forth in Section 4.1, Medarex grants to FibroGen and its Affiliates the following licenses:

(a) an exclusive, worldwide, non-transferable (except as set forth in Section 14.3), royalty bearing license under the Medarex Technology with the right to sublicense, to use hybridomas delivered by Medarex to FibroGen to make or have made Antibodies, and

(b) an exclusive, worldwide, non-transferable (except as set forth in Section 14.3), royalty bearing license under the Medarex Technology with the right to sublicense, to use Antibodies made in the Research to make, have made, import, have imported, use, offer for sale and sell Products.

During the term of the commercial licenses above, Medarex shall not grant any third party a license under the Medarex Technology which covers Antigens to which Antibodies have been made in the Research or Mice Materials developed in connection with the Research.

3.2 Non-Exclusive License. If (i) as a result of the conduct of the Research, Medarex has filed a patent application or patent covering an antibody directed to an Antigen or a method of use of an Antibody for treatment of a specific human disease, and (ii) FibroGen elects not to commercially develop an Antibody provided by Medarex to FibroGen hereunder but wishes to commercialize

another human or humanized monoclonal antibody with specificity for the same Antigen, and would require a license under the patent applications and patents subject to (i) above to develop or commercialize any product containing such a human monoclonal antibody, then, regardless of whether FibroGen acquires a commercial license from Medarex pursuant to Section 3.1.2 with respect to a particular Antibody provided by Medarex to FibroGen hereunder, at FibroGen's request after the Research Period, Medarex shall be deemed to grant to FibroGen, a non-exclusive, worldwide, perpetual, nontransferable (except as set forth in Section 14.3), royalty-free license under any patent applications or patents within Medarex Technology described in subSections 2.7.2(b) and (c) above, with the right to sublicense, to make, have made, import, have imported, use, offer for sale and sell products which are independently developed by or on behalf of FibroGen without any use of (x) any Medarex Technology, or (y) any information relating to or derived from any Antibody, including, without limitation, any DNA or protein sequence information regarding any Antibody or any gene encoding all or part of an Antibody; provided, however, that in no event should clauses (x) or (y) be construed to preclude the use of any information by FibroGen or its collaborators which (i) was known prior to receipt of the information derived from any Antibody or from Medarex, as shown by contemporaneous written evidence, (ii) was developed or obtained from sources independent of the information derived from any Antibody or from Medarex, as shown by contemporaneous written evidence, or (iii) was public knowledge or becomes public knowledge in the future, other than through the acts or omissions of FibroGen or its collaborator(s) or the publication of any patent application with respect to which Medarex is an assignee or a licensee. It is understood and agreed that under this Section FibroGen shall not be granted any license or other rights to any Antibody except as expressly set forth in Section 2.5, and that FibroGen may not commercialize any such Antibody or any antibody based on or derived therefrom, in whole or part, without obtaining a commercial license from Medarex pursuant to Section 3.1.2.

3.3 Title. If FibroGen acquires a commercial license pursuant to Section 3.1.2, title to all Antibodies and cells capable of producing Antibodies obtained by FibroGen during the Research Period and the term of such license shall be vested in FibroGen.

3.4 Regulatory Assistance. If FibroGen acquires a commercial license to a particular Antibody, at the written request of FibroGen, Medarex shall provide any documentation necessary or appropriate for regulatory filings relating to the origin or modification of the Antibodies or the hybridoma.

3.5 Retained Rights; No Further Rights. Only the license granted pursuant to the express terms of this Agreement shall be of any legal force or effect. No other license rights shall be granted or created by implication, estoppel or otherwise. It is understood and agreed that Medarex shall retain rights to make, have made, import, use, offer for sale, sell and otherwise commercialize Mice which have not been used for the Research or immunized with any Antigen, itself or with third parties for any uses.

4. CONSIDERATION

4.1 Commercial License Fee. If FibroGen acquires a commercial license from Medarex pursuant to Section 3.1.2 above, FibroGen shall pay to Medarex a license fee of one million dollars ($1,000,000). The applicable license fee shall be paid to Medarex concurrently with FibroGen's notice of its exercise of its option.

4.2 Milestone Payments. Within thirty (30) days following the occurrence of the relevant events specified below with respect to each Product which contains one of the Antibodies licensed by FibroGen (under a research license or a commercial license) and is intended to be used as a therapeutic, FibroGen shall pay to Medarex the following amounts:

Milestones	Amount
Commencement of Phase II clinical trials	$1,000,000
Commencement of Phase III clinical trials	$2,000,000
First BLA filing in the U.S., Japan or Europe	$2,000,000
First BLA approval in the U.S., Japan or Europe	$4,000,000
BLA approval in a second major market in the U.S., Japan or Europe	$2,000,000

4.3 Royalties and Sublicensee Revenues.

4.3.1 Royalty on Net Sales and Sublicense Revenues.

(a) In partial consideration for the commercial license, FibroGen shall pay to Medarex a royalty of (i) one and one-half percent (1.5%) on annual Net Sales of FibroGen and its Affiliates of Products sold as therapeutics, on a Product-by-Product basis, and (ii) ten percent (10%) on annual Net Sales of FibroGen and its Affiliates of Products sold as in vivo or ex vivo diagnostics, on a Product-by-Product basis. In addition, for each diagnostic Product, on a Product-by-Product basis, in the event that Net Sales of FibroGen and its Affiliates exceeds fifty million dollars ($50,000,000) in any year, Medarex shall receive an additional royalty of two and one-half percent (2.5%) on the annual Net Sales in excess of the $50 million (the "Bonus Royalties") until such time as Medarex has received a total of ten million dollars ($10,000,000) of Bonus Royalties with respect to such Product.

(b) In addition to the above, in partial consideration for the commercial license, FibroGen shall pay to Medarex, at FibroGen's option, either (i) a royalty of one and one-half percent (1.5%) on annual Net Sales by Sublicensees of FibroGen and its Affiliates of Products sold as therapeutics, on a Product-by-Product basis (and no portion of Sublicensee Revenues); or (ii) seventeen and one-half percent (17.5%) of (x) all payments of royalties received by FibroGen and/or its Affiliates in respect of the sale by a Sublicensee of any Product sold as a therapeutic and (y) all Sublicensee Revenues relating to therapeutic Products or rights thereto received from such

Sublicensee; provided, however, that in reference to clause (y): (1) with respect to Sublicensee Revenue received by FibroGen prior to the date any Medarex Fees are paid by FibroGen to Medarex, FibroGen may fully credit any amounts paid pursuant to clause (y) against the Medarex Fees (and not previously applied against) until such credit is fully expended; (2) with respect to Sublicensee Revenues payments received by FibroGen from a Sublicensee after the date any payment of a percentage (i.e., 17 ½%) of the Sublicensee Revenues (the "Medarex Share") or Medarex Fee is made by FibroGen to Medarex, FibroGen may subtract from Sublicensee Revenue payments the amount of any Medarex Share or Medarex Fees previously paid to Medarex (and not previously subtracted), and make the required payments (i.e., 17 ½%) to Medarex on the remainder; and (3) upon the termination of the Product development or the termination of the Sublicensee Revenues for any reason, the amounts received by Medarex under clause (y) and the Medarex Fees shall be subject to a reconciliation which shall compare the amounts received by Medarex against the amount to which Medarex is entitled (Z), which shall be calculated as follows:

Amount Medarex is entitled = Z + amount of Medarex Fees achieved to date

where Z = the greater of zero or [(Total Sublicensee Revenues) - (2 x Medarex Fees achieved)] x [0.175].

Examples of the application of clause (y) and the reconciliation mechanism to various scenarios are set forth in Exhibit C.

In the event that the reconciliation shows that Medarex has received more than it is entitled to under the above formula, FibroGen may either offset such amount against other future payments Medarex is to receive under this subsection (b) or require Medarex to remit the excess cash or equity, whichever form the original payment was made, unless Medarex has already sold the equity in which case Medarex will remit the cash equivalent. FibroGen shall promptly remit any amounts owed to Medarex as a result of the reconciliation. To the extent that additional Medarex Fees still remain available for offset or may arise in the future under Section 4.2 with respect to any Product, FibroGen may make the payment in respect of the Sublicensing Revenues in clause (y) in cash or equity consistent with the provisions of Section 4.4 (Equity) herein and Medarex shall have the same rights relating to any equity acquired pursuant to clause (y) as set forth in Section 4.4. With respect to each Sublicensee, FibroGen shall notify Medarex of FibroGen's election to pay to Medarex the amounts subject to clause (i) or (ii) above within thirty (30) days after receipt of the first payment which would constitute a Sublicensee Revenue subject to (ii) above. Payments hereunder with respect to each Product shall be treated separately and not offset against other amounts due between the parties unless otherwise agreed to by the parties.

(c) In addition to the above, in partial consideration for the commercial license, with respect to diagnostic Products, FibroGen shall pay to Medarex, at FibroGen's option, either (i) a royalty of ten percent (10%) on annual Net Sales by Sublicensees of FibroGen and its

Affiliates of Products sold as diagnostics, on a Product-by-Product basis and no portion of Sublicensee Revenues, or (ii) seventeen and one-half percent (17.5%) of (x) all payments of royalties received by FibroGen and/or its Affiliates in respect of the sale by a Sublicensee of any Products sold as diagnostics, and (y) all Sublicensee Revenues relating to diagnostic Products or rights thereto received from such Sublicensee. With respect to each Sublicensee, FibroGen shall notify Medarex of FibroGen's election to pay to Medarex the amounts subject to clause (i) or (ii) above within thirty (30) days after receipt of the first payment which would constitute a Sublicensee Revenue subject to (ii) above.

(d) In addition to the foregoing, FibroGen shall also reimburse Medarex for the amount of any royalties paid by Medarex to Medical Research Council (MRC) and required by the October 1, 1993 License Agreement between GenPharm International and MRC in connection with the sale of any Products by FibroGen, Affiliates or Sublicensees; provided, however, that in no event shall the reimbursement by FibroGen to MRC be increased beyond those required in the October 1, 1993 License Agreement between MRC and GenPharm International, Inc. without FibroGen's written consent. At the request of FibroGen, Medarex shall request MRC to grant FibroGen a sublicense on substantially similar terms as set forth in its license with MRC.

(e) It is understood and agreed that pursuant to that certain license agreement entered by GenPharm International, Inc. and DNX, dated January 1, 1991 (the "DNX License") that Medarex may be obligated to pay to DNX a percentage of royalties received by Medarex from FibroGen with respect to the sale of Products, and Medarex agrees to pay to DNX amounts received from FibroGen which are consistent with such agreement. Medarex further agrees that the amounts it pays to DNX with respect to amounts received from other licensees of the applicable technology shall be treated consistently. In the event that in any litigation or other binding arbitration between Medarex and DNX regarding the DNX License, a final determination is made (which is not appealed or appealable, unless Medarex elects not to appeal) that the royalties due DNX under the DNX License should be based on any amount other than the amounts received by Medarex from a licensee (e.g., FibroGen), then in addition to any other amounts due to Medarex pursuant to this Agreement, FibroGen shall be responsible for paying to Medarex (for all past and future sales of Products) amounts equal to the amounts due pursuant to the interpretation of the DNX License as determined in the litigation or other binding arbitration, as applied to the Products subject to the licenses granted hereunder. It is understood and agreed that Medarex may, but shall have no obligation to, appeal any holding in any litigation or binding arbitration.

4.3.2 Combination Products. In the event that a Product is sold in combination with one or more other product(s) which is not a product, Net Sales from such sales for purposes of calculating the amounts due under Section 4.3.1 above shall be calculated by multiplying the Net Sales of that combination by the fraction A/(A + B), where A is the gross selling price of the Product sold separately and B is the gross selling price of the other product sold separately. In the event that no such separate sales are made by FibroGen, Net Sales for royalty determination shall be as agreed

by FibroGen and Medarex, based upon the relative importance and proprietary protection of the Product and other product.

4.3.3 Royalty Reduction. In a country where there are no patent applications or patents within the Medarex Technology, and no patent applications or patents within the FibroGen Technology covering a particular Product, and in such country there are commercially significant sales of a competing product which contains a monoclonal antibody that has been or becomes approved by the applicable regulatory authority for treatment of the same indication as the applicable Product, then the royalty due to Medarex pursuant to Section 4.3.1 with respect to Net Sales of the applicable Product in such country shall be reduced by one-half (1/2).

4.3.4 Royalty Term. The royalties due pursuant to this Section 4.3 shall be payable on a Product-by-Product and country-by-country basis in each country as follows: (i) in countries where there are no patent applications or patents within the Medarex Technology and no patent application or patent within the FibroGen Technology covering a particular Product, until ten (10) years following the first commercial sale of such a Product in such country, and (ii) in countries where there are one or more patent applications or patents within the Medarex Technology, or one or more patent applications or patents within the FibroGen Technology covering such a Product, until the expiration of the last to expire patent within the Medarex Technology or FibroGen Technology covering the applicable Product in such country.

4.3.5 Trade Secrets. The parties acknowledge and agree that a principal value contributed by Medarex is access to the Mice and Mice Materials allowing accelerated time to market and enhanced probability of success, and that Medarex may not own or control patents that cover the manufacture, sale or use of a particular Product. FibroGen acknowledges and agrees that a principal value FibroGen receives hereunder is in such access, and accordingly FibroGen shall reimburse the amounts paid by Medarex pursuant to Section 4.3.1(d) and (e) and pay the royalties at the rates specified in Sections 4.3.1(a), (b) and (c) and 4.3.2 during the term as set forth in Section 4.3.4, regardless of whether the applicable Product is covered by a patent application or patent within the Medarex Technology or FibroGen Technology.

4.4 Equity.

4.4.1 Pre-IPO.

(a) At FibroGen's election, the commercial license payments and milestone payments may be paid in FibroGen common stock, preferred stock or cash. To the extent that FibroGen acquires a commercial license pursuant to Section 4.1 or achieves a milestone subject to Section 4.2 prior to becoming a public company, the FibroGen stock shall be valued at the price of the most recent financing of FibroGen which involved an investment of at least three million dollars ($3,000,000). For purposes of determining FibroGen's market valuation in connection with such

financing, FibroGen shall be deemed to have a market valuation equal to the greater of (i) eighty million dollars ($80,000,000), or (ii) if such financing was at a market valuation over eighty million dollars ($80,000,000), the actual pre-money market valuation of FibroGen in such financing.

(b) If, subsequent to the financing of FibroGen referenced in Section 4.4.1(a) above, FibroGen Europe, Ltd. engages in a public offering of its stock, then the value of FibroGen stock shall be adjusted to take into account the value of FibroGen's interest in FibroGen Europe, Ltd. and the current trading price of FibroGen Europe, Ltd. stock. For purposes of this Section, FibroGen Europe's collagen program shall be assumed to be worth one-fifth (1/5) of FibroGen on a consolidated basis when wholly-owned. (For example, if the FibroGen initial valuation was eighty million dollars ($80,000,000) and FibroGen Europe had a valuation of sixteen million dollars ($16,000,000), if FibroGen Europe goes public and has a one hundred million dollar ($100,000,000) market valuation and FibroGen owns fifty percent (50%) of FibroGen Europe, the adjusted valuation for FibroGen would be one hundred fourteen million dollars ($114,000,000) (i.e., $80M - $16M + 50% ($100M)).

4.4.2 Post-IPO.

(a) Once FibroGen becomes a public company, any milestone payments paid in equity from that point forward, as long as FibroGen remains a public company, will be paid in fully registered shares or unregistered shares based upon the average of the high and low trading prices of FibroGen's stock within ninety (90) business days prior to the date payment is due.

(b) Subsequent to FibroGen's initial public offering ("IPO"), for any unregistered shares that Medarex has acquired from FibroGen within one (1) year prior to FibroGen's IPO or thereafter, if Medarex sells any such shares of FibroGen's common stock in a private transaction at a loss from the initial issuance valuation (at the time Medarex received its shares) after taking into account any transactions costs and fees, FibroGen shall reimburse Medarex for such losses, up to a maximum of fifteen percent (15%) of the initial issuance valuation of such shares. However, prior to executing any such private transaction, Medarex shall notify FibroGen of the contemplated sale, and the terms thereof, and FibroGen shall notify Medarex within fourteen (14) days thereafter if it chooses to effectuate and file a registration of Medarex's shares, which registration shall be effective within five (5) months of the date of Medarex's notice rather than reimbursing Medarex for any losses from the proposed private sale. FibroGen shall promptly notify Medarex of such registration. FibroGen's obligation to reimburse Medarex for any loss from the private sale shall only exist with respect to the shares acquired prior to the initial public offering for a period of twelve (12) months after the public offering and with respect to the shares acquired after the initial public offering for a period of twelve (12) months thereafter; provided, the reimbursement period shall be further extended for the period of any lock-up period imposed on Medarex pursuant to Section 4.4.2(c). Moreover, if FibroGen notifies Medarex as provided above that FibroGen intends to effectuate a registration of shares within five (5) months, but fails to do so, then if

Medarex sells any shares of FibroGen's common stock (which were to be subject to the registration) in a private transaction at a loss from the initial issuance valuation (at the time Medarex received its shares) after taking into account any transactions costs and fees, FibroGen shall reimburse Medarex for such losses up to a maximum of twenty-five percent (25%) of the initial issuance valuation of such shares.

(c) Medarex shall agree to any lock-up period that may be required by underwriters in connection with an initial public offering as long as the officers, directors and affiliates (other than the Finnish government or SITRA or funds related thereto) of FibroGen are subject to similar restrictions. For purposes of this subsection (c) only, an "affiliate" shall be deemed to be a holder of ten percent (10%) or more of FibroGen's outstanding voting stock.

4.4.3 Recalculation.

(a) If FibroGen completes a public offering at a price which establishes a market valuation for FibroGen less than eighty million dollars ($80,000,000), .then any payments to Medarex hereunder based upon a market capitalization of FibroGen of eighty million dollars ($80,000,000) or more pursuant to Section 4.4.1(ii) shall be recalculated based upon the market valuation of FibroGen determined by the public offering price and Medarex shall be entitled to the incremental additional shares which Medarex would have received had the prior payment(s) been calculated on the basis of a market valuation determined by the public offering price based on the average of the high and low trading prices of FibroGen's stock within ninety (90) business days prior to the date of payment.

(b) In the event that FibroGen restructures its business into one or more entities and if Medarex is entitled to receive a proportionate interest in the spun off entity, then the value of the payments pursuant to Sections 4.4.1 and 4.4.2 above shall be considered the aggregate of the value of the stock of the spun off entity and the value of the FibroGen stock; provided, however, that in the case that FibroGen is a public company and the spun off entity (the "New Entity") is a private company, Medarex shall only receive subsequent license or milestone equity payments in the form of the public company stock, valued without regard to the New Entity.

5. PAYMENTS

5.1 Timing of Royalty Payments. All royalties due to Medarex shall be paid within sixty (60) days after the last day of the calendar quarter in which they accrue.

5.2 Payment Method. All amounts due Medarex hereunder shall be paid in U.S. dollars by wire transfer in immediately available funds to an account designated by Medarex.

5.3 Currency: Foreign Payments. If any currency conversion shall be required in connection with the payment of any royalties hereunder, such conversion shall be made by using the exchange rate for the purchase of U.S. dollars reported by the Chase Manhattan Bank on the last business day of the calendar quarter to which such royalty payments relate. If at any time legal restrictions prevent the prompt remittance of any royalties owed on Net Sales in any jurisdiction, FibroGen may notify Medarex and make such payments by depositing the amount thereof in local currency in a bank account or other depository in such country in the name of Medarex, and FibroGen shall have no further obligations under this Agreement with respect thereto.

5.4 Taxes. All royalty amounts required to be paid to Medarex pursuant to this Agreement may be paid with deduction for withholding for or on account of any taxes (other than taxes imposed on or measured by net income) or similar governmental charge imposed by a jurisdiction other than the United States ("Withholding Taxes"). At Medarex's request, FibroGen shall provide Medarex a certificate evidencing payment of any Withholding Taxes hereunder and shall reasonably assist Medarex to obtain the benefit of any applicable tax treaty.

6. REPORTS AND RECORDS

6.1 Royalty Reports. FibroGen shall deliver to Medarex within sixty (60) days after the end of each calendar quarter in which Products are sold a report setting forth in reasonable detail the calculation of the royalties payable to Medarex for such calendar quarter, including the Products sold in each country by FibroGen and its Sublicensees, the Net Sales thereof, and all amounts received from Sublicensees for sales of Products. Such reports shall be Confidential Information of FibroGen subject to Article 9 herein.

6.2 Inspection of Books and Records. FibroGen shall maintain accurate books and records which enable the calculation of royalties payable hereunder to be verified. FibroGen shall retain the books and records for each quarterly period for three (3) years after the submission of the corresponding report under Section 5.1 hereof. Upon thirty (30) days prior notice to FibroGen, independent accountants selected by Medarex, may have access to FibroGen's books and records during FibroGen's normal business hours to conduct a review or audit, for the purpose of verifying the accuracy of FibroGen's payments and compliance with this Agreement. Any such inspection or audit shall be at Medarex's expense, however, in the event an inspection reveals underpayment of five percent (5%) or more in any audit period, FibroGen shall pay the costs of the inspection and promptly pay to Medarex any underpayment with interest from the date such amount(s) were due, at the prime rate reported by the Chase Manhattan Bank, New York, New York plus two percent (2%).

7. OTHER OBLIGATIONS

7.1 Reports to Medarex. During the term of this Agreement, FibroGen shall keep Medarex reasonably informed of its activities subject to this Agreement, including without

limitation, the commercialization of Products, and annually shall provide Medarex with a written report detailing such events and activities. When the registration package requesting approval for commercial sale of the Product is first filed in the U.S., the European Union and Japan, and in each case when approval is received therefor, FibroGen will promptly notify Medarex in writing.

7.2 Reports to FibroGen. During the term of this Agreement, Medarex shall keep FibroGen reasonably informed of the status of Medarex's patent applications and patents relating to the Patent Rights, any amendments to the Cross-License and information pertaining to the exclusivity of the rights granted hereunder.

7.3 Regulatory Filings. FibroGen shall submit registration packages requesting approval for commercial sale of the Product as soon as reasonably practicable. FibroGen (or its designee) shall file and hold title to all regulatory applications, approvals and supplements thereto. Medarex will provide the necessary documentation for any regulatory filings relating to the Mice, Antibodies and hybridoma cell line delivered to FibroGen and any other assistance with respect to regulatory filings or agencies as may be reasonably requested by FibroGen at FibroGen's expense.

7.4 Abandoned Products. FibroGen shall promptly notify Medarex should it elect to, abandon its rights to pursue commercialization of any Product in any country. Such notice will effectuate FibroGen's voluntary abandonment of its right hereunder to market the Product in such country; provided, the abandonment of the Product in any particular country hereunder shall not be construed to be a termination of this Agreement with respect to the other countries or Products.

8. CONFIDENTIALITY

8.1 Confidential Information. Except as expressly provided herein, the parties agree that, for the term of this Agreement and for five (5) years thereafter, the receiving party shall keep completely confidential and shall not publish or otherwise disclose and shall not use for any purpose except for the purposes contemplated by this Agreement any Confidential Information furnished to it by the disclosing party hereto pursuant to this Agreement, except that to the extent that it can be established by the receiving party by competent proof that such Confidential Information:

(i) was already known to the receiving party, other than under an obligation of confidentiality, at the time of disclosure;

(ii) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the receiving party;

(iii) became generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving party in breach of this Agreement;

(iv) was independently developed by the receiving party as demonstrated by documented evidence prepared contemporaneously with such independent development; or

(v) was subsequently lawfully disclosed to the receiving party by a person other than a party hereto.

8.2 Permitted Use and Disclosures. Each party hereto may use or disclose information disclosed to it by the other party to the extent such use or disclosure is reasonably necessary in complying with applicable governmental regulations or otherwise submitting information to tax or other governmental authorities, conducting clinical trials, or making a permitted sublicense or otherwise exercising its rights hereunder, provided that if a party is required to make any such disclosure of another party's confidential information, other than pursuant to a confidentiality agreement, it will give reasonable advance notice to the latter party of such disclosure and, save to the extent inappropriate in the case of patent applications, will use its reasonable efforts to secure confidential treatment of such information prior to its disclosure (whether through protective orders or otherwise).

8.3 Public Disclosure. Except as otherwise required by law (without consideration of contractual obligations to third parties), neither party shall issue a press release or make any other public disclosure of the terms of this Agreement without the prior approval of such press release or public disclosure. Each party shall submit any such press release or public disclosure to the other party, and the receiving party shall promptly review such press release or public disclosure, but in no event more than fifteen (15) days to review and approve any such press release or public disclosure, which approval shall not be unreasonably withheld. If the receiving party does not respond within such fifteen (15) day period, the press release or public disclosure shall be deemed approved. In addition, if a public disclosure is required by law, including without limitation in a filing with the Securities and Exchange Commission, the disclosing party shall provide copies of the disclosure reasonably in advance of such filing or other disclosure for the nondisclosing party's prior review and comment. Upon execution of this Agreement, the parties shall agree to a redacted version of this Agreement to be used for any and all submissions permitted under this Section unless otherwise agreed by the parties in writing or required to comply with law.

8.4 Confidential Terms. Except as expressly provided herein, each party agrees not to disclose any terms of this Agreement to any third party without the consent of the other party; provided, with prior notice to the other party, disclosures may be made as required by securities or other applicable laws, or to a party's accountants, attorneys and other professional advisors.

9. REPRESENTATIONS AND WARRANTIES

9.1 Medarex. Medarex represents and warrants that: (i) it is a corporation duly organized validly existing and in good standing under the laws of the State of New Jersey; (ii) the execution,

delivery and performance of this Agreement have been duly authorized by all necessary corporate action on the part of Medarex; (iii) it is the sole and exclusive owner of all right, title and interest in the Mice; (iv) it has the right to grant the rights and licenses granted herein; (v) as of the Effective Date, to the best knowledge of Medarex, there are no issued U.S., EPO or Japanese patents owned by third parties which would be infringed by the use of the Mice to make Antibodies or hybridoma cells producing said Antibodies in connection with practice of the licenses granted herein; (vi) as of the Effective Date, Medarex has not provided a third party licensee of the Patent Rights a broader representation and warranty regarding non-infringement of the patent rights of a third party due to the use of the Mice than the representation in clause (v) above; and (vii) as of March 31, 1998, to the best knowledge of Medarex, (a) there have been no opposition proceedings filed against any Australian patent applications within the Medarex Technology, and Medarex has not participated in any opposition proceedings filed against any Australian patent applications owned by third parties which, if such application became an issued patent, would be infringed by the use of the Mice to make Antibodies or hybridoma cells producing said Antibodies in connection with practice of the licenses granted herein, and (b) there are no issued Canadian patents within the Medarex Technology, and Medarex has not participated in any re-examination proceedings of any Canadian patents owned by third parties which would be infringed by the use of the Mice to make Antibodies or hybridoma cells producing said Antibodies in connection with the practice of the licenses granted herein.

9.2 FibroGen. FibroGen represents and warrants that: (i) it is a corporation duly organized validly existing and in good standing under the laws of the State of Delaware; and (ii) the execution, delivery and performance of this Agreement have been duly authorized by all necessary corporate action on the part of FibroGen.

9.3 Disclaimer of Warranties. THE MICE ARE PROVIDED “AS IS”, AND EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, MEDAREX AND ITS RESPECTIVE AFFILIATES MAKE NO REPRESENTATIONS AND EXTEND NO WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE MICE, ANTIBODIES, PRODUCTS OR MEDAREX TECHNOLOGY, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, VALIDITY OF THE PATENT RIGHTS LICENSED HEREUNDER, OR NONINFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES.

9.4 Disclaimer. Except as otherwise expressly set forth in this Agreement, nothing in this Agreement is or shall be construed as:

(a) A warranty or representation by Medarex as to the validity or scope of any claim or patent within the Patent Rights;

(b) A warranty or representation that anything made, used, sold, or otherwise disposed of under any license granted in this Agreement is or will be free from infringement of any patent rights or other intellectual property right of any third party;

(c) An obligation to bring or prosecute actions or suits against third parties for infringement of any of the Patent Rights; or

(d) Granting by implication, estoppel, or otherwise any licenses or rights under patents or other rights of Medarex or third parties, regardless of whether such patents or other rights are dominant or subordinate to any patent within the Patent Rights.

9.5 Further Commitment. Following the date hereof, if Medarex provides to a third party a warranty or indemnity that the use of the Mice to make antigen-specific antibodies, or hybridoma cells producing such antigen-specific antibodies, will not (whether qualified by Medarex's knowledge or not) infringe published PCT patent applications, then Medarex shall notify FibroGen and provide to FibroGen a further representation and warranty and/or indemnity comparable in scope to the warranty and/or indemnity provided to the third party, effective as of the date of such third party agreement.

10. INTELLECTUAL PROPERTY

10.1 Patent Rights. If FibroGen acquires a commercial license, FibroGen shall have the sole right, but not the obligation, at its expense, to prepare, file, prosecute and maintain (i) patent applications and patents within the FibroGen Technology, and (ii) patent applications and patents within the Patent Rights included in the Medarex Technology, provided (a) such patent applications and/or patents relate solely to Antibodies or Products subject to this Agreement, and (b) are subject to a commercial license to FibroGen granted hereunder, in countries selected by FibroGen, and for conducting any interferences, reexaminations, reissues, oppositions, or request for patent term extension relating thereto.

10.2 Failure to Prosecute. In the event that FibroGen declines to file or, having filed, declines to further prosecute and maintain any patent applications or patents subject to Section 10.1 above, FibroGen shall provide Medarex notice thereof prior to the expiration of any deadline relating to such activities, as much in advance as practicable, but in any event at least ten (10) days prior notice, and Medarex shall have the right to file, prosecute and maintain such patent applications or patents in the name of FibroGen, at Medarex's expense, using counsel of its choice.

10.3 Cooperation. Medarex shall be given an opportunity to review FibroGen' activities pursuant to Section 10.1 and provide input thereto. FibroGen shall consider in good faith any

request by Medarex to include in such patent applications such claims as Medarex may request. FibroGen shall keep Medarex fully informed as to the status of such patent matters, including, without limitation, by providing Medarex the opportunity, at Medarex's expense, to review and comment on any documents relating to FibroGen Technology which will be filed in any patent office as much in advance as practicable, but at least ten (10) days before such filing, and promptly providing Medarex copies of any documents relating to FibroGen Technology which FibroGen receives from such patent offices, including notice of all interferences, reissues, reexaminations, oppositions or requests for patent term extensions.

10.4 Infringement Claims. If the manufacture, importation, sale or use of the Product pursuant to this Agreement results in any claim, suit or proceeding alleging patent infringement against Medarex or FibroGen, such party shall promptly notify the other party hereto, and if the notified party has an obligation to indemnify the other party pursuant to Section 12.1 or 12.2, such party shall have the right to control the defense of such claim, suit or proceeding. The defendant shall keep the other party hereto reasonably informed of all material developments in connection with any such claim, suit or proceeding. FibroGen shall have the sole right, but not the obligation, to prosecute any infringement of the FibroGen Technology, at its expense. Financial recovery from any litigation will first be applied to reimburse FibroGen for its litigation expenditures and any remaining amounts shall be subject to the royalty provisions of Section 4.3.1.

10.5 Interference. The parties agree to use good faith efforts to resolve any interference proceeding which is declared by the U.S. Patent and Trademark Office between patent applications or patents owned by Medarex and FibroGen because of claims subject to Sections 2.7.2(b) and (c) above. In the event that the parties are unable to amicably resolve such an interference within thirty (30) days of the declaration of interference, the parties shall submit their dispute to mediation for the sole purpose of determining all issues that may be raised in an interference proceeding, and promptly settling such disputes so as to effectuate the intention of the parties set forth in this Agreement. The mediation shall be conducted pursuant to the then-current Commercial Mediation Rules of the American Arbitration Association in Palo Alto, California by an independent patent attorney agreed to by the parties. The cost of any mediation, including administrative fees of the arbitrator, shall be shared equally by the parties. Each party shall bear the cost of its own attorneys' fees and expert fees. The decision and/or award rendered by the mediator shall be written, final and non-appealable and may be entered in any administrative body or court of competent jurisdiction. The parties agree that, any provision of applicable law notwithstanding, they will not request, and the mediator shall have no authority to award, punitive or exemplary damages against any party.

10.6 Further Obligations Regarding Research Inventions.

10.6.1 Claiming Priority. If Medarex wishes to file a patent application with respect to a Research Invention and claim filing priority for such patent application based on an earlier filed application having a priority date on or before October 21, 1997, it shall notify FibroGen. FibroGen

shall have the right, only to be exercised reasonably, to preclude Medarex from such priority claim for claims to antibodies directed to an Antigen (i.e., any antibody directed to CTGF for the treatment of fibrosis) which (a) do not recite specific DNA or protein sequences, or (b) FibroGen reasonably believes are not otherwise Excluded Claims. It is understood and agreed that FibroGen shall not have such a right for any Antibody claims which do recite specific DNA or protein sequences or for any other claims that FibroGen reasonably believes are Excluded Claims.

10.6.2 Terminal Disclaimer. If Medarex wishes to file a terminal disclaimer in any patent application claiming a Research Invention, and the patent or application with respect to which the terminal disclaimer is to be filed claims priority to a filing date on or before October 21, 1997, then it shall notify FibroGen. FibroGen shall have the right, only to be exercised reasonably, to preclude Medarex from seeking such a terminal disclaimer if the terminal disclaimer would limit the term of any claims to antibodies directed to an Antigen which (a) do not recite specific DNA or protein sequences, or (b) FibroGen reasonably believes are not otherwise Excluded Claims. It is understood and agreed that FibroGen shall not have such a right for any Antibody claims which do recite specific DNA or protein sequences or for any other claims that FibroGen reasonably believes are Excluded Claims.

10.6.3 Filing or Adding Claims. In any patent application claiming a Research Invention, if Medarex wishes to file or add any claim specifically regarding Antibodies that (a) does not recite specific DNA or protein sequences or (b) FibroGen reasonably believes is not otherwise an Excluded Claim, it shall notify FibroGen. FibroGen shall have the right, only to be exercised reasonably, to preclude Medarex from filing or adding such claim if FibroGen reasonably believes it is not an Excluded Claim. It is understood and agreed that FibroGen shall not have such a right with regard to any Antibody claims which do recite a specific DNA or protein sequence or for any other claims that FibroGen reasonably believes are Excluded Claims.

10.6.4 Notice to Medarex. FibroGen may exercise its preclusion rights provided in Sections 10.6.1, 10.6.2 and 10.6.3 above by notice to Medarex within thirty (30) days (except with respect to the adding of claims, in which case notice shall be limited to ten (10) business days) following receipt of notice from Medarex that it intends to (i) claim such a priority date, (ii) file such a terminal disclaimer or (iii) file or add such a claim, as the case may be; provided that, with respect to Section 10.6.2 only, in the event that Medarex desires to file a terminal disclaimer on an expedited basis as a consequence of an oral request to do so by the United States Patent and Trademark Office, then FibroGen shall use its best efforts to determine whether to exercise its preclusion rights pursuant to Section 10.6.2 within any expedited time frame requested by the United States Patent and Trademark Office.

10.6.5 Data.

(a) FibroGen shall have the right, only to be exercised reasonably, to preclude Medarex from using or disclosing any data developed by Medarex relating to the structural or molecular characteristics of Antigens including, but not limited to, the relevant epitope(s), or any data developed by FibroGen in connection with the Research except to the extent such data or information pertaining thereto is to be disclosed by Medarex in a patent application or the prosecution of a patent, and (v) was disclosed in a prior, or is to be disclosed in a simultaneous, patent application, (w) constitutes DNA or protein sequence information, (x) constitutes assay results, if other results of the same or similar assays have been disclosed in a prior, or are to be disclosed in a simultaneous, patent application, (y) is reasonably necessary to disclose the best mode of the claimed invention, or (z) constitutes deposit or enablement information, pursuant to Section 10.6.5(b) below. FibroGen may exercise such a preclusion right only after full disclosure to Medarex of all data that is included in clause (v), (w), (x), (y) or (z). In the case of clause (w), (y) and (z), unless FibroGen provided the relevant data to Medarex specifically pursuant to subSections 10.6.5(a) or (b), Medarex shall send FibroGen written notice of the intent to disclose the data and the form of disclosure at least fifteen (15) business days prior to the disclosure.

(b) For purposes of this Section, “data” shall include, without limitation, information relating to any deposit made of any cell line. If FibroGen has not made such .a deposit, if required by applicable law, Medarex may deposit a particular cell line, in a recognized international depository; provided, before making such a deposit, Medarex shall notify FibroGen, identifying the cell line which it intends to deposit. If FibroGen does not wish Medarex to make such a deposit, it shall notify Medarex within ten (10) business days of Medarex’s notice and provide Medarex with data reasonably necessary to establish enablement for purposes of patentability, and Medarex shall not make the deposit but shall have the right to use such data to establish enablement.

10.7 Patent Extensions. If FibroGen acquires a commercial license with respect to any issued patent claiming a Research Invention directed to (i) one or more compositions of matter (i.e., an Antibody), except formulations of Antibodies for therapeutic use, or (ii) one or more methods of production, then, so long as FibroGen retains a commercial license hereunder, unless a prior extension has been obtained with regard to the applicable patent, Medarex designates FibroGen or its designee as its agent for obtaining an extension of such patent or governmental equivalent which extends the exclusivity of the patent where available in any country in the world, or if not feasible, at Medarex’s option, permit FibroGen to file in Medarex’s name or diligently obtain such extension for FibroGen, its Affiliate(s) or Sublicensee(s), at FibroGen’s expense. Furthermore, Medarex agrees to provide reasonable assistance, at no out-of-pocket expense, to facilitate FibroGen’s efforts to obtain any extension. If for any reason FibroGen or its designee fails to exercise diligent efforts to obtain an extension or determines that it will not seek such an extension, Medarex shall have the right to undertake such activities and FibroGen shall provide reasonable assistance, at no out-of-pocket expense, to facilitate Medarex’s efforts to obtain any such extension.

10.8 Reimbursement. If FibroGen (i) is assigned a patent application or patent pursuant to this Agreement, or (ii) acquires a commercial license under this Agreement to any patent application or patent, or (iii) acquires a non-exclusive license pursuant to Section 3.2 to patent applications and patents within the Medarex Technology and commercializes a product within the scope of such license for which it has no royalty obligations to Medarex hereunder, in each case (i.e., under (i), (ii) or (iii) above), which patent application or patent which relates solely to Antibodies licensed hereunder, and/or Products, and/or the making and/or use of any of the preceding, then FibroGen shall reimburse Medarex for all costs and expenses incurred by Medarex in connection with the preparation, filing, prosecution, maintenance, enforcement and/or defense of such patent applications and patents; provided, any such reimbursement shall be on a pro-rata basis, calculated based on the number of other licensees of such patent application(s) or patent(s). FibroGen shall pay any such amounts to Medarex within thirty (30) days of an invoice therefore.

11. DISPUTE RESOLUTION

11.1 Mediation. If a dispute arises out of or relates to this Agreement, or the breach thereof, and if said dispute cannot be settled through negotiation, the parties agree first to try in good faith to settle the dispute by mediation under the Commercial Mediation Rules of the American Arbitration Association, before resorting to arbitration, litigation, or some other dispute resolution procedure.

12. INDEMNIFICATION

12.1 Medarex. Medarex shall indemnify, defend and hold harmless FibroGen and its directors, officers and employees (each a "FibroGen Indemnitee") from and against any and all liabilities, damages, losses, costs or expenses (including attorneys' and professional fees and other expenses of litigation and/or arbitration) (a "Liability") resulting from a claim, suit or proceeding made or brought by a third party against an FibroGen Indemnitee arising from or occurring as a result of (i) any breach of the representations and warranties set forth in Section 9.1, or (ii) the conduct of the Research, except to the extent caused by the negligence or willful misconduct of FibroGen.

12.2 FibroGen. FibroGen shall indemnify, defend and hold harmless Medarex and its directors, officers and employees (each a "Medarex Indemnitee") from and against any and all liabilities, damages, losses, costs or expenses (including attorneys' and professional fees and other expenses of litigation and/or arbitration) (a "Liability") resulting from a claim, suit or proceeding made or brought by a third party against a Medarex Indemnitee, arising from or occurring as a result of (i) any breach of the representations and warranties set forth in Section 9.2, (ii) the conduct of the Research or the practice by FibroGen of any right granted herein, or (iii) any development, testing, manufacture, importation, use, offer for sale, sale or other distribution of any Product by FibroGen or its Affiliates or Sublicensees (including, without limitation, product liability claims), except in each case, (a) to the extent caused by the negligence or willful misconduct of Medarex, or (b) to the extent

that any infringement claim brought by a third party is expressly based on the use of the Mice to make Antibodies or hybridoma cells producing said Antibodies delivered to FibroGen; provided, however, that with respect to clause (b), the exclusion from FibroGen's indemnity obligation with respect to the use of the Mice to make hybridoma cells producing said Antibodies relates only to the basic hybridoma technology and not to any hybridoma relating to one or more of the specific Antigens.

12.3 Procedure. In the event that any Indemnitee intends to claim indemnification under this Article 12 it shall promptly notify the other party (the "Indemnitor") in writing of such alleged Liability. The Indemnitor shall have the sole right to control the defense and settlement thereof. The Indemnitees shall cooperate with the Indemnitor and its legal representatives in the investigation of any action, claim or liability covered by this Article 12. The Indemnitee shall not, except at its own cost, voluntarily make any payment or incur any expense with respect to any claim or suit without the prior written consent of the Indemnitor, which the Indemnitor shall not be required to give.

13. TERM AND TERMINATION

13.1 Term. The term of this Agreement shall commence on the date hereof. Unless earlier terminated as provided in this Article 13, this Agreement shall continue in full force and effect on a country-by-country and Product-by-Product basis until there are no remaining royalty payment obligations in a country, at which time the Agreement shall expire in its entirety in such country.

13.2 Termination for Cause. Either party may terminate this Agreement in the event the other party has materially breached or defaulted in the performance of any of its obligations hereunder, and such default has continued for ninety (90) days after written notice thereof was provided to the breaching party by the nonbreaching party. Any termination shall become effective at the end of such ninety (90) day period unless the breaching party has cured any such breach or default prior to the expiration of the ninety (90) day period. Notwithstanding the above, in the case of a failure to timely pay any amounts due hereunder, the period for cure of any subsequent default following notice thereof shall be ten (10) days and, unless payment is made within such period the termination shall become effective at the end of such period.

13.3 Termination for Insolvency. If voluntary or involuntary proceedings by or against a party are instituted in bankruptcy under any insolvency law, or a receiver or custodian is appointed for such party, or proceedings are instituted by or against such party for corporate reorganization or the dissolution of such party, which proceedings, if involuntary, shall not have been dismissed within sixty (60) days after the date of filing, or if such party makes an assignment for the benefit of creditors, or substantially all of the assets of such party are seized or attached and not released within sixty (60) days thereafter, the other party may immediately terminate this Agreement effective upon notice of such termination.

13.4 Permissive Termination.

13.4.1 FibroGen. FibroGen may terminate the Research and/or this Agreement with forty-five (45) days written notice to Medarex.

13.4.2 Medarex. In that event that FibroGen fails to obtain a commercial license pursuant to Section 3.1 on or before the end of the Research Period, Medarex may terminate the Agreement with written notice to FibroGen.

13.5 Effect of Termination, Expiration or Completion of Research.

(a) Accrued Rights and Obligations. Termination of this Agreement for any reason shall not release any party hereto from any liability which, at the time of such termination, has already accrued to the other party or which is attributable to a period prior to such termination nor preclude either party from pursuing any rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement. It is understood and agreed that monetary damages may not be a sufficient remedy for any breach of this Agreement and that the non-breaching party may be entitled to injunctive relief as a remedy for any such breach.

(b) Return of Confidential Information. Upon any termination or expiration of this Agreement, FibroGen and Medarex shall promptly return to the other party all Confidential Information of the other; provided counsel of each party may retain one (1) copy of such Confidential Information for archival purposes and for ensuring compliance with Article 8.

(c) Stock on Hand. In the event this Agreement is terminated for any reason, FibroGen shall have the right to sell or otherwise dispose of the stock of any Product subject to this Agreement then on hand, subject to Articles 5 and 6 until the first anniversary of the effective date of such termination.

(d) Return of Mice and Mice Materials. Upon any termination of this Agreement, FibroGen shall promptly return to Medarex, or destroy all hybridomas provided by Medarex and all cells capable of producing Antibodies, and in the event of such destruction an officer of FibroGen shall provide Medarex with written certification thereof. FibroGen shall be allowed to use any Antibodies delivered to FibroGen during the Research in perpetuity but for research purposes only. Upon any termination or upon completion of the Research and unless otherwise permitted by FibroGen, Medarex shall (i) destroy the Mice, cells, Antibodies and other biological materials resulting from the Research, and (ii) return any quantities of Antigen not used in connection with the Research to FibroGen.

(e) Licenses. The option and license rights granted in Section 3.1 shall terminate upon any termination of this Agreement, and in such event FibroGen and its Affiliates and Sublicensees shall cease all development and commercialization of Products.

(f) Sublicenses. In the event of any termination pursuant to Section 13.3, Medarex agrees to grant to any party which is a sublicensee of FibroGen as of the date of such termination a direct license under the Medarex Technology commensurate in scope with the sublicense granted by FibroGen, for consideration equal to the amounts due from FibroGen to Medarex under this Agreement with respect to the activities of the sublicensee.

13.6 Survival. Sections 2.5 (with respect to Antibodies delivered to FibroGen during the Research, to the extent permitted pursuant to Section 13.5(d) above), 2.6.3, 2.6.4, and 2.6.5(b) and (c) (with respect to the Antigens for which FibroGen is deemed to have exclusivity, and with respect to each Option Antigen, on an Option Antigen-by-Option Antigen basis, if the requisite payments due under Section 2.6.3 and 4.1 have been made prior to the effective date of termination), 2.7, 3.2, 3.5, 13.5 and 13.6, and Articles 8, 9, 10, 11, 12 and 14 of this Agreement shall survive termination of this Agreement for any reason.

14. MISCELLANEOUS

14.1 Governing Law. This Agreement and any dispute, including without limitation any arbitration, arising from the performance or breach hereof shall be governed by and construed and enforced in accordance with the laws of the state of California, without reference to conflicts of laws principles.

14.2 Independent Contractors. The relationship of the parties hereto is that of independent contractors. The parties hereto are not deemed to be agents, partners or joint venturers of the others for any purpose as a result of this Agreement or the transactions contemplated thereby.

14.3 Assignment. This Agreement shall not be assignable by FibroGen to any third party hereto without the written consent of Medarex which consent to a partial or entire assignment shall not be unreasonably withheld; except FibroGen may assign this Agreement, without such consent, to an entity that acquires all or substantially all of its business or assets to which this Agreement pertains, whether by merger, reorganization, acquisition, sale, or otherwise. During the Research Period, Medarex may only assign this Agreement in connection with a merger, reorganization or sale of substantially all of Medarex's assets and with prior notice to FibroGen. After the Research Period, Medarex may assign this Agreement in connection with a merger, reorganization or sale of substantially all of Medarex's assets, and may otherwise assign this Agreement to any third party. Notwithstanding the foregoing, during or after the Research Period Medarex may not assign this Agreement (i) to Smith Klein Beechman, Glaxo Wellcome and Hoffman-LaRoche or any of their affiliates except in connection with a merger, reorganization or sale of substantially all of Medarex's

assets, or (ii) to Japan Tobacco and any of its affiliates, regardless of the form of transaction, including merger or operation of law. For purposes of this Section 14.3, an "affiliate" shall mean any corporation or other entity which is directly or indirectly controlling, controlled by or under the common control with the relevant entity, and "control" shall mean the direct or indirect ownership of fifty percent (50%) or more of the outstanding shares or other voting rights of the subject entity to elect directors, or if not meeting the preceding, any entity owned or controlled by or owning or controlling at the maximum control or ownership right permitted in the country where such entity exists. Notwithstanding the above, Medarex may assign its interest in the payments due to Medarex hereunder to any party at any time. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and assigns.

14.4 Notices. All notices, requests and other communications hereunder shall be in writing and shall be personally delivered or sent by telecopy or other electronic facsimile transmission or by registered or certified mail, return receipt requested, postage prepaid, in each case to the respective address specified below, or such other address as may be specified in writing to the other parties hereto:

If to Medarex or GenPharm International:	Medarex, Inc. 1545 Route 22 East Annandale, NJ 08801 Attn: President
If to FibroGen:	FibroGen, Inc. 225 Gateway Boulevard South San Francisco, CA 94080 Attn: President cc: Corporate Counsel phone: (650) 866-7200 facsimile: (650) 866-7201

14.5 Force Majeure. Neither party shall lose any rights hereunder or be liable to the other party for damages or losses (except for payment obligations) on account of failure of performance by the defaulting party if the failure is occasioned by war, strike, fire, Act of God, earthquake, flood, lockout, embargo, governmental acts or orders or restrictions, failure of suppliers, or any other reason where failure to perform is beyond the reasonable control and not caused by the negligence, intentional conduct or misconduct of the nonperforming party has exerted all reasonable efforts to avoid or remedy such force majeure; provided, however, that in no event shall a party be required to settle any labor dispute or disturbance.

14.6 Injunctive Relief. Each party acknowledges that limitations and restrictions on its possession and use of Mice, Mice Materials, Antibodies, Antigens and Confidential Information hereunder are necessary and reasonable to protect the other party, and expressly agrees that monetary damages would be inadequate to compensate such party for any violation. The parties agree that any such violation would cause irreparable injury to the other party and agrees that without resorting to prior mediation or arbitration, and, in addition to any other remedies that may be available in law, in equity or otherwise, the injured party shall be entitled to obtain temporary and permanent injunctive relief against any threatened violation of such limitations or restrictions or the continuation of any such violation in any court of competent jurisdiction, without the necessity of proving actual damages or the posting of any bond.

14.7 Advice of Counsel. Medarex and FibroGen have each consulted counsel of their choice regarding this Agreement, and each acknowledges and agrees that this Agreement shall not be deemed to have been drafted by one party or another and will be construed accordingly.

14.8 Compliance with Laws. Each party shall furnish to the other party any information requested or required by that party during the term of this Agreement or any extensions hereof to enable that party to comply with the requirements of any U.S. or foreign federal, state and/or government agency.

14.9 Further Assurances. At any time or from time to time on and after the date of this Agreement, either party shall at the request of the other party hereto (i) deliver to the requesting party any records, data or other documents consistent with the provisions of this Agreement, (ii) execute, and deliver or cause to be delivered, all such consents, documents or further instruments of transfer or license, and (iii) take or cause to be taken all such actions, as the requesting party may reasonably deem necessary in order for the requesting party to obtain the full benefits of this Agreement and the transactions contemplated hereby.

14.10 Export Controls. FibroGen agrees that it will take all actions necessary to insure compliance with all U.S. laws, regulations, orders or other restrictions on exports and further will not sell, license or reexport, directly, or indirectly, the Product(s) to any person or entity for sale in any country or territory, if, to the knowledge of FibroGen based upon reasonable inquiry, such sale, would cause the parties to be in violation of any such laws or regulations in effect at the time of such sale. FibroGen agrees to secure from any recipient of Product(s) adequate manually signed written assurances prior to shipment from the United States as are required by the U.S. Export Regulations.

14.11 Severability. In the event that any provisions of this Agreement are determined to be invalid or unenforceable by a court of competent jurisdiction, the remainder of the Agreement shall remain in full force and effect without said provision. In such event, the parties shall in good faith negotiate a substitute clause for any provision declared invalid or unenforceable, which shall most nearly approximate the intent of the parties in entering this Agreement.

14.12 Waiver. It is agreed that no waiver by either party hereto of any breach or default of any of the covenants or agreements herein set forth shall be deemed a waiver as to any subsequent and/or similar breach or default.

14.13 Complete Agreement. This Agreement, with its Exhibits, constitutes the entire agreement, both written and oral, between the parties with respect to the subject matter hereof, and that all prior agreements respecting the subject matter hereof, either written or oral, expressed or implied, are merged and canceled, and are null and void and of no effect. No amendment or change hereof or addition hereto shall be effective or binding on either of the parties hereto unless reduced to writing and duly executed on behalf of both parties.

14.14 Use of Name. Neither party shall use the name or trademarks of the other party without the prior written consent of such other party.

14.15 Headings. The captions to the several Sections and Articles hereof are not a part of this Agreement, but are included merely for convenience of reference only and shall not affect its meaning or interpretation.

14.16 Counterparts. This Agreement may be executed in two counterparts, each of which shall be deemed an original and which together shall constitute one instrument.

IN WITNESS WHEREOF, Medarex and FibroGen have executed this Agreement by their respective duly authorized representatives.

MEDAREX, INC.		FIBROGEN, INC.	
By:	/s/ Michael Appelbaum	By:	/s/ Thomas B. Neff
Print Name:	Michael Appelbaum	Print Name:	Thomas B. Neff
Title:	Executive V.P.	Title:	CEO

GENPHARM INTERNATIONAL, INC.

By:	/s/ Michael Appelbaum
Print Name:	Michael Appelbaum

Title: President and C.O.O.

EXHIBIT A

ANTIGENS

1. C-proteinase/bone-morphogenic protein
2. M-tolloid
3. M-tolloid-like (1)
4. M-tolloid-like (2)
5. N-proteinase
6. Fibril assembly sequences
7. Connective tissue growth factor (CTGF)
8. CTGF receptor
9. CTGF receptor and/or receptor conjugates which include the CTGF receptor
10. An alternative ligand for the CTGF receptor to be named which has not been previously licensed to a third party by Medarex
11. CTGF fragments
12. An alternate CTGF or CCN homolog protein fragment

EXHIBIT B

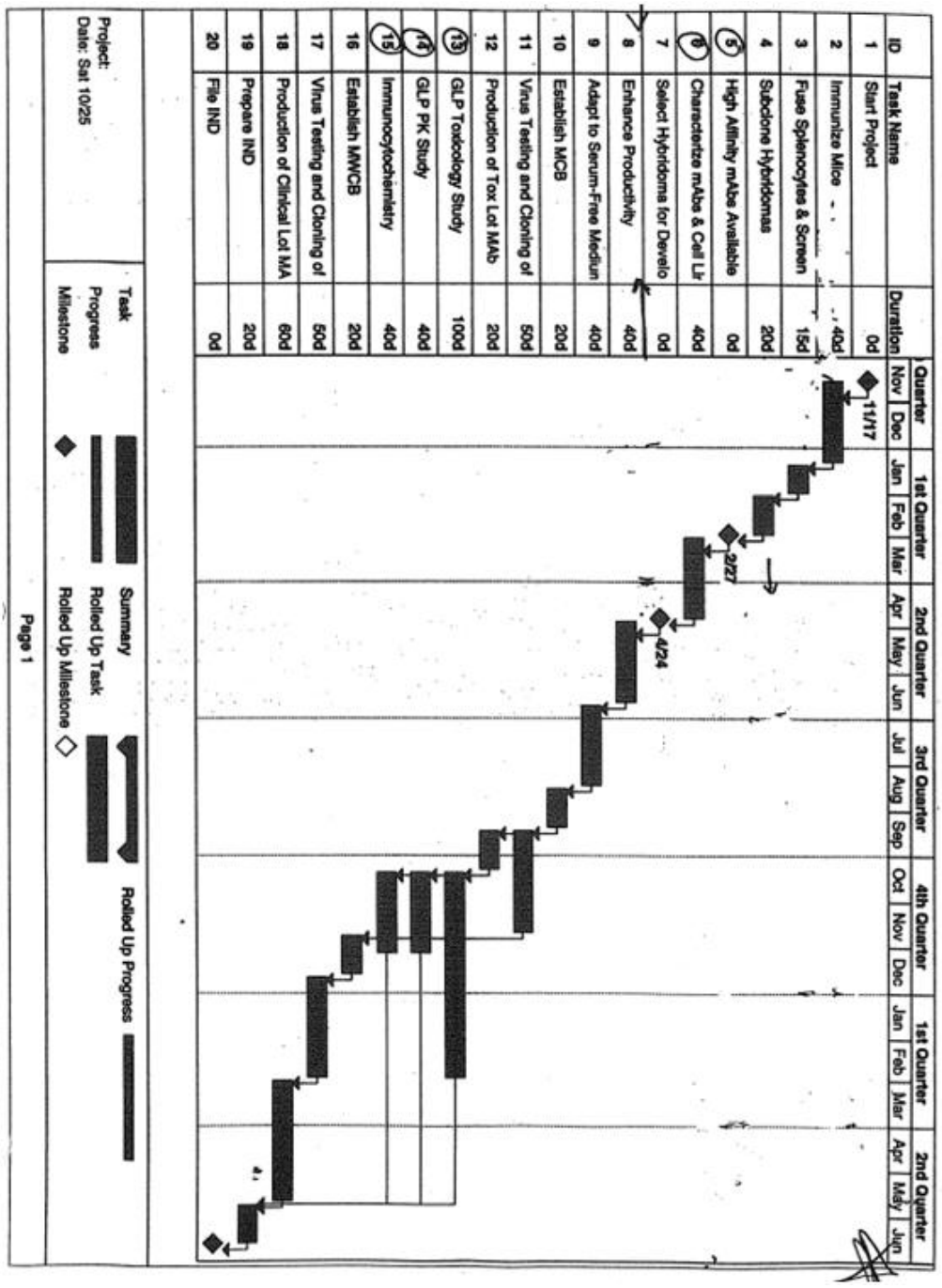
ID
Task Name
Duration
Quarter
Nov
Dec
1st Quarter
Jan
Feb
Mar
2nd Quarter
Apr
May
Jun
3rd Quarter
Jul
Aug
Sep
4th Quarter
Oct
Nov
Dec
1st Quarter
Jan
Feb
Mar
2nd Quarter
Apr
May
Jun
1 Start Project 0d
2 Immunize Mice 40d
3 Fuse Splenocytes & Screen 15d
4 Subclone Hybridomas 20d
5 High Affinity mAbs Available 0d
6 Characterize mAbs & Cell Lir 40d
7 Select Hybridoma for Develo 0d
8 Enhance Productivity 40d
9 Adapt to Serum-Free Medium 40d
10 Establish MCB 20d
11 Virus Testing and Cloning of 50d
12 Production of Tox Lot MAb 20d
13 GLP Toxicology Study 100d
14 GLP PK Study 40d
15 Immunocytochemistry 40d
16 Establish MWCB 20d
17 Virus Testing and Cloning of 50d
18 Production of Clinical Lot MA 60d
19 Prepare IND 20d
20 File IND 0d
11/17
2/27
4/24
Project:
Date: Sat 10/25
Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress
Page 1

EXHIBIT C

Models—with offsets against commercial license, milestone payments and 1/2 the research support payments

Scenario I:

Sublicensee Non-royalty Revenue Payments	FibroGen Share (82 ½%)	Medarex Share (17 ½%)	FG-Medx Contract Research support, Commercial License Fee or Milestones
			$.760M of quarterly pmts* $1.0M upon exercise of commercial license
upfront fee - $5 million	$1.38 M* ((1/2 x $.76) + $1M) $2.987M (net total $2.607M = $1.38M + $2.987M—$1.76M)	$0.634M	—
Phase I - $2 million	$0.634 $1.127	— $0.239	—
Phase II - $5 million	$0.239 M $3.928 M (net total $8.535M)	— $.833 M (total $3.086**)	$1M (not paid b/c $3.086 > $2.38M)

* Assume the research period spans 8 quarters at $95,000 a quarter with a total of $760,000. The model only gives credit for ½ of these payments.

** excludes ½ of the research payments of $380,000 in the total

Model assumes termination during phase II which triggers the true up mechanism.

True up calculation:

Total sublicensee payments	$ 12 M
less 2 times (medx commercial fee, milestones achieved and ½ research support) ($2.38 x 2)	($4.76M)
	$ 7.24 M
	x .175
	$ 1.267M
plus: Medx commercial fee, milestone achieved and ½ research support	$ 2.38M
Amount Medx is entitled to is	$ 3.647M
Amount paid to date**	$ 3.086M
Amount due to Medx	$ .561M

After payment of $.561M to Medx, FG has received net $7.974 ($8.535–$.561) and Medx has received $4.027M ($3.647 + $.380 of research support)

Scenario II:

Sublicensee Non royalty Revenue Payments	FibroGen Share (82 ½%)	Medarex Share (17 ½%)	FG-Medx Contract Research support, Commercial License Fee or Milestones
			$.760M of quarterly pmts* $1.0M upon exercise of commercial
upfront fee - $5 million	$1.38 M *((1/2 x $.76) + $1M) $2.987M (net total $2.607M)	$0.634M	—
Phase I - $2 million	$0.634M $1.127 M	— $.239 M	—
Phase II - $5 million	$0.239 M $3.928 M (net total $8.535)	— $0.833 M (total $3.086M**)	$1M (not paid b/c $3.086 > $2.38)
Phase III - $2.5 million	$0.833M $1.375 (net total $10.743M)	— $0.292M (total $3.378M**)	$2M (**$1.002 paid** b/c $3.378< $4.38M)
First BLA filing $2.5 million	$1.294 M ($1.002M + $.292) $0.995 (net total $12.03M= $10.743-$1.002 +$1.294 +$0.995)	— $0.211 (total $4.591M**)	$2M (**$1.789 paid** b/c $4.591<$6.38M)
First BLA approval - $2.5 million	$2 M ($1.789 +$.211) $0.413 (net total $12.654M)	— $0.088 (total $6.468M**)	$4M (**$3.912 paid** b/c $6.468M< $10.38M)
BLA approval in second market - $2.5 million	$2.5M (add'l credit available of $1.5M) (total (net))= $11.242)	— (total $10.38**)	$2M (**$2M paid** b/c $10.38<$12.38) (total - $12.38M)
	total (net) = $9.242 ($11.242-$2M)		

* Assume the research period spans 8 quarters at $95,000 a quarter with a total of $760,000. The model only gives credit for ½ of these payments.
** excludes ½ of the research payments of $380,000 in the total

True up calculation:

Total sublicensee payments	$ 22M
less 2 times (medx commercial fee, milestones achieved and ½ research support) ($12.38 x 2)	($24.76M)
	($2.76)
	x .175
the greater of zero or	($.483)M
plus: Medx commercial fee, milestone achieved and ½ research support	$ 12.38M
Amount Medx is entitled to	$ 12.38
Amount paid to date**	$ 12.38
Amount due to Medx	$ 0M

FG has received net $9.242M and Medx has received $12.76M ($12.38M + $.380 of research support)

Scenario III

Sublicensee Non-royalty Revenue Payments	FibroGen Share (82 ½%)	Medarex Share (17 ½%)	FG-Medx Contract Research support, Commercial License Fee or Milestones
			$.760 M of quarterly pmts* $1.0 M upon exercise of commercial
upfront fee - $5 million	$1.38 M* ((1/2 x $.76) + $1M) $2.987M (net total $2.607M)	$0.634M	—
Phase I - $2 million	$0.634M $1.127 M	— $.239M	—
Phase II - $5 million	$0.239 M $3.928 M (net total $8.535)	— $0.833M (total $3.086M**)	$1 M (not paid b/c $3.086 > $2.38)
Phase III - $2.5 million	$0.833M $1.375 (net total $10.743M)	— $0.292M (total $3.378M**)	$2 M (**$1.002 paid** b/c $3.378< $4.38 M)
First BLA filing $2.5 million	$1.294 M ($1.002M + $.292) $0.995 (net total $12.03M= $10.743-$1.002 +$1.294 +$0.995)	— $0.211 (total $4.591M**)	$2 M (**$1.789 paid** b/c $4.591<$6.38M)
First BLA approval - $2.5 million	$2 M($1.789 +$.211) $0.413 (net total $12.654M)	— $0.088 (total $6.468M**)	$4 M (**$3.912 paid** b/c $6.468M< $10.38M)
BLA approval in second market - $2.5 million	$2.5M (add'l credit available of $1.5M) (total (net))= $11.242)	— — (total $10.38**)	$2M (**$2M paid** b/c $10.38<$12.38) (total - $12.38M)
BLA approval in third market - $5 million	$3.5 M $1.238 M (net total $13.98M)	— $0.263M (total $12.643M**)	

* Assume the research period spans 8 quarters at $95,000 a quarter with a total of $760,000. The model only gives credit for ½ of these payments.
** excludes ½ of the research payments of $380,000 in the total

True up calculation:

Total sublicensee payments	$ 27.00M
less 2 times (medx commercial fee, milestones achieved and ½ research support) ($12.38 x 2)	($24.76M)
	$ 2.24M
	x .175
	$ .392M
plus: Medx commercial fee, milestone achieved and ½ research support	$ 12.38M
Amount Medx is entitled to	$ 12.772M
Amount paid to date**	($12.643)
Amount due to Medx	$ 0.129M

After payment FG has received net $13.851 and Mederex has received $13.152 ($12.772 + $.380 of research support)

Scenario IV

Sublicensee Non-royalty Revenue Payments	FibroGen Share (82 ½%)	Medarex Share (17 ½%)	FG-Medx Contract Research support, Commercial License Fee or Milestones
			$.760 M of quarterly pmts*
			$1.0M
Phase II commencement			$1.0M
Middle Phase II	$2.38M* ((1/2 x $.76)+$1M)	—	
upfront fee $3M	$.512	$0.109M	
	(net total $.132M)	(total $2.489**)	

* Assume the research period spans 8 quarters at $95,000 a quarter with a total of $760,000. The model only gives credit for ½ of these payments.

** excludes ½ of the research payments of $380,000 in the total

Assume termination of during phase II which triggers true up mechanism

True up calculation

Total sublicensee payments	$ 3 M
less 2 times (medx commercial fee, milestones achieved and ½ research support) (2 x $2.38)	($4.76M)
	($1.76M)
	x .175
the greater of zero or	($3.08)M
plus: Medx commercial fee, milestone achieved and ½ research support	$ 2.38M
Amount Medx is entitled to	$ 2.38M
Amount paid to date**	($2.489M)
Amount due to Medx	($0.109M)

After payment back to FibroGen, FibroGen has received net $.241M ($.132 + $.109M) and Mederex has received net $2.38M

AMENDMENT NO. 1
TO
RESEARCH AND COMMERCIALIZATION AGREEMENT

THIS AMENDMENT No. 1 TO RESEARCH AND COMMERCIALIZATION AGREEMENT ("Amendment") is made and entered into effective as of June 30, 2001 (the "Amendment Date") by and between **MEDAREX, INC.**, 707 State Road, Suite 206, Princeton, NJ 08540, **GENPHARM INTERNATIONAL INC.**, a wholly-owned subsidiary of Medarex, Inc. (together, "Medarex"), and **FIBROGEN, INC.**, a Delaware corporation, 225 Gateway Boulevard, South San Francisco, California 94080 and **FIBROPHARMA, INC.**, a wholly-owned subsidiary of Fibrogen, Inc. (collectively, "FibroGen"). Capitalized terms used in this Amendment that are not otherwise defined herein shall have the same meanings as such terms are defined in the Agreement (as defined below).

WHEREAS, Medarex and FibroGen entered into a Research and Commercialization Agreement dated as of July 9, 1998 (the "Agreement") under which FibroGen acquired a research license and an option to acquire commercial licenses under the Medarex Technology.

WHEREAS, the parties desire to amend the Agreement to extend the term of the Research Period under the Agreement.

Now, THEREFORE, the parties agree as follows:

1. Amendment of the Agreement.

The parties hereby agree to amend the terms of the Agreement as of the Amendment Date as provided below.

1.1 Amendment of Section 2.6.2. Section 2.6.2 of the Agreement is hereby amended to read in its entirety as follows:

"2.6.2 With notice to Medarex at least thirty (30) days prior to the first anniversary of the Effective Date, FibroGen may extend the term of the Research Period until the second anniversary of the Effective Date and, with notice to Medarex at least thirty (30) days prior to the second anniversary of the Effective Date, FibroGen may extend the term of the Research Period until the third anniversary of the Effective Date and, with notice to Medarex at least thirty (30) days prior to the third anniversary of the Effective Date, FibroGen may extend the term of the Research Period until February 28, 2002, and in each case, FibroGen shall continue to make quarterly research support payments as provided in Section 2.2. If FibroGen (i) extends the Research Period for at least six (6) months (so that the Research Period is at least eighteen (18) months and Medarex has received at least five hundred seventy thousand dollars ($570,000) of research support payments pursuant to Section 2.2), and (ii) exercises its option and acquires a commercial license pursuant to Section 3.1.2, then FibroGen shall be considered to have exclusivity of all the Antigens listed on Exhibit A in accordance with Section 2.6.5."

2. Miscellaneous.

2.1 No Other Changes. Except as expressly provided in this Amendment, all terms of the Agreement shall remain in full force and effect.

2.2 Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but both of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have caused this Amendment to be executed by their respective authorized officers.

MEDAREX, INC.

By: /s/ Jim Cornett

Name: Jim Cornett

Title: VP Business Development

Date: 16 July 2001

FIBROGEN, INC.

By: /s/ Thomas B. Neff

Name: Thomas B. Neff

Title: CEO

Date: 6/28/01

GENPHARM INTERNATIONAL, INC.

By: /s/ Jim Cornett

Name: Jim Cornett

Title: VP Business Development

Date: 16 July 2001

FIBROPHARMA, INC.

By: /s/ Wilbert Lee

Name: Wilbert Lee

Title: CFO

Date: 6/29/01

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

AMENDMENT NO. 2
TO
RESEARCH AND COMMERCIALIZATION AGREEMENT

THIS AMENDMENT NO. 2 TO RESEARCH AND COMMERCIALIZATION AGREEMENT ("Amendment") is made and entered into effective as of January 28, 2002 (the "Amendment Date") by and between **MEDAREX, INC.**, 707 State Road, Suite 206, Princeton, NJ 08540, **GENPHARM INTERNATIONAL INC.**, a wholly-owned subsidiary of Medarex, Inc. (together, "Medarex"), and FibroGen, Inc., a Delaware corporation, 225 Gateway Boulevard, South San Francisco, California 94080 and **FIBROPHARMA, INC.**, a wholly-owned subsidiary of **FIBROGEN, INC.** (collectively, "FibroGen"). Capitalized terms used in this Amendment that are not otherwise defined herein shall have the same meanings as such terms are defined in the Agreement (as defined below).

WHEREAS, Medarex and FibroGen entered into a Research and Commercialization Agreement dated as of July 9, 1998 (the "Agreement"), as amended as of June 30, 2001, under which FibroGen acquired a research license and an option to acquire commercial licenses under the Medarex Technology.

WHEREAS, the parties desire to amend the Agreement to extend the term of the Research Period under the Agreement and to clarify the scope of the licenses granted under the Agreement.

Now, THEREFORE, the parties agree as follows:

1. Amendment of the Agreement.

The parties hereby agree to amend the terms of the Agreement as of the Amendment Date as provided below.

1.1 Amendment of Section 2.6.2. Section 2.6.2 of the Agreement is hereby amended to read in its entirety as follows:

"**2.6.2** With notice to Medarex at least thirty (30) days prior to the first anniversary of the Effective Date, FibroGen may extend the term of the Research Period until the second anniversary of the Effective Date and, with notice to Medarex at least thirty (30) days prior to the second anniversary of the Effective Date, FibroGen may extend the term of the Research Period until the third anniversary of the Effective Date and, with notice to Medarex at least thirty (30) days prior to the third anniversary of the Effective Date, FibroGen may extend the term of the Research Period until February 28, 2002 and, with notice to Medarex at least thirty (30) days prior to February 28, 2002, FibroGen may extend the term of the Research Period until March 31, 2002, and in each case, FibroGen shall

continue to make quarterly research support payments (or, if research services are provided by Medarex for less than a full calendar quarter, a research support payment equivalent to a pro rata portion of such quarterly research support payment as applicable) as provided in Section 2.2. If

FibroGen (i) extends the Research Period for at least six (6) months (so that the Research Period is at least eighteen (18) months and Medarex has received at least five hundred seventy thousand dollars ($570,000) of research support payments pursuant to Section 2.2), and (ii) exercises its option and acquires a commercial license pursuant to Section 3.1.2, then FibroGen shall be considered to have exclusivity of all the Antigens listed on Exhibit A in accordance with Section 2.6.5."

2. Scope of Agreement.

2.1 **Mice**. For purposes of clarity, the parties acknowledge and agree that [*] and [*] (as such terms are defined below) are not included in the definition of Mice under the Agreement.

For purposes of this Amendment and the Agreement, "[*]" shall mean any mice comprising both (i) [*] developed by Medarex or otherwise developed through use of Medarex's proprietary HuMAb Mouse; and (ii) [*], including, without limitation, any mouse comprising the nucleic acids described in clause (i) and clause (ii) of this Section that is derived by (X) [*] HuMAb Mouse [*], (Y) introducing nucleic acids obtained, isolated, or derived from a HuMAb Mouse [*], or (Z) introducing nucleic acids obtained, isolated, or derived from a [*] into one or more cells obtained from a HuMAb Mouse.

For purposes of this Amendment and the Agreement, "[*]" shall mean any immunizable [*] mouse developed by [*] that contains [*] thereof that include [*] that provide for [*], and which [*] comprises an [*].

3. **Miscellaneous**.

3.1 No Other Changes. Except as expressly provided in this Amendment, all terms of the Agreement shall remain in full force and effect.

3.2 Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but both of which together shall constitute one and the same instrument.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

IN WITNESS WHEREOF, the parties have caused this Amendment to be executed by their respective authorized officers.

MEDAREX, INC.

By: /s/ Jim Cornett

Name: Jim Cornett

Title: VP Business Development

Date: 16 July 2001

FIBROGEN, INC.

By: /s/ Jack Anthony

Name: Jack Anthony

Title: VP Business Development

Date: 6/28/01

GENPHARM INTERNATIONAL, INC.

By: /s/ Jim Cornett

Name: Jim Cornett

Title: VP Business Development

Date: 16 July 2001

FIBROPHARMA, INC.

By: /s/ Jack Anthony

Name: Jack Anthony

Title: VP Business Development

Date: 6/29/01

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

LICENSE AGREEMENT

This License Agreement (the "Agreement"), effective, subject to Article 22, upon the Effective Time (as defined in the Agreement and Plan of Merger (the "Merger Agreement") between Fibrogen, Inc., FGIM Corp, Imigen Systems, Inc. (the "Imigen Acquisition") ("Effective Date"), is between the Dana-Farber Cancer Institute, Inc., a Massachusetts non-profit organization having a principal place of business at 44 Binney Street, Boston, Massachusetts, 02115 ("DFCI"), and FibroGen, Inc., a Delaware corporation having a principal place of business at 225 Gateway Blvd., South San Francisco, CA 94080 ("LICENSEE").

Background

WHEREAS DFCI is the owner of certain Licensed Intellectual Property (as defined below) developed or discovered by David Morse Livingston, M.D., while he was employed by DFCI, and William George Kaelin, Jr., M.D., while he was employed by Howard Hughes Medical Institute, a Delaware non-profit corporation (hereinafter referred to as "HHMI"), in HHMI laboratories located at DFCI, and HHMI has assigned its rights in certain patents and patent applications arising from such discoveries to DFCI, pursuant to an agreement between DFCI and HHMI, and DFCI has the right to license such Licensed Intellectual Property to third parties, and

WHEREAS on November 11, 2002, DFCI and Imigen entered into a License Agreement (the "Imigen License") under which DFCI granted to Imigen a license under certain patents owned by DFCI, and

WHEREAS Imigen has been acquired by LICENSEE through the Imigen Acquisition, and

WHEREAS DFCI and LICENSEE now wish to directly enter into a license agreement regarding certain rights previously licensed under the Imigen License Agreement, and

WHEREAS DFCI desires to have the Licensed Intellectual Property used to promote the public interest by granting a license, and

WHEREAS LICENSEE has represented to DFCI that it has the capabilities and/or experience as well as the financial capacity and the strategic commitment to commercially develop the Licensed Intellectual Property for the public interest, and

WHEREAS LICENSEE desires to obtain a license to DFCI's rights and DFCI is willing to grant a license to such rights to LICENSEE upon the terms and conditions of this Agreement, subject to certain reserved rights (as defined below),

NOW, THEREFORE, for and in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, DFCI and LICENSEE hereto expressly agree as follows:

Article 1 - Definitions

1.1 “Agreement” means this License Agreement, including all attached schedules.

1.2 **“**Affiliate” means any company, corporation or other business entity that is controlled by, controlling, or under common control with LICENSEE. For this purpose “control” means direct or indirect beneficial ownership of at least forty percent (40%) interest in the voting stock (or the equivalent) of the company, corporation or other business or having the right to direct, appoint or remove a majority of members of its board of directors (or their equivalents) or having the power to control the general management of the company, corporation or other business, by law or contract.

1.3 “Biological Materials” means the materials supplied by DFCI to LICENSEE under this Agreement, as identified in Schedule 1 and Schedule 2 together with any progeny, or unmodified derivatives of the materials that may be supplied by DFCI or created by LICENSEE.

1.4 “FDA” means the United States Food and Drug Administration.

1.5 “Field of Use” means all fields of use including all therapeutic and diagnostic applications and research laboratory applications directed to discovery of therapeutic products or processes in humans or animals.

1.6 “Licensed Process” means any process that is covered in whole or in part by an unexpired issued or granted claim that has not been found to be invalid by a court of competent jurisdiction or by a pending claim in Patent Rights in a particular territory or any process which incorporates or uses Biological Materials in whole or in part.

1.7 “Licensed Product” means any product that is covered in whole or in part by an unexpired issued or granted claim that has not been found to be invalid by a court of competent jurisdiction or by a pending claim in the Patent Rights in a particular territory or any product manufactured according to, or service or method of use involving, a Licensed Process or any product that incorporates Biological Materials in whole or in part.

1.8 “Licensed Intellectual Property” means Patent Rights or Biological Materials, individually or collectively.

1.9 “Net Sales” means the revenue derived by an entity licensed under this Agreement from the Sales (as defined in Section 1.11) of Licensed Products less the following deductions, which may not exceed reasonable and customary amounts in the country in which the transaction occurs:

(a) Transportation charges or allowances actually paid or granted;

(b) Trade, quantity, cash or other discounts and brokers’ or agents’ commissions, if any, actually allowed and taken;

(c) Credits or allowances made or given on account of rejects, returns or retroactive price reductions for any amount not collected that are specifically identifiable to Licensed Products;

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(d) Any tax or governmental charge (including, but not limited to, sales taxes, withholding taxes, value added taxes, customs, and duties) applied directly on sale or transportation, use or delivery of products paid by a licensed entity and not recovered from the purchaser;

(e) Any amount invoiced but for which cash was not actually received by LICENSEE within **[*]** year of the invoice date (however, such amounts shall be treated as Sales if received after the **[*]**-year period).

Net Sales includes the fair market value of any non-cash consideration from sale of Licensed Products received by LICENSEE, its Affiliates or Sublicensees.

Cash payments related to equity investments, research, and development funding, and reimbursement of expenses received by LICENSEE shall be excluded from this definition of "Net Sales".

1.10 "Patent Rights" means certain patents and patent applications owned by DFCI and listed on Schedule 3; any patent applications from which these claim priority or of which these claim the benefit; any continuing applications related thereto, including all continuations, divisionals, and continuations-in-part ("CIPs"), as further defined below, thereof; any international or foreign counterparts thereof; and any patents issued or granted therefrom, including any patents resulting from any petition for reissue, reexamination, or extension thereof, or any patent resulting from any post-issuance or post-grant proceeding relating thereto. A "CIP" or "CIP application" is an application claiming priority to an application included in the "Patent Rights" in which one or more inventors are added to the application as the result of the addition of new matter supplied by LICENSEE and said inventor(s) are under an obligation to assign his or her rights in the CIP application to LICENSEE. LICENSEE hereby assigns its rights in any such CIP to DFCI and LICENSEE agrees to fully cooperate to perfect that title with the appropriate patent authorities. In no event will CIP applications be filed which would result in the addition of inventor(s) who are not under an obligation to assign to LICENSEE.

Included within "Patent Rights" are new patent applications as described in Section 6.2 below.

1.11 "Sale" or "Sold" mean an arm's length transaction, involving the transfer of ownership of a Licensed Product to any person or entity for cash consideration by either the LICENSEE, an Affiliate, or Sublicensee. A Sale shall not include a transaction between the LICENSEE and an Affiliate or Sublicensee where the Licensed Product(s) in question will be resold by the Affiliate or Sublicensee provided that the cash payments received by the Affiliate or Sublicensee from the resale of the Licensed Product(s) are included in the calculation of Net Sales.

1.12 "Sublicensee" means any natural person or legal entity, which is not an Affiliate, to which LICENSEE grants a sublicense of some or all of the rights granted to LICENSEE under this Agreement. This definition of "Sublicensee" shall include a third party to whom LICENSEE has granted the right to distribute a Licensed Product(s).

1.13 "Territory" means worldwide.

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Article 2 - Grant of Licenses, Reserved Rights and Sublicensing

2.1 **Exclusive License Grant.** Subject to all of the terms and conditions of this Agreement and the non-exclusive license granted to the United States government, DFCI grants to LICENSEE an exclusive license to a) DFCI's right, title and interest under Patent Rights and b) Biological Materials listed in Schedule 1, with the right to grant sublicenses, to make, have made, use, offer to sell, sell and import Licensed Products and to practice Licensed Processes in the Territory in the Field of Use for the term of this Agreement. The license will continue for the term of this Agreement unless the grant is sooner terminated according to Article 8. The foregoing license grant shall be subject to the following:

2.1.1 **Prior transfer of Biological Materials to third parties.** LICENSEE acknowledges that the Biological Materials listed on Schedule 1 may have been transferred, prior to the Effective Date, to non-profit academic or for-profit commercial entities for the purpose of non-exclusive in-house research only.

2.2 DFCI grants to LICENSEE a non-exclusive license to Biological Materials listed in Schedule 2, to make, have made, use, offer to sell, sell and/or import Licensed Products and to practice Licensed Processes, in the Territory in Field of Use for the term of this Agreement, to the extent the product or process is covered in whole or in part by an unexpired issued or granted claim that has not been found to be invalid by a court of competent jurisdiction or by a pending claim in the Patent Rights in a particular territory. The License will continue for the term of this License Agreement unless the grant is sooner terminated according to Article 8.

2.3 **Restricted Transfer of cre-lox containing Biological Materials.** DFCI has informed LICENSEE and LICENSEE acknowledges that certain Biological Materials listed on Schedule 1 and Schedule 2 (the "Cre-Lox Materials") may be covered by U.S. Patents 4,736,866, 5,087,571, and 5,925,803, and any corresponding U.S. or foreign patents and patent applications owned by Bristol-Myers Squibb ("BMS").

Under terms of the Non-Commercial Research Licenses between DFCI and BMS, dated October 20th, 1999, DFCI cannot transfer such Cre-Lox Materials to LICENSEE until DFCI receives written confirmation from BMS that LICENSEE has (i) entered into a license agreement with BMS which expressly permits LICENSEE to receive Cre-Lox Materials from third parties and (ii) has paid the applicable fees to BMS. LICENSEE is responsible for obtaining from BMS the written confirmation that DFCI can transfer such Cre-Lox Materials to LICENSEE, and, in the event such written confirmation is obtained, DFCI is responsible for transferring such Cre-Lox Materials to LICENSEE or its designated Affiliate or Sublicensee.

2.4 **Affiliates**. LICENSEE is entitled to extend its licenses under this Article 2 to its Affiliates, consistent with all of the terms and conditions of this Agreement. If LICENSEE does extend its license and an Affiliate assumes obligations under the Agreement, LICENSEE guarantees performance by the Affiliate. If DFCI has a claim arising under this Agreement against an Affiliate, DFCI may seek a remedy directly against LICENSEE and may, but is not required to, seek a remedy against the Affiliate. Any termination of the Agreement under Article 8 as to LICENSEE also constitutes termination as to any Affiliates.

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2.5 **No Implied Licenses.** This Agreement confers no license or rights by implication, estoppel, or otherwise under any patent applications or patents owned in whole or in part by DFCI other than the Patent Rights.

2.6 **Reserved Rights.** The licenses granted by DFCI are subject to the following reserved rights.

2.6.1 The rights of the United States of America, as set forth in Public Laws 96-517 and 98-620, the regulations promulgated thereunder, and the policy of any funding agencies. Any rights granted hereunder that are greater than permitted by Public Laws 96-517 and 98-620 are subject to modification as required to conform to the provisions of those statutes.

2.6.2 DFCI's right to make and use the Licensed Intellectual Property in the Field of Use for teaching, education and non-commercial research purposes, both laboratory and clinical. It is acknowledged that DFCI reserves the right to use Biological Materials in Schedule 1 in collaboration with third parties (non-profit, for-profit, and governmental) provided such use occurs in laboratories located on DFCI's premises and such use is limited to teaching, education and non-commercial research purposes only.

2.6.3 DFCI's right to supply academic, governmental, or not-for-profit organizations with Biological Materials listed on Schedule 1 or grant to such organizations non-exclusive, non-transferable licenses under Patent Rights solely for non-commercial research purposes in the Field of Use. Under no circumstances may DFCI supply those Biological Materials listed in Schedule 1 or grant any license to the Patent Rights to such organizations for use in human subjects, clinical trials, or for any diagnostic purposes involving human subjects.

2.6.4 DFCI's right to grant to HHMI a paid-up, non-exclusive, irrevocable license to use the Licensed Intellectual Property for its research purposes with no right to sublicense.

2.6.5 DFCI's right to license the use of Biological Materials listed in Schedule 1, to a third party to the extent that such use is covered by a claim in a patent or patent application which (i) lists at least one DFCI employee as an inventor and (ii) is not included under Patent Rights.

2.7 **Sublicensing.** LICENSEE has the right to grant sublicenses under this Agreement consistent with the terms and conditions of this Agreement. LICENSEE remains responsible for the operations of any Sublicensee under this Agreement, as if the operations were carried out by LICENSEE.

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2.7.1 **Notice.** LICENSEE shall promptly notify DFCI in writing of the identity of any prospective Sublicensee at the time that LICENSEE enters into a binding term sheet or final sublicense with such prospective Sublicensee. Notwithstanding the foregoing, such notification shall be no less than ten (10) business days after the execution of a binding term sheet or final sublicense with such Sublicensee.

2.7.2 **Form and Content of Sublicenses.** LICENSEE shall issue any sublicense(s) granted by it under this Agreement in writing and shall attach a copy of this Agreement to all sublicenses. However, LICENSEE, acting reasonably, may redact information from the copy of this Agreement that it considers confidential and not necessary for a Sublicensee to understand LICENSEE's obligations to DFCI relating to sublicensing.

LICENSEE shall include the equivalent of at least the following provisions in all sublicenses:

(a) Sublicensee shall use commercially reasonable efforts to bring the subject matter of the sublicense into commercial use and shall report annually to LICENSEE on its operations under the sublicense.

(b) Sublicensee shall make payments due LICENSEE in relation to Net Sales of Licensed Products in a timely manner, so that LICENSEE may comply with its obligations to make payments to DFCI as set forth in Articles 3 and 4 of this Agreement.

(c) The terms and conditions of Sections 2.1, 2.5, 2.6, Sections 4.2.1 and 4.2.2, 5.2 – 5.5, and Article 7-10 and 12 of this Agreement are binding on the Sublicensee.

(d) Sublicensees have the right to grant further sublicenses subject to LICENSEE's written approval and notice to DFCI. Such notice shall be provided by LICENSEE at least ten (10) days prior to the execution of such sublicenses.

It is expressly understood that LICENSEE and its Sublicensees shall not grant a sublicense to any company engaged in the sales of tobacco or tobacco-related products without the written consent of DFCI.

2.7.3 **Copies of Sublicenses to DFCI.** LICENSEE shall forward to DFCI a copy of any and all fully executed sublicenses. Such copy shall be postmarked within thirty (30) days of the execution of the sublicense. LICENSEE shall also forward to DFCI annually a copy of the reports received by LICENSEE from its Sublicensee during the preceding twelve (12) month period under the sublicenses as shall be pertinent to (i) its operations under the sublicense and (ii) a royalty accounting under the sublicense agreement.

2.7.4 **LICENSEE's Continuing Obligations.** Nothing in this Section 2.7 (Sublicensing) may be construed to relieve LICENSEE of its obligations to DFCI under this Agreement, including but not limited to LICENSEE's obligations under Article 9 - Indemnification, Defense, and Insurance.

Article 3 - Consideration - Amounts and Time for Payment

In partial consideration of the rights granted by DFCI to LICENSEE under this Agreement, LICENSEE shall make the following payments to DFCI according to this Article 3 and Article 4, on behalf of itself, any Affiliate(s) or Sublicensee(s):

3.1 Reimbursements and Other Financial Consideration

3.1.1 **Past Patent Expenses**. LICENSEE shall reimburse DFCI for expenses incurred in filing, prosecuting, maintaining, and enforcing Patent Rights prior to the Effective date of the Agreement (the "Incurred Patent Expenses"). The Incurred Patent Expenses shall be paid by LICENSEE to DFCI in two (2) installments as set forth below:

(a) Installment I, totaling $**[*]** for Incurred Patent Expenses as of August 31, 2005, Shall be paid by LICENSEE to DFCI within forty-five (45) days of the Effective Date.

(b) Installment II shall reflect the Incurred Patent Expenses for the period between September 1, 2005 and the Effective Date. The total amount for Installment II shall be invoiced to LICENSEE, presented at one time as a total sum and accompanied by copies of all original invoices contributing thereto, no later than sixty (60) days after the Effective Date. LICENSEE shall pay DFCI Installment II within forty-five (45) days of receiving such invoice from DFCI.

3.1.2 LICENSEE shall not be liable for any additional amounts relating to any patent expenses incurred by DFCI and not included in either Installment I or Installment II.

3.1.3 **Future Patent Expenses**. LICENSEE shall pay all expenses incurred by LICENSEE after the Effective Date, for filing, prosecuting, and maintaining Patent Rights.

3.1.4 **Milestone Payments.**

(a) LICENSEE shall make milestone payments to DFCI within forty-five (45) days of the occurrence of the events occurring after the Effective Date hereto by LICENSEE, Sublicensee, or an Affiliate, as set forth below. Such payments will be due only one time for the first indication of each Licensed Product consisting of a chemical compound with a distinct chemical formula or a biologic with a distinct biological composition as the case may be.

MILESTONE	PAYMENT
FDA approval of an Investigational New Drug (IND) application in the United States	$ **[*]**
FDA approval of a New Drug Application or Biologic License Application in the United States	$ **[*]**
First marketing approval in the United States, Europe, or Japan	$ **[*]**

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(b) LICENSEE shall make milestone payments to DFCI within ninety (90) days of the occurrence of the relevant event, specified in the table below. Such payments will be due only one time.

MILESTONE	PAYMENT
The first year in which the cumulative and aggregated Net Sales for all Licensed Products by LICENSEE, Affiliates, and Sublicensees, on a worldwide basis exceeds a total of five hundred million dollars ($500,000,000)	$ **[*]**
The first year in which the cumulative and aggregated Net Sales for all Licensed Products by LICENSEE, Affiliates, and Sublicensees, on a worldwide basis exceeds a total of one billion dollars ($1,000,000,000)	$ **[*]**

3.1.5 **Running Royalties.** LICENSEE shall pay DFCI the following running royalties as set forth below:

(a) LICENSEE, its Affiliates, or its Sublicensees shall pay DFCI a **[*]** royalty on the Net Sales of Licensed Products or a Licensed Process in the Field of Use. Such royalty rate shall not be subject to any form of royalty stacking reduction. It is also expressly understood that even if a Licensed Product or Licensed Process would, but for the license granted under this Agreement, infringe multiple claims included under Patent Rights, the royalty shall not be additive and shall not exceed the royalty stated in this Section 3.1.5(a).

(b) For any Licensed Product or Licensed Process covered solely by a claim in a pending patent application included in the Patent Rights, LICENSEE, its Affiliates, or its Sublicensees shall have the right to deduct from the royalty payment due DFCI, as specified above in Section 3.1.5(a), fifty percent (50%) of such royalty payment. The unpaid royalty payment balance in each territory shall be due and payable by LICENSEE to DFCI sixty (60) days after such claim is issued or granted in such territory.

3.1.6 **Sublicense Fees.** For each sublicense granted by LICENSEE to a Sublicensee in the Field of Use, LICENSEE shall pay to DFCI the sum of **[*]** for each fully executed sublicense executed after the Effective Date of this Agreement that grants rights to one or more Licensed Products in the Field of Use to be paid thirty (30) days from the date of full execution of that sublicense.

3.1.7 **Maintenance Fees.** Upon the achievement of certain events by LICENSEE specified below, LICENSEE will pay to DFCI; (i) an annual license maintenance fee

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and (ii) an equivalent sublicense maintenance fee for each fully executed sublicense in effect, collectively the "Maintenance Fees". Such Maintenance Fees shall be due beginning on the first anniversary date of this Agreement and due annually thereafter on the anniversary date:

EVENT	MAINTENANCE FEE
After the issuance in the United States of the first patent within Patent Rights claiming subject matter in the Field of Use	$ **[*]**
After (i) the issuance in the United States and (ii) grant in an EPO member state and Japan of the first patent within Patent Rights claiming subject matter in the Field of Use	$ **[*]**

Notwithstanding the foregoing, no license maintenance fee will be due after LICENSEE, an Affiliate, or Sublicensee begins to commercially sell a Licensed Product. For the avoidance of doubt, the above fees are triggered by the first issuance of a patent in the Field of Use and not due for each issuance of a patent in the Field of Use.

The fees specified in this Section 3.1.7 are not refundable, not creditable, and not an advance against any fees, royalties, or reimbursement of any costs incurred hereunder.

3.2 **Waiver or Deferral.** Waiver or deferral by DFCI of any payment owed under any paragraph under Section 3.1 may not be construed as a waiver or deferral of any subsequent payment owed by LICENSEE to DFCI.

3.3 **Combination Packages.** If a Licensed Product in the Field of Use is sold in a combination package or kit containing other active products or processes, then Net Sales for purposes of determining royalty payments on the combination package will be calculated using one of the following methods, but the royalties payable to DFCI may not be reduced to less than **[*]** of that provided for in Section 3.1.5 (a) of this Agreement:

By multiplying the net selling price of the combination by the fraction A/A+B, where A is the gross selling price, during the royalty-paying period in question, of the Licensed Product sold separately, and B is the gross selling price during the royalty period in question, of the other active products sold separately; or

If no separate sales are made of the Licensed Product or any of the active products in such combination package during the royalty-paying period in question, Net Sales for the purposes of determining royalty payments, must be calculated by dividing the net selling price of the combination by the number of functions performed by the combination sold where such combination contains active agents other than those licensed under this Agreement.

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Article 4 - Royalty Reports, Payments and Financial Records

4.1 **Royalty Reports**. Within sixty (60) days after March 31, June 30, September 30, and December 31, of each year in which this Agreement is in effect, LICENSEE shall deliver to DFCI full, true and accurate reports of its activities and those of its Affiliates, if any, relating to this Agreement during the preceding three (3) month period. LICENSEE shall deliver reports containing equivalent information pertaining to its Sublicensee(s) within sixty (60) days of receipt of a royalty report from such Sublicensee ("Sublicensee Report"). Notwithstanding the foregoing, LICENSEE shall have the option to provide such Sublicensee reports either individually or as a consolidated report and shall provide such reports no less frequently than every six (6) months. All reports must include at least the following:

(a) Number of Licensed Products manufactured and Sold by LICENSEE, and any Affiliates or Sublicensees, in each country of the Territory;

(b) Total billings for the Licensed Products Sold; by LICENSEE, and any Affiliates or Sublicensees, in each country of the Territory;

(c) Total billings for the use of Licensed Process Sold; by LICENSEE, and any Affiliates or Sublicensees, in each country of the Territory;

(d) Deductions applicable to determining Net Sales;

(e) The nature and amount of Sublicense Revenue received by LICENSEE as set forth in Section 3.1.5(a) and the amount owed to DFCI;

(f) Identification of any events that fulfill the milestones as set forth in Section 3.1.4 and the amount owed to DFCI;

(g) Total royalties due to DFCI;

(h) Number of sublicenses executed as set forth in Section 2.7 and the amount owed to DFCI as set forth in Sections 3.1.4, 3.15 and 3.1.6;

(i) An accounting of amounts invoiced but not yet received by FibroGen pursuant to Section 1.9(e).

With each report, LICENSEE shall pay to DFCI the royalties due and payable. If no royalties are due, LICENSEE shall so report. If multiple Licensed Products are covered by the license granted under this Agreement, LICENSEE shall separately identify each Licensed Product in the royalty report and specify which Licensed Intellectual Property covers that Licensed Product.

Ninety (90) days following any such payment, LICENSEE shall take reasonable business efforts to make any necessary adjustments (including any necessary credits, and offsets) to ensure that the amount paid to DFCI is in compliance with the terms of this Agreement.

4.2 **Record Keeping**.

4.2.1 **Books and Records.** LICENSEE shall keep, and shall require its Affiliates and Sublicensees to keep, true books of account containing an accurate record (together with supporting documentation) of all data necessary for determining the amounts payable to DFCI. LICENSEE shall keep its records at its principal place of business or the principal place of business of the appropriate division of LICENSEE to which this Agreement relates and shall require its Affiliates and Sublicenses to keep their books and records in the same manner.

4.2.2 **Inspections.** In order for DFCI to determine the correctness of any report or payment made under this Agreement, LICENSEE shall make its records available to DFCI for inspection, for a period of three (3) years following the end of the calendar year to which they pertain. LICENSEE shall also require any Affiliates or Sublicensees to make their records available for inspection by DFCI, in the same manner as provided in this Section 4.2.2.

DFCI may inspect the records during regular business hours by a certified public accountant selected by DFCI and reasonably acceptable to the licensed entity whose records are being inspected. In conducting inspections under this Section 4.2.2, LICENSEE agrees that DFCI's accountant may have access to all records which DFCI reasonably believes to be relevant to calculating royalties owed to DFCI under Article 3.

DFCI is responsible for the cost of any inspection, unless the examination shows an underreporting or underpayment by any entity in excess of five percent for any twelve (12) month period, in which case LICENSEE shall pay the cost of the inspection as well as any additional sum that would have been payable to DFCI had the LICENSEE reported correctly, plus interest as set forth in Section 4.5.

4.3 **Form of Payments and Taxes.** LICENSEE must make all payments to be made to DFCI in Boston, Massachusetts, or at such other place or in such other way as DFCI may reasonably designate. Payments must be paid by check or wire transfer.

LICENSEE shall pay all amounts payable to DFCI under this Agreement in United States funds. All taxes levied on payments accruing to DFCI under this Agreement shall be paid by DFCI from its own account, including taxes levied thereon as income to DFCI. Any withholding taxes imposed on any payments made to DFCI shall be deducted from the payments made to DFCI, paid to the proper taxing authority, and a receipt of payments of the tax secured and properly delivered to DFCI. Each party agrees to assist the other party in claiming exemption from such deductions or withholding under any double taxation or similar agreement or treaty from time to time in force. LICENSEE shall reasonably inform DFCI of any such taxes actually due on a payment owed to DFCI if LICENSEE becomes aware that such tax is due.

4.4 **Currency Conversion.** If any currency conversion is required in connection with any payment owed to DFCI, the conversion will be made at the buying rate for the foreign currency as quoted by the Wall Street Journal on the last business day of the month to which such payment pertains.

4.5 **Interest.** Any payment owed to DFCI under this Agreement that is not made when due will accrue interest beginning on the first day following the due date specified in Article 3. The interest will be calculated at the annual rate of the sum of (a) **[*]** plus (b), the prime interest rate quoted by Bank of America on the date the payment is due, the interest being compounded on the last day of each calendar quarter. However, the annual rate may not exceed the maximum legal interest rate in Massachusetts. The payment of interest as required by this Section does not foreclose DFCI from exercising any other rights or remedies it has as a consequence of the lateness of any payment.

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Article 5 - Operations under the License

5.1 Due Diligence

5.1.1 **General Obligations.** LICENSEE shall use commercially reasonable efforts to diligently use Licensed Intellectual Property to develop and commercialize a diagnostic or therapeutic Licensed Product(s) in the Field of Use.

5.1.2 **Development and Commercialization Reports.** On or before each anniversary of the Effective Date, LICENSEE shall provide to DFCI a written report describing the efforts by LICENSEE, or any Affiliates or Sublicensees, to bring one or more Licensed Products to the therapeutic or diagnostic marketplace in Field of Use. In order to fulfill its obligation under this Section 5.1.2, LICENSEE shall be permitted to provide DFCI with a copy of letters or reports, and other information generally provided to shareholders of FibroGen.

Notwithstanding the foregoing, such reports and letters must be in sufficient detail to permit DFCI to monitor LICENSEE's compliance with due diligence provisions of this Agreement. At a minimum, LICENSEE shall include in these reports: (a) a summary of LICENSEE's progress and (that of any Sublicensee) in the reporting year, related to exploiting the Licensed Intellectual Property including an identification of all Licensed Products that LICENSEE intends to develop, if any; and (b), a summary of all sublicenses that are currently in force and those that have been terminated, if any, in the reporting year.

5.1.3 **Failure to Perform.** LICENSEE's failure to perform with any due diligence requirement provided in any paragraph in this Section 5.1 is grounds for DFCI to terminate this Agreement according to Section 8.2 or to convert this Agreement to a non-exclusive license agreement, at DFCI's option.

5.2 **U.S. Manufacture.** LICENSEE shall manufacture Licensed Products as required by 35 U.S.C. 204 and 37 C.F.R. 401 et. seq., as amended. LICENSEE shall also require any Affiliate(s) or Sublicensee(s) to comply with this U.S. manufacture requirement.

If LICENSEE provides compelling evidence to DFCI that domestic manufacture of a Licensed Product is not commercially feasible, at LICENSEE's request, DFCI will cooperate with LICENSEE to seek a waiver from the United States government with respect to the United States manufacture requirement. If a waiver is to be sought, LICENSEE shall provide DFCI with the required information, prepare the initial paperwork necessary for applying for or obtaining the waiver and bear all costs associated with the waiver process. LICENSEE acknowledges that DFCI cannot guarantee that a waiver can or will be obtained.

5.3 **Other Government Laws.** LICENSEE shall comply with, and ensure that its Affiliates and Sublicensees comply with, all government statutes and regulations that relate to Licensed Products. These include but are not limited to FDA statutes and regulations, the Export Administration Act of 1979, as amended, codified in 50 App. U.S.C. 2041 et seq. and the regulations promulgated thereunder or other applicable export statutes or regulations.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

5.4 **Patent Marking**. LICENSEE shall mark, and shall require its Sublicensees and Affiliates to mark, all Licensed Products sold in the United States with the word “Patent” and the number or numbers of Patent Rights applicable to the Licensed Product.

5.5 **Publicity – Use of Name.** LICENSEE, its Affiliate and Sublicensees are not permitted to use the names of DFCI, its related entities or its employees, or any adaptations thereof, in any advertising, promotional or sales literature, or in any securities report required by the Securities and Exchange Commission (except as required by law), without the prior written consent of DFCI in each case. However, LICENSEE may (a) refer to publications in the scientific literature by employees of DFCI; (b) state that a license from DFCI has been granted as provided in this Agreement, or (c) use the name of DFCI in any other use required by law. LICENSEE may request DFCI to agree in advance to certain standard language for repeated use by LICENSEE in printed materials to avoid delays in the distribution of such materials due to the need to obtain written consent from DFCI. DFCI will, in good faith, consider such request from LICENSEE. All requests and inquiries by LICENSEE regarding publicity in connection with this Section 5.5 should be directed to:

DFCI Communications Department
44 Binney Street
Boston, MA 02115

LICENSEE acknowledges that under HHMI policy, LICENSEE may not use the name of HHMI or of any HHMI employee (including Dr. Kaelin) in a manner that reasonably could constitute an endorsement of a commercial product or service; but that use for other purposes, even if commercially motivated, is permitted provided that (1) the use is limited to accurately reporting factual events or occurrences, and (2) any reference to the name of HHMI or any HHMI employees in press releases or similar materials intended for public release is approved by HHMI in advance. Notwithstanding the foregoing, LICENSEE may identify HHMI employees (by name and affiliation) in its press releases or other corporate communications (such as shareholder reports, information appearing on web sites, etc.) as inventors of the technology licensed hereunder or participation on a scientific advisory board, without obtaining advance approval from HHMI, if no further information about or quotes from such HHMI employees are included.

Article 6 - Patent Preparation, Filing, Prosecution, and Maintenance

6.1 **Responsibility**. Upon request of LICENSEE and at LICENSEE’s expense, DFCI shall provide (or shall instruct DFCI’s outside counsel to provide) to LICENSEE (or to an outside patent counsel of LICENSEE’s choice) copies of all correspondence and documentation related to the Patent Rights, including copies of all original files, and all official and internal correspondence related thereto, and any associated documents. LICENSEE, in its sole discretion, is responsible for preparing, filing, prosecuting, and maintaining all patent applications and patents covered by the Patent Rights, and is solely responsible for making strategic decisions regarding such Patent Rights and for paying all costs. DFCI shall not file any application that claims priority to, or benefit of, an application included in Patent Rights without LICENSEE’S prior written consent. DFCI will request that the law firms currently responsible for prosecution of the Patent Rights, transfer all file histories to LICENSEEE at the address provided in Section

6.3 below (attention Intellectual Property Department) within thirty (30) days of the Effective Date of this Agreement. DFCI shall execute Revocation Of Power Of Attorney With New Power Of Attorney And Change Of Correspondence Address documents for filing with the USPTO, in a timely manner not to exceed thirty (30) days, upon receipt of a request from FibroGen or its designated counsel. For purposes of this Agreement, "prosecuting" or "prosecution" include all prosecution and any interference, reissue, or reexamination proceeding or opposition or other post-issuance or post-grant proceeding. LICENSEE shall provide DFCI with sufficient notification of LICENSEE's intention to file U.S. CIP applications and/or foreign equivalent patent applications claiming priority to an application included in the Patent Rights. LICENSEE shall provide, or cause its agent to provide, copies of all correspondence between LICENSEE and/or LICENSEE's counsel and the United States Patent and Trademark Office or the various foreign patent offices and shall give DFCI reasonable opportunity to advise LICENSEE or LICENSEE's counsel on such matters.

6.2 LICENSEE shall have the right to elect not to financially support the preparation, filing, prosecution, and maintenance of any patent application or patent included within Patent Rights. In such case, LICENSEE shall relinquish its rights to those patent applications or patents included within Patent Rights as provided in Section 6.5 below. Notwithstanding the foregoing, a strategic decision to discontinue the pursuit of a non-provisional patent application contained in the Patent Rights, shall not be construed as LICENSEE relinquishing its rights to the subject matter described therein if DFCI agrees in writing with such decision. LICENSEE's strategic decision to discontinue the pursuit of a provisional patent application contained in the Patent Rights in favor of filing a new patent application (NPA) claiming the subject matter described in such provisional application shall not be construed as LICENSEE relinquishing its rights to the subject matter described therein if DFCI agrees in writing with such decision. If one or more inventors are added to the NPA as the result of the addition of new matter supplied by LICENSEE and said added inventor(s) are under an obligation to assign his or her rights in the NPA to LICENSEE, LICENSEE hereby assigns its rights in the NPA to DFCI and LICENSEE agrees to fully cooperate to perfect that title with the appropriate patent authorities. In no event will NPAs be filed which would result in the addition of inventor(s) who are not under an obligation to assign to LICENSEE.

6.3 DFCI designates the following individual or department, or any designee thereof, to be available to consult with LICENSEE and to coordinate any reasonable response to a request from LICENSEE (see Section 6.4, infra), and to receive any patent-related correspondence:

DFCI Patent Counsel
Office of Patent Counsel
Dana-Farber Cancer Institute
44 Binney Street
Boston, MA 02115

Upon DFCI's reasonable request, LICENSEE shall be available to consult with DFCI on matters relating to preparing, filing, prosecuting, or maintaining any of the applications or patents within Patent Rights, which matters may be of particular interest to DFCI. LICENSEE, acting reasonably, shall consider the legitimate interests of DFCI in performing its responsibility under Section 6.1. LICENSEE designates the following individual or department, or any designee thereof, to be available to consult with DFCI and to receive any patent-related correspondence:

Vice President, Intellectual Property
Intellectual Property Department
FibroGen, Inc.
225 Gateway Blvd.
South San Francisco, CA 94080

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6.4 **Cooperation.** DFCI shall cooperate with LICENSEE in preparing, filing, prosecuting, and maintaining the patent applications and patents within Patent Rights. This cooperation is limited to making any DFCI personnel (including any named DFCI inventors or any other involved parties who are employed in the laboratories of Dr. Kaelin and\or Dr. Livingston) available to answer questions, providing copies of any reasonably requested documents, including copies of pages in laboratory notebooks, manuscripts, etc., as may be necessary to provide required support and documentation for preparing, filing, prosecuting, and maintaining all patent applications and patents or for use in any post-issuance or post-grant procedure; and obtaining necessary signatures on documents, including, for example, any power of attorney, declaration, or assignment papers. DFCI will also direct any outside counsel involved in drafting, filing, prosecution, or maintenance of the patents and patent applications listed in Schedule 3 to cooperate fully with LICENSEE. LICENSEE will pay all associated costs, if any, incurred as a result of LICENSEE's requests for cooperation. DFCI shall provide prompt notice to LICENSEE of any matter that comes to its attention that may affect the patentability, validity, or enforceability of any patent application or patent within Patent Rights.

6.5 **Relinquishing Rights.** If LICENSEE elects not to prepare, prosecute, and/or maintain a patent or patent application within Patent Rights in any country of the licensed Territory, LICENSEE shall give ninety (90) days advance written notice to DFCI; relinquish responsibility for prosecution of such patent or patent application; and surrender its license under such patent or patent application. However, if LICENSEE relinquishes rights to any patent or application within Patent Rights to which an interference proceeding or opposition has been declared or filed, the notice period is one hundred and eighty (180) days. If LICENSEE so relinquishes its rights, it will remain responsible for all patent-related expenses incurred by DFCI during the applicable notice period. Thereafter, LICENSEE will have no further obligation to pay any patent expenses for the patents or patent applications that it relinquished.

6.6 **Prosecution by DFCI.** If LICENSEE relinquishes its rights within Patent Rights as described in Section 6.5, DFCI shall thereafter have the right, but not any obligation, to prosecute, obtain issuance of, and/or maintain such Patent Rights relinquished by LICENSEE in such country(ies) or region(s) at its own cost, and any such applications and resultant patents shall not be subject to this Agreement.

Article 7 - Patent Infringement and Enforcement

7.1 **Substantial Infringement**. For the purposes of this Agreement, "Substantial Infringement" shall mean any infringement, of any of the Patent Rights, that LICENSEE deems material to its business. If at any time during the term of this Agreement, LICENSEE becomes aware of an apparent Substantial Infringement, LICENSEE will promptly notify DFCI of such infringement. In the event that LICENSEE chooses to take any action with respect to the Substantial Infringement, LICENSEE shall, upon the request of DFCI, provide DFCI with an explanation of LICENSEE's reasoning in choosing to take such action.

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7.2 **Action by LICENSEE**.

7.2.1 **Procedure.** LICENSEE shall have the first right, but not the obligation, to enforce the Patent Rights and to prosecute apparent Substantial Infringers, at its expense and in its own name, when it believes such action may be reasonably necessary and justified. Before LICENSEE files a lawsuit in a court of law with respect to the infringement, LICENSEE shall consider in good faith the views of DFCI, particularly as they relate to the potential effects on the public interest. LICENSEE shall join DFCI as a party-plaintiff if such joinder is required by law (including, but not limited to, joinder of DFCI if deemed to be an indispensable party), at LICENSEE's expense. LICENSEE shall have the right to join Affiliates and Sublicensees into any such legal proceeding.

7.2.2 **Timing.** If LICENSEE notifies DFCI that it intends to prosecute the alleged Substantial Infringer, then LICENSEE has **[*]** months from the date of its notice to DFCI to either (a) cause the infringement to terminate or (b) file a lawsuit in a court of law against the infringer. If any such lawsuit is brought by LICENSEE in its own name it will be at LICENSEE's expense and on its own behalf. LICENSEE has the right to join DFCI as a party-plaintiff if required by law, at LICENSEE's expense.

7.2.3 **Action at Request of DFCI**. DFCI may request LICENSEE to take steps to protect the Patent Rights from an apparent Substantial Infringement. LICENSEE shall notify DFCI, within **[*]** months of receiving a written request from DFCI, of action it intends to take, if any, to compel termination of the alleged infringing action or to file a lawsuit in a court of law against the alleged infringer.

7.2.4 **DFCI's Right to Join**. DFCI independently has the right to join any lawsuit brought by LICENSEE under this Section 7.2 and shall, in such case, fund a pro rata share of the cost of the legal proceeding from the date of joining. If DFCI elects to join as a party plaintiff pursuant to this Section 7.2.4, DFCI may jointly participate in the action with LICENSEE, but LICENSEE will have the right to designate lead counsel.

7.2.5 **Settlement**. In any legal proceeding initiated by LICENSEE, LICENSEE shall not enter into any settlement, consent judgment, or other voluntary final disposition in which a license to Patent Rights (or covenant not to sue with respect to such Patent Rights) would be granted to the third party defendant pursuant to which DFCI's future financial compensation would be significantly affected (such as future royalties as would be owed under a sublicense granted hereunder) or patent rights would be forfeited, without the consent of DFCI (which shall not be unreasonably withheld).

7.2.6 **Reduction of Royalties**. If LICENSEE initiates legal proceedings under this Section 7.2 in any country and DFCI does not independently join the proceeding, LICENSEE may deduct up to **[*]** of LICENSEE's documented costs, including reasonable attorney fees, from running royalties payable to DFCI from sales of Licensed Products covered by the patent(s)-in suit. However, LICENSEE may

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not reduce DFCI's royalty payments by more than **[*]** of the amount otherwise due under Section 3.1.5. If **[*]** of LICENSEE's costs and expenses exceeds the amount of royalties deducted by LICENSEE for any calendar year, LICENSEE may, to that extent, reduce the royalties due to DFCI in succeeding calendar quarters for so long as LICENSEE as the Substantial Infringement continues. However, LICENSEE may not reduce total royalties due to DFCI in a given calendar quarter by more than **[*]**. LICENSEE's right to reduce royalty payments to DFCI under this Section 7.2.6 applies only for so long as the Substantial Infringement continues.

7.3 Action by DFCI

7.3.1 **Procedure**. If LICENSEE notifies DFCI that it does not intend to prosecute a Substantial Infringement, or if LICENSEE fails to cause the Substantial Infringement to terminate, or fails to file a lawsuit in a court of law to compel termination within **[*]** months of the date of its notice to DFCI pursuant to Section 7.1 or Section 7.2.3, above, then DFCI may initiate legal proceedings against the alleged infringer, at DFCI's expense and on its own behalf according to the terms of this Section 7.3. Before DFCI commences any legal proceeding with respect to the infringement, DFCI shall consider in good faith the views of LICENSEE. DFCI has the right to join LICENSEE as a party-plaintiff, if required by law, at DFCI's expense.

7.3.2 **LICENSEE's Right To Join**. LICENSEE independently has the right to join any legal proceeding brought by DFCI under this Section 7.3 and shall, in such case, fund a pro rata share of the cost of the legal proceeding from the date of joining. If LICENSEE elects to join as a party plaintiff pursuant to this Section 7.3.2 or, LICENSEE may jointly participate in the action with DFCI, but DFCI will have the right to designate lead counsel.

7.3.3 **Settlement**. Regardless of whether LICENSEE is joined or joins any legal proceeding initiated by DFCI (as described in Section 7.3.2), no settlement, consent judgment, or other voluntary final disposition of such legal proceeding may be entered into without the consent of DFCI.

7.4 **Cooperation.** If one party files a lawsuit in a court of law or brings any other action related to enforcement of the Patent Rights or otherwise related to the Patent Rights against a third party pursuant to this Article 7 or is prevented from filing such a lawsuit or bringing such an action against the third party due to lack of standing to sue, the other party (and any Affiliates or Sublicensee of that party) shall cooperate with and supply all assistance reasonably requested by the party initiating the proceedings, at the initiating party's request and expense.

7.5 **Distribution of Amounts Paid by Third Parties.** In any legal proceeding brought by DFCI under Section 7.3 and funded solely by DFCI, any damages or other amounts recovered as a result of the proceeding will be retained by DFCI. In any other legal proceeding, any damages or other amounts will be distributed as follows: The damages or other amounts will first be used to reimburse LICENSEE, it's Affiliates or Sublicensees, and DFCI for litigation costs not paid from

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royalties and then to reimburse DFCI a sum equivalent to the total amount of royalties and minimum royalties deducted by LICENSEE under Section 7.2.6. The balance, if any, will be divided pro rata based on the relative contributions of the parties. It is expressly understood that any party not contributing to the funding of a proceeding will not share in any amounts recovered as a result of the proceeding.

7.6 **Declaratory Judgment Actions.** In the event that any third party initiates a declaratory judgment action alleging the invalidity or unenforceability of the Patent Rights, or if any third party brings an infringement action against LICENSEE or its Affiliates or Sublicensees because of the exercise of the rights granted LICENSEE under this Agreement, then LICENSEE shall have the right to defend such action under its own control and at its own expense; provided, however, that DFCI shall (a) have option of joining as co-defendant if it chooses to do so; or (b) join as co-defendant if required by law; and (c) cooperate as necessary with LICENSEE in LICENSEE's defense. LICENSEE shall NOT enter into any settlement, consent judgment or other voluntary final disposition of any action under this Section 7.6 without the consent of DFCI, which consent shall not be unreasonably withheld unless the settlement includes any express or implied admission of liability or wrongdoing on DFCI's part, in which case DFCI's right to grant or deny consent is absolute and at its sole discretion. Any recovery shall be first applied to reimburse each party pro rata for any out-of pocket expenses it may have incurred with respect to defense of such action and the remainder shall be distributed as described in Section 7.5.

Article 8 - Term and Termination

8.1 **Term.** Unless terminated earlier under the provisions of this Agreement, this Agreement will terminate on a country by country basis on the expiration date of the last to expire of patent within Patent Rights. If a Licensed Product or Licensed Process is not covered in whole or in part by an unexpired issued or granted claim, or by a pending claim in the Patent Rights and incorporates Biological Materials then this Agreement with respect to that Licensed Product shall terminate twenty (20) years from the Effective Date.

8.2 **Termination by DFCI.** If LICENSEE materially breaches any provision of this Agreement, then DFCI will provide LICENSEE with written notice of default specifying the nature of the breach. LICENSEE will have a period of sixty (60) days to cure such breach. Should LICENSEE fail to cure the breach within the sixty (60) day period, then DFCI shall have the right to terminate this Agreement immediately upon LICENSEE'S receipt of a notice of termination from DFCI. Unless otherwise indicated below, it is expressly understood that this Agreement and all licenses hereunder shall remain in effect for any Field of Use for which LICENSEE has not defaulted. DFCI has the right to immediately terminate this Agreement and all licenses granted hereunder by providing LICENSEE with written notice of termination, upon the occurrence of any of the following events:

(a) LICENSEE ceases to carry on its business and development activities with respect all Licensed Products in the Field of Use.

(b) LICENSEE fails to pay on schedule any royalty or other payment that has become due and is payable under Articles 3 or 4 of this Agreement and has not cured the default by making the required payment, together with interest due, pursuant to Section 4.5, herein, within thirty (30) days of receiving a written notice of default from DFCI requesting such payment.

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(c) LICENSEE fails to comply with any due diligence obligation provided for in Section 5.1 unless LICENSEE has cured the default by meeting the obligation within sixty (60) days of receiving written notice of default from DFCI.

(d) LICENSEE defaults in its obligations to procure and maintain insurance under Sections 9.6 - 9.9.

(e) LICENSEE has been convicted of a felony relating to the manufacture, use, sale or importation of Licensed Products.

(f) LICENSEE materially breaches any other provision of this Agreement, unless LICENSEE has cured the breach within ninety (90) days of receiving written notice from DFCI specifying the nature of the breach.

8.3 **Termination by LICENSEE.** LICENSEE has the right to terminate this Agreement without cause by giving DFCI ninety (90) days prior written notice.

8.4 **Effect of Termination**.

8.4.1 **No Release.** Upon termination of this Agreement for any reason, nothing in this Agreement may be construed to release either party from any obligation that matured prior to the effective date of the termination.

8.4.2 **Survival.** The provisions of Section 3.1.2 and 3.1.3 (Patent Expenses) Article 4 (Royalty Reports, Payments and Financial Records), Section 5.5 (Publicity – Use of Names), Section 8.4.3 (Inventory), Sections 9.1 – 9.5 (Indemnification and Defense), Sections 9.7 – 9.9 (Insurance), Article 10 (Warranty Disclaimers) and Article 12 (Dispute Resolution) survive termination of this Agreement.

8.4.3 **Inventory.** LICENSEE, any Affiliate(s) and any Sublicensees whose sublicenses are not converted as provided in Section 8.4.5, may, after the effective date of termination, sell all Licensed Products that are in inventory as of the date of written notice of termination, and complete and sell Licensed Products which the Affiliates or Sublicensees can clearly demonstrate were in the process of manufacture as of the date of written notice of termination, provided that LICENSEE shall pay to DFCI the royalties thereon as required by Article 3 and shall submit the reports required by Article 4 on the sales of Licensed Products.

8.4.4 **Use of Biological Materials.** LICENSEE, any Affiliate(s) and any Sublicensees whose sublicenses are not converted as provided in Section 8.4.5, shall cease to use the Biological Materials and shall certify their proper and humane disposition.

8.4.5 **Sublicenses.** Any sublicenses will terminate contemporaneously with this Agreement. However, any Sublicensee not in default under its sublicense may request conversion of the sublicense to a license directly between DFCI and Sublicensee. DFCI shall not unreasonably withhold its acceptance of such conversion under substantially the same financial terms and as those contained

the sublicense, however, as a condition of DFCI's acceptance, the Sublicensee must first agree to be bound by all of the non-financial provisions of this Agreement.

Article 9 - Indemnification, Defense and Insurance

9.1 LICENSEE shall indemnify, defend and hold harmless DFCI and its trustees, officers, medical and professional staff, employees, and agents and their respective successors, heirs and assigns collectively, (the "DFCI Indemnitees"), against any claim, liability, damage, deficiency, obligation, cost, loss or expense (including reasonable attorneys' fees and expenses of litigation) incurred by or imposed upon the DFCI Indemnitees, or any one of them, in connection with any claims, suits, actions, demands or judgments (a) arising out of the design, production, manufacture, sale, use in commerce, lease, or promotion by LICENSEE or by a Sublicensee, Affiliate, or agent of LICENSEE, of any product, process or service relating to, or developed pursuant to, this Agreement or (b) arising out of any other activities to be carried out pursuant to this Agreement. LICENSEE shall indemnify, defend by counsel reasonably acceptable to HHMI, and hold harmless HHMI and its trustees, officers, employees, and agents (collectively, "HHMI Indemnitees") from and against any claim, liability, cost, expense, damage, deficiency, loss, or obligation, of any kind or nature (including, without limitation, reasonable attorneys' fees and other costs and expenses of defense) (collectively, "Claims"), based upon, arising out of, or otherwise relating to this Agreement, including without limitation any cause of action relating to product liability. DFCI Indemnitees and HHMI Indemnitees may be referred to in this Agreement collectively as the "Indemnitees"). This Section will not apply to any Claim that is determined with finality by a court of competent jurisdiction to result solely from the gross negligence or willful misconduct of an Indemnitee.

9.2 LICENSEE shall, at its own expense, provide attorneys reasonably acceptable to DFCI to defend against any actions brought or filed against any party indemnified hereunder with respect to the subject of indemnity contained herein, whether or not such actions are rightfully brought.

9.3 If any such action is commenced or claim made or threatened against DFCI or other Indemnitees as to which LICENSEE is obligated to indemnify it (them) or hold it (them) harmless, DFCI or the other Indemnitees shall promptly notify LICENSEE of such event. In the case of any HHMI Indemnitee, notice shall be given reasonably promptly following actual receipt of written notice of the action or claim by an officer or attorney of HHMI. LICENSEE shall assume the defense of, and may settle, that part of any such claim or action commenced or made against DFCI (or other Indemnitees) which relates to LICENSEE's indemnification and LICENSEE may take such other steps as may be necessary to protect it. LICENSEE will not be liable to DFCI or other Indemnitees on account of any settlement of any such claim or litigation affected without LICENSEE's consent. The right of LICENSEE to assume the defense of any action is limited to that part of the action commenced against DFCI and/or Indemnitees that relates to LICENSEE's obligation of indemnification and holding harmless. Notwithstanding the foregoing, LICENSEE shall not settle any Claim against an HHMI Indemnitee without HHMI's written consent, where (a) such settlement would include any admission of liability on the part of any HHMI Indemnitee, (b) such settlement would impose any restriction on any HHMI Indemnitee's conduct of any of its activities, or (c) such settlement would not include an unconditional release of all HHMI Indemnitees from all liability for claims that are the subject matter of the settled Claim.

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9.4 LICENSEE shall require any Affiliates or Sublicensee(s) to indemnify, hold harmless and defend DFCI and HHMI under the same terms set forth in Sections 9.1 – 9.3 and Section 9.5.

9.5 HHMI is not a party to this Agreement and has no liability to any LICENSEE, sublicensee, or user of anything covered by this Agreement, but HHMI is an intended third-party beneficiary of this Agreement and certain of its provisions are for the benefit of HHMI and are enforceable by HHMI in its own name.

Insurance.

9.6 At such time as any product, process or service relating to, or developed pursuant to, this Agreement is being commercially distributed or sold (other than for the purpose of obtaining regulatory approvals) by LICENSEE or by a Sublicensee, Affiliate or agent of LICENSEE, LICENSEE shall, at its sole cost and expense, procure and maintain policies of commercial general liability insurance in amounts not less than $2,000,000 per incident and $2,000,000 annual aggregate and naming the Indemnitees as additional insureds. Such commercial general liability insurance must provide (a) product liability coverage and (b) contractual liability coverage for LICENSEE's indemnification under Sections 9.1 through 9.5 of this Agreement. If LICENSEE elects to self-insure all or part of the limits described above (including deductibles or retentions which are in excess of $250,000 annual aggregate), such self-insurance program must be acceptable to the DFCI and the DFCI's associated Risk Management Foundation. The minimum amounts of insurance coverage required under these provisions may not be construed to create a limit of LICENSEE's liability with respect to its indemnification obligation under Sections 9.1 through 9.5 of this Agreement.

9.7 LICENSEE or its insurance carrier shall provide DFCI with written evidence of such insurance upon request of DFCI. LICENSEE or its insurance carrier shall promptly notify DFCI, in the event that LICENSEE receives notice of cancellation, non-renewal or other material change in such insurance. LICENSEE acknowledges its obligation to maintain insurance coverage as described in Section 9.6. As such, in the event that LICENSEE receives notice of cancellation, non-renewal or other material change of such insurance, LICENSEE must elect to either (i) obtain replacement insurance providing comparable coverage or, (ii) implement a self-insurance program acceptable to DFCI and DFCI's associated Risk Management Foundation. LICENSEE shall provide written notice and proof that it has either obtained replacement insurance or implemented self-insurance program to DFCI at least fifteen (15) days prior to the cancellation or material change in such insurance coverage. Notwithstanding the foregoing, in the event that LICENSEE elects (ii) above, LICENSEE must provide DFCI and DFCI's associated Risk Management Foundation with sufficient information to allow a review and acceptance of LICENSEE's self-insurance program prior to aforementioned fifteen (15) day period.

If LICENSEE does not notify DFCI and provide proof that it has either obtained replacement insurance coverage or implemented a self insurance program acceptable to DFCI at least fifteen (15) days prior to the effective date of cancellation or material change in such insurance coverage, DFCI has the right to terminate this Agreement effective the date the insurance coverage is cancelled, not renewed or otherwise materially changed without additional waiting periods. In such event, DFCI agrees to provide written notice within twenty-four (24) hours pursuant to Article 11 ("Notices") to LICENSEE that this Agreement is terminated under Article 8.2.

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9.8 LICENSEE shall maintain such comprehensive general liability insurance beyond the expiration or termination of this Agreement during (a) the period that any product, process, or service, relating to, or developed pursuant to, this Agreement is being commercially distributed or sold (other than for the purpose of obtaining regulatory approvals) by LICENSEE or by a Sublicensee, Affiliate or agent of LICENSEE.

9.9 LICENSEE shall require any Affiliates or Sublicensee(s) to maintain insurance in favor of DFCI and the Indemnitees under the same terms set forth in Sections 9.6 – 9.8.

Article 10 - Disclaimer of Warranties

10.1 DFCI MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ANY PATENT, TRADEMARK, SOFTWARE, NON-PUBLIC OR OTHER INFORMATION, OR TANGIBLE RESEARCH PROPERTY, LICENSED OR OTHERWISE PROVIDED TO LICENSEE HEREUNDER AND HEREBY DISCLAIMS THE SAME.

10.2 DFCI DOES NOT WARRANT THE VALIDITY OF THE PATENT RIGHTS LICENSED HEREUNDER AND MAKES NO REPRESENTATION WHATSOEVER WITH REGARD TO THE SCOPE OF THE LICENSED PATENT RIGHTS OR THAT SUCH PATENT RIGHTS MAY BE EXPLOITED BY LICENSEE, AFFILIATE OR SUBLICENSEE WITHOUT INFRINGING OTHER PATENTS. DFCI MAKES NO REPRESENTATION THAT BIOLOGICAL MATERIALS OR THE METHODS USED IN MAKING OR USING SUCH BIOLOGICAL MATERIALS ARE FREE FROM LIABILITY FOR PATENT INFRINGEMENT OR THAT SUCH MATERIALS ARE NOT SUBJECT TO CLAIMS OF JOINT OWNERSHIP BY THIRD PARTIES.

10.3 THE LIABILITY OF DFCI, ITS AGENTS, OR ITS EMPLOYEES, WITH RESPECT TO ANY AND ALL SUITS, ACTIONS, LEGAL PROCEEDINGS, CLAIMS, DEMANDS, DAMAGES, COSTS AND EXPENSE ARISING OUT OF THE PERFORMANCE OR NON PERFORMANCE OF ANY OBLIGATION UNDER THIS AGREEMENT WHETHER BASED ON CONTRACT, WARRANTY, TORT (INCLUDING WITHOUT LIMITATION NEGLIGENCE), STRICT LIABILITY, STATUTORY OR OTHERWISE SHALL BE LIMITED TO DIRECT, ACTUAL DAMAGES INCURRED AS A RESULT OF DFCI's FAILURE TO PERFORM ITS OBLIGATIONS AS REQUIRED BY THIS AGREEMENT AND SHALL NOT EXCEED IN THE AGGREGATE A SUM EQUAL TO THE TOTAL AMOUNTS PAYABLE TO DFCI UNDER THIS AGREEMENT.

10.4 DFCI acknowledges that it has the right to enter into this Agreement.

10.5 FibroGen acknowledges that the license agreement between Imigen and FibroGen, effective October 13, 2003, is no longer an effective instrument.

Article 11 - Notices

11.1 **Notices to DFCI.** Unless otherwise specified in this Agreement, reports, notices and other communications from LICENSEE to DFCI as provided hereunder must be sent to:

Sr. Vice President for Research
Dana-Farber Cancer Institute
44 Binney Street
Boston, MA 02115

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With a copy sent to:

Vice President
Dana-Farber Cancer Institute
Office of Research and Technology Ventures
44 Binney Street
Boston, MA 02115

or other individuals or addresses as DFCI subsequently furnish by written notice to LICENSEE.

11.2 **Notices to LICENSEE.** Unless otherwise specified in this Agreement, reports, notices and other communications from DFCI to LICENSEE as provided hereunder must be sent to:

FibroGen, Inc.
225 Gateway Blvd
South San Francisco, CA, 94080
Attention: President
CC: Legal Department
650 –866-7200 (Phone)
650 –866-7201 (Fax)

or other individuals or addresses as LICENSEE subsequently furnish by written notice to DFCI.

Article 12 - Dispute Resolution

12.1 **Negotiation between the Parties**. The parties shall first attempt to resolve any controversy that arises from this Agreement, or claim for breach of the Agreement, by good faith negotiations, first between their respective business development representatives and then, if necessary, between senior representatives for the parties, such as the Sr. Vice President for Research or President of DFCI or the President of LICENSEE.

12.2 **Non-Binding Mediation.** If the controversy or claim cannot be settled through good faith negotiation between the parties, the parties agree first to try in good faith to settle their dispute by non-binding mediation under the Mediation Rules of the American Arbitration Association, before resorting to arbitration, litigation or other dispute resolution procedure. For the sake of clarity, no dispute affecting the rights or property of HHMI shall be subject to binding arbitration unless HHMI so agrees after the dispute arises.

Article 13 - Independent Contractor

For the purpose of this Agreement and all services to be provided hereunder, both parties are and will be deemed to be, independent contractors and not agents or employees of the other. Neither party has authority to make any statements, representations or commitments of any kind, or to take any action, that will be binding on the other party.

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Article 14 - Severability

If any one or more of the provisions of this Agreement is held to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions of this Agreement will not in any way be affected or impaired thereby.

Article 15 - Non-assignability

Neither this Agreement nor any part of the Agreement is assignable by either party without the express written consent of the other, which consent a party will not unreasonably withhold. However, LICENSEE may assign this agreement in conjunction with the sale of essentially all of its related business assets. Any attempted assignment without such consent is void.

Article 16 - Entire Agreement

This instrument contains the entire Agreement between the parties. No verbal agreement, conversation or representation between any officers, agents, or employees of the parties either before or after the execution of this Agreement may affect or modify any of the terms or obligations herein contained.

Article 17 - Modifications in Writing

No change, modification, extension, or waiver of this Agreement, or any of the provisions herein contained is valid unless made in writing and signed by a duly authorized representative of each party.

Article 18 - Governing Law

The validity and interpretation of this Agreement and the legal relations of the parties to it are governed by the laws of the State of New York without regard to any choice of law principal that would dictate the application of the law of another jurisdiction.

Article 19 - Captions

The captions are provided for convenience and are not to be used in construing this Agreement.

Article 20 - Construction

The parties agree that they have participated equally in the formation of this Agreement and that the language herein should not be presumptively construed against either of them.

Article 21 - Force Majure

Either party shall be excused from any performance required hereunder if such performance is rendered impossible or unfeasible due to any catastrophe or other major event beyond its reasonable control, including, without limitation, war, riot, and insurrection; laws, proclamations, edicts, ordinances, or regulations; strikes, lockouts, or other serious labor disputes; and flood, fires, explosions, or other natural disasters. When such events have abated, the parties' respective obligations shall resume.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Article 22 - Lapse

The terms contained in this Agreement shall be null and void if the certificate of merger with the Secretary of State of the State of Delaware for the Imigen Acquisition is not filed on or before February 28, 2006.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed in quadruplicate by their duly authorized representatives as of the date first above written.

DANA-FARBER CANCER INSTITUTE, INC.	FIBROGEN, INC.
By: /s/ Anthony del Campo	By: /s/ Thomas B. Neff
Anthony A. del Campo, MBA	Thomas B. Neff
V. P., Research and Technology Ventures	Chief Executive Officer
Date: 2/1/2006	Date: 26 Jan 06

L:2836

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Schedule 1

Exclusively Licensed Biological Materials

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Schedule 2

Non-Exclusively Licensed Biological Materials

[*]

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Schedule 3

Patent Rights

[*]

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Exhibit 10.25

AMENDMENT NO. 1 TO LICENSE AGREEMENT

This Amendment No. 1, effective February 28, 2006, to the License Agreement effective upon the Effective Time (the "Agreement"), by and between Dana-Farber Cancer Institute, Inc., and FibroGen, Inc. and its subsidiaries (collectively, the "Parties"). The Parties, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agree as follows:

(1) Article 22 is replaced in it's entirety with the following:

"The terms contained in this Agreement shall be null and void if the certificate of merger with the Secretary of State of the State of Delaware for the Imigen Acquisition is not filed on or before March 15, 2006."; and

(2) Except as otherwise provided herein, the Agreement has not been modified or amended and remains in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment No. 1 to License Agreement as of the effective date set forth above.

FIBROGEN, INC.	DANA FARBER CANCER INSTITUTE, INC.
By: /s/ Thomas B. Neff	By: /s/ Anthony del Campo
Name: T.B. Neff	Name: Anthony A. del Campo, M.B.A.
Title: CEO	Title: Vice President, Research and Technology Ventures, Dana Farber Cancer Institute
Date: 28 Feb 2006	Date: 2/28/2006

Confidential

Exhibit 10.26

AMENDMENT NO. 2 TO LICENSE AGREEMENT

This Amendment No. 2, effective March 14, 2006, to the License Agreement effective upon the Effective Time as amended on February 28, 2006 (the "Agreement"), by and between Dana-Farber Cancer Institute, Inc., and FibroGen, Inc. and its subsidiaries (collectively, the "Parties"). The Parties, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agree as follows:

(1) Article 22 is replaced in it's entirety with the following:

"The terms contained in this Agreement shall be null and void if the certificate of merger with the Secretary of State of the State of Delaware for the Imigen Acquisition is not filed on or before March 30, 2006."; and

(2) Except as otherwise provided herein, the Agreement has not been modified or amended and remains in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment No. 2 to License Agreement as of the effective date set forth above.

FIBROGEN, INC.		DANA FARBER CANCER INSTITUTE	
By:	/s/ Thomas B. Neff	By:	/s/ Anthony del Campo
Name:	Neff	Name:	Anthony A. del Campo, M.B.A.
Title:	CEO	Title:	Vice President, Research and Technology Ventures, Dana Farber Cancer Institute
Date:	15 Mar 2006	Date:	3/14/2006

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit 10.28(i)

PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

This Process Development and Clinical Supply Agreement ("Definitive Agreement") is made

by and among

FIBROGEN, Inc.
225 Gateway Boulevard
South San Francisco, CA 94080
USA

(hereinafter called "FibroGen"),

and

Boehringer Ingelheim Pharma GmbH & Co. KG
Birkendorfer Straße 65
88397 Biberach an der Riss
Germany

(hereinafter called "BI Pharma")

(hereinafter BI Pharma and FibroGen each shall also be called "Party" and collectively "Parties" as the case may be).

EFFECTIVE DATE: 29 November 2007

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Preamble

WHEREAS, FibroGen is a company engaged in the design and development of innovative drugs; and

WHEREAS, BI Pharma has know-how and expertise to develop production processes for biopharmaceuticals towards **[*]** scale volumes and within international regulatory requirements; and

WHEREAS, Parties have previously entered into a Confidentiality Agreement and an Authorization to Proceed, each as defined below; and

WHEREAS, FibroGen wishes to have BI Pharma, and BI Pharma has agreed to, develop a **[*]** production cell line and a **[*]** production process for the production of FibroGen's Product with the aim under this Definitive Agreement to produce material for preclinical and clinical testing; and

WHEREAS, FibroGen is willing to, following such preclinical and clinical testing, provide BI Pharma hereunder with an option regarding **[*]** manufacture of the Product.

NOW THEREFORE and in consideration of the mutual covenants set forth in this Definitive Agreement, BI Pharma and FibroGen hereby agree as follows:

1. Definitions

1.1 "Acceptance Criteria"

shall mean the (preliminary or final, as the case may be) Specifications of the Product for clinical use set forth in Appendix 9, accompanied by a Confirmation of Compliance and Certificate of Analysis, and review and approval by FibroGen of the respective executed Batch Records (as defined in the Quality Agreement).

1.2 "Authorization to Proceed" or "ATP"

shall mean the Authorization to Proceed which covered initial development work on the Product entered into between the Parties on the 12th July 2006 and amended by Amendments effective as of September 14, 2006, November 14, 2006 and February 15, 2007, and a Letter Agreement as of May 25, 2007, the Additional Letter Agreement as of June 15, 2007, the Second Additional Letter Agreement of June 29, 2007, the Third Additional Letter Agreement of July 23, 2007, and the Fourth Additional Letter Agreement of August 29, 2007, each attached to this Definitive Agreement as Appendix 8.

1.3 "Batch"

shall mean Product from one fermentation run using the Process.

1.4 "BI Pharma Contribution"

shall mean the **[*]** provided by BI Pharma and which comprise a portion of the Product **[*]**, as set forth on Appendix 11 hereto.

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1.5 "Product [*]"

shall mean the **[*]**.

1.6 "BI Pharma Confidential Information and Know-How"

shall mean all existing or future confidential technical or other information relating to (a) the Biberach Facility, (b) BI Pharma Technology, (c) the Process, (d) the BI Pharma Contribution, (e) BI Pharma Improvements, (f) BI Pharma Information as defined in the CDA, and/or (g) know-how for the development and manufacture of biopharmaceuticals generally, in each case (a)-(g) whether patented or not patented, including, without limitation, trade secrets, know-how, processes, concepts, experimental methods and results and business and scientific plans that are disclosed or supplied to FibroGen or used in connection with the Project.

1.7 "BI Pharma Intellectual Property"

shall have the meaning set forth in Section 9.2.2.

1.8 "BI Pharma Technology"

shall mean the Technology developed or obtained by or on behalf of BI Pharma (i) prior to May 18, 2006 or (ii) independent of the ATP or this Definitive Agreement and activities conducted thereunder and hereunder without the use of the of FibroGen Information (as defined in the CDA) or the Materials, including without limitation, the BI Pharma proprietary technology known as **[*]** and the Process.

1.9 "Biberach Facility"

shall mean the biotech buildings at the Biberach, Germany, site of BI Pharma.

1.10 "Certificate of Analysis"

shall mean, with respect to a Batch, that complete and accurate document setting forth the measured and observable characteristics of each Batch as required by the Acceptance Criteria, as dated, executed and provided to FibroGen by BI Pharma.

1.11 "Confirmation of Compliance"

shall mean BI Pharma's complete and accurate certificate, executed and delivered to FibroGen in connection with each Batch of Product, confirming that such Batch of Product was manufactured according to cGMPs, the Process and applicable laws at the place of manufacturing, and setting forth any deviations therefrom and the results of final investigations thereof including a summary of environmental monitoring limit excursions for aseptic filling if applicable.

1.12 "cGMPs"

shall mean current Good Manufacturing Practice regulations as codified in:
The Rules Governing Medicinal products supplied in the European Union: Volume 4 — Medicinal products supplied for Human and Veterinary Use: Good Manufacturing Practice, as amended from time to time; the United States Code of Federal Regulations, title 21, parts 210, 211, 600 and 610, as amended from time to time; and the International Committee on Harmonisation and other comparable guidelines, directives or standards required by governmental authorities in the United States and the European Union.

1.13 "Confidentiality Agreement" or "CDA"

shall mean the Confidentiality Agreement between the Parties entered into on August 4, 2004 and amended on May 15, 2006.

1.14 "CTGF"

shall mean the protein known as Connective Tissue Growth Factor.

1.15 "Deliverables"

shall have the meaning specified in Section 2.3 hereof.

1.16 "Effective Date"

shall mean the date of commencement of this Definitive Agreement as mentioned on the cover page above.

1.17 "Exclusivity Period"

shall have the meaning specified in Section 6.1 hereof.

1.18 "FibroGen Confidential Information and Know-How"

shall mean all existing or future confidential technical or other information relating to (a) the Materials, (b) plasmids for the Product (c) FibroGen Information as defined in the CDA, (d) the FibroGen Technology, and/or (e) know-how for the development and manufacture of biopharmaceuticals, in each case (a) — (e), whether patented or not patented, and including, without limitation, all know-how, trade secrets, inventions, patent applications, processes, concepts, experimental methods, and results and any other information concerning FibroGen 's financial situation, business plans, and its research and product designs, that are disclosed or supplied to BI Pharma in connection with the Project, or used on behalf of FibroGen by BI Pharma pursuant to this Definitive Agreement.

1.19 "FibroGen Contribution"

shall mean the **[*]** provided by FibroGen and used in creation of the Product **[*]**, as set forth on Appendix 12.

1.20 "FibroGen Intellectual Property"

shall have the meaning specified in Section 9.2.1 hereof.

1.21 "FibroGen Technology"

shall mean (i) the Materials, including the FibroGen Contribution, (ii) the Product, and any modifications, derivatives, or fragments thereof, and (iii) the Technology of FibroGen developed or obtained by or on behalf of FibroGen (x) prior to the Effective Date or (y) independent of and without the use of BI Pharma Confidential Information and Know-How.

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1.22 “Improvements”

shall mean all Technology, discoveries and inventions, and all modifications, derivatives and improvements thereto or new uses thereof (whether or not protectable under patent, trademark, copyright or similar laws) that are discovered, developed or reduced to practice by BI Pharma in the performance of this Definitive Agreement or the ATP.

1.23 “Knowledge”

shall mean that which a Party **[*]**.

1.24 “Manufacturing Titer”

shall mean the yield of Product obtained from a particular manufacturing run after purification, expressed in grams of Product per liter of media used in such manufacturing run.

1.25 “Materials”

shall mean cDNA encoding a human antibody directed to CTGF and currently designated by FibroGen as FG-3019, cell lines, constructs, reagents, antibodies and/or other materials as laid down in detail in Appendix 1, as amended from time to time, and any know-how or data relating directly thereto and provided with such cDNA to BI Pharma by or on behalf of FibroGen.

1.26 “Other Improvements”

shall have the meaning set forth in Section 9.2.3.

1.27 “Process”

shall mean all the steps involved in the BI Pharma in-part proprietary and in-part non-proprietary manufacturing process using the Product **[*]** to produce the Product, including, without limitation, the manufacture, testing and packaging thereof.

1.28 “Process Description”

shall mean a controlled document, approved by authorized technical and quality representatives of both Parties, that documents the general outline of the Process. It includes all relevant Process parameters to be met and equipment and raw materials to be used.

1.29 “Product”

shall mean the human monoclonal antibody directed at CTGF, expressed from the FibroGen Contribution provided to BI Pharma and formulated either as bulk drug substance or in final dosage form as drug product, as the context requires.

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1.30 "Project"

shall mean the activities set forth on the Project Plans attached in Appendix 2, as may be amended from time to time, including without limitation the cell line development program and process development program for the Product.

1.31 "Project Fee"

shall have the meaning specified in Section 3.1 hereof.

1.32 "Project Manager"

shall have the meaning specified in Section 2.1.1 hereof.

1.33 "Project Team"

shall have the meaning specified in Section 2.1.2 hereof and at the Effective Date shall consist of the persons listed in Appendix 3.

1.34 "QAA"

shall mean the Quality (Assurance) Agreement entered into between the Parties simultaneously with this Agreement and attached hereto as Appendix 6.

1.35 "Specification(s)"

shall mean all the tests, analytical methods and acceptance criteria and/or limits, and the results thereof, as applicable, agreed by the Parties, within which the Product has to conform to be considered acceptable by FibroGen, attached hereto as Appendix 9. The Parties are in agreement, that in the first instance they will agree on **[*]**, which shall be fixed to final Specifications **[*]** in accordance with Section 2.4.

1.36 "Steering Committee"

shall have the meaning specified in Section 2.1.3 hereof.

1.37 "Technology"

shall mean all cDNA, cell lines, cell banks, master cell banks, constructs, reagents, antibodies and/or other tangible materials, methods, techniques, processes, trade secrets, copyrights, know-how, data, documentation, regulatory submissions, specifications and other intellectual property of any kind (whether or not protectable under patent, trademark, copyright or similar laws).

2. Cooperation between the Parties in the Course of the Project

2.1 Personnel

2.1.1. Designation of Project Manager

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Upon commencement of this Definitive Agreement BI Pharma and FibroGen will each appoint a Project Manager who will coordinate and supervise the Project including communication of all instructions and information concerning the Project to the other Party. The Project Manager will serve as contact person for the other Party. Each Project Manager will be available on an agreed **[*]** basis for consultation at prearranged times during the course of the Project. Project Managers shall be copied on all correspondence by other Project Team members and all correspondence between the Parties. In the absence of the Project Manager, a substitute shall be appointed. Additional modes or methods of communication and decision making may be implemented with the mutual written consent of each Party. Each Party will use reasonable efforts to provide the other Party with **[*]** prior written notice of any change in such Party's Project Manager.

2.1.2. Project Team

The Parties shall establish a Project Team consisting of the necessary disciplines and their respective Project Manager to (a) ensure the progress of the Project, (b) coordinate the performance of the Project, and (c) facilitate communication among the Parties. Each Project Team member shall have knowledge and ongoing familiarity with the Project and will possess the authority to make decisions on matters likely to be raised in the Project Team. Notwithstanding Section 2.1 each Party shall have the right to substitute its members of the Project Team as needed from time to time by giving written notice to the other Party due time in advance.

The Project Team shall meet in person or by means of a video conference or teleconference on a periodic basis (a) as agreed by the Project Managers within **[*]** after written request for such meeting by either Party, or (b) as specified in the Project Plan (Appendix 2).

The Project Team shall oversee the Project. Prior to each meeting of the Project Team the Parties will distribute to each other written copies of all materials, data and information arising out of the conduct of their activities hereunder.

Each Party shall bear its own costs associated with such meetings and communications. It is the right of each Party to call for a Project Team meeting according to the covenants of this Section 2.1 upon written request at any time. In such case the meeting will be held at the other Party's offices (or by means of videoconference or teleconference upon suggestion of the requesting Party) at a time mutually agreed to by both Project Managers if not otherwise agreed between the Parties.

The requesting Party shall prepare minutes of the meeting which shall be circulated promptly following the meeting.

The current members of the Project Team and the Project Managers are set forth in Appendix 3 attached hereto.

2.1.3. Steering Committee

The Parties shall form a Steering Committee, to which each Party will appoint **[*]** executive employees, including the Project Managers, all of whom shall be familiar with the Project. The Steering Committee shall have general oversight and review of the activities of the Project Team and shall resolve any issues referred to the Steering Committee by the Project Team.

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The Steering Committee shall meet within **[*]** after receipt of a written request by one Party to the other Party. The request shall describe the matter in dispute and the solution which the requesting Party proposes to be decided.

The Steering Committee will take action by unanimous consent of the Parties, with the representatives of each Party collectively having a single vote, or by a written resolution signed by all of the representatives. If the Steering Committee is unable to reach unanimous consent on a particular matter, then the matter will be referred to the chief executive officers of the Parties, who will use good faith efforts to resolve such matter.

The members of the Steering Committee and the names of the respective chief executive officers of the Parties are set forth in Appendix 3 attached hereto.

2.2 Conduct of the Project and BI Pharma's Work and Tasks

The Parties shall engage in the Project upon the terms and conditions set forth in this Definitive Agreement. In the course of this Definitive Agreement the Parties shall perform the Project as laid down and detailed in Appendix 2 (Project Plan including Project Timeline). Upon mutual agreement by the Parties, additional manufacturing runs may be performed by BI Pharma under work plans added as amendments to Appendix 2.

Each Party shall fully and reasonably cooperate with the other Party to provide appropriate information and assistance to the other Party in connection with the Project, responding in a reasonable and timely manner with respect to all reasonable requests for information and approval. Neither Party shall be liable for any delays in its performance of the Project to the extent caused solely by the other Party's failure to provide in a reasonably timely manner any information or approval reasonably requested by the other Party.

BI Pharma shall assign a sufficient number of professionally qualified personnel to perform the Project and shall perform its tasks under this Definitive Agreement according to the generally acceptable professional and then current industry standards and subject to terms and conditions as set forth herein, at all times in compliance in all material respects with all requirements of applicable laws and regulations. BI Pharma will **[*]** to achieve the estimated timelines as laid down in Appendix 2. Changes to the Project Plan including the Project Timeline, if any, shall require the written consent of both Parties.

2.3 Deliverables

BI Pharma will deliver the Deliverables laid down in detail in the Project Plan within the timelines laid down in the Project Plan (Appendix 2) to FibroGen. Following the completion of the activities required under the Project, BI Pharma will provide to FibroGen then available Product and a summary containing manufacturing and analytical testing, including without limitation, the information and the results of the respective development phase according to the workscope as further described in the Project Plan (Appendix 2).

2.4 Project is Experimental in Nature

As the Product has never been produced at **[*]**, FibroGen acknowledges that the Project is experimental in nature and that no favorable or useful result **[*]** can be assured by BI Pharma. However, after **[*]** (**[*]**), the Parties shall in good faith agree on a revision (if necessary) to the preliminary specifications that shall then be the Specifications for subsequent runs in subsequent campaigns that shall form a basis for rejection or acceptance of the Product

produced in any additional runs at **[*]** under the provisions of Section 4.1, and, provided that the Process and the Product **[*]** have not been materially changed, the Project shall no longer be considered experimental in nature and the obligation to meet Specification shall apply to all future runs at **[*]**.

2.5 Additional Work

In case that the Parties agree on additional work for the benefit of the Project, BI Pharma shall perform such additional work to sustain the progress of the Project on conditions in terms of money, time and scope to be subject to mutual written agreement of the Parties hereto and defined in an amendment to the Project Plan.

2.6 FibroGen Confidential Information and Know-How and Material

To the extent not already transferred by FibroGen under the Authorization to Proceed, FibroGen shall transfer the Materials to BI Pharma subject to the terms of this Section 2.6, and BI Pharma shall use such Materials solely to conduct the Project in accordance with the Project Plan, this Definitive Agreement, or as otherwise may be agreed to by the Parties in writing. The Materials will not be used by BI Pharma in connection with any diagnosis, treatment or any activity in humans or for any use not directly related to the Project. BI Pharma's use of the Materials will be in compliance with all applicable federal, state and local laws and regulations in Germany. BI Pharma accepts the Materials with the knowledge that they are experimental. The Materials may not be transferred or otherwise made available, in whole or in part, by BI Pharma to any other individual, entity or institution, including institutions and entities affiliated or under contract with BI Pharma without the prior written consent of FibroGen, which may be withheld by FibroGen for any reason. Such consent is **[*]** on a **[*]** as further discussed, agreed and documented in the Project Team.

The Materials are the property of FibroGen. It is agreed that the transfer of the Material hereunder shall be a bailment and shall not constitute a sale of Material or a grant, option or license of any patent or other rights except to allow BI Pharma to perform the Project. FibroGen shall retain and have all right, title and interest in and to the Materials.

Any Improvements that arise from any unauthorized use of FibroGen Confidential Information and Know-How (i.e. that are not specifically authorized under this Agreement) shall be owned by and are hereby assigned to FibroGen.

FibroGen will inform BI Pharma in a timely manner about any safety issues of which FibroGen becomes aware relating to the handling of the Materials and the Product (including but not limited to the FibroGen Contribution), after the date of the execution of this Definitive Agreement.

BI Pharma shall at all times take reasonable measures to protect the Materials from loss or damage and in no event measures less than employed by BI Pharma in the protection of its own proprietary materials, and shall promptly notify FibroGen if at any time it believes any Materials have been damaged, lost or stolen. BI Pharma will ensure that the Materials remain free and clear of any liens or encumbrances.

THE MATERIALS HAVE BEEN GIVEN TO BI PHARMA **[*]** AND ARE PROVIDED "AS IS" WITH NO WARRANTIES EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

FibroGen and BI Pharma hereby acknowledge and agree that FibroGen is providing FibroGen Confidential Information and Know-How to BI Pharma for its use by BI Pharma on behalf of and for the benefit of FibroGen for the purposes of this Definitive Agreement, and BI Pharma will make use thereof solely for such purposes and FibroGen hereby consents to such use.

2.7 General policy regarding BI Pharma Confidential Information and Know-How

A general policy regarding BI Pharma Confidential Information and Know-How is laid down in Appendix 5. In the event of any inconsistency between Appendix 5 and this Definitive Agreement, this Definitive Agreement shall prevail.

3. Project Fee and Payments

3.1 Project Fee

As consideration for BI Pharma's performance of the Project, FibroGen shall pay BI Pharma the fees set forth in the payment schedule in Appendix 2 (the "Project Fee"). BI Pharma's **[*]** for its performance of the Project, including without limitation, **[*]** in the Project Fees. BI Pharma will inform FibroGen and seek its consent in advance of including any raw materials in the Process that will cause extraordinary costs.

3.2 Invoicing and Payment

BI Pharma shall invoice FibroGen for Project Fees and for Product intended for clinical use according to the Payment Schedule in Appendix 2.

FibroGen shall make payment of all undisputed invoiced amounts net **[*]** from the date of receipt of BI Pharma's invoice. If FibroGen fails to make timely payment when due under this Definitive Agreement, interest shall accrue at a fixed annual rate equal to **[*]** in The Wall Street Journal on the day that payment was due. All payments due under this Definitive Agreement shall be paid in Euros by wire transfer or by such other means agreed to in writing by the Parties. FibroGen will provide at least **[*]** advance notice to BI Pharma of each wire transfer to the bank account as BI Pharma shall designate in writing.

4. Delivery Terms of Product for Clinical Use

4.1 General

BI Pharma shall (a) deliver to FibroGen or, (b) at the request of FibroGen, store Product on a "bill and hold" basis for further processing, the agreed amounts of the Product produced according to the Project Plan in accordance with agreed upon schedules, at the prices set forth in Appendix 2. Delivery of all Product by BI Pharma shall be made **[*]** (Incoterms 2000). Material that is requested to be stored shall be held by BI Pharma for further processing and BI Pharma shall **[*]** for Product held for further processing upon acceptance of the Product by FibroGen, on the terms and conditions as set forth in Appendix 13. BI Pharma shall package and arrange for shipment of Product to the delivery address specified by FibroGen, all in accordance with the instructions of FibroGen, provided that FibroGen **[*]** of Product in accordance with **[*]**. Each shipment will include a Certificate of Analysis, a Confirmation of Compliance and such other documentation as reasonably required to meet all applicable statutory and regulatory requirements. Delivery of Product shall be subject to quality and other provisions affixed as Appendix 6 to this Definitive Agreement. The Parties shall cooperate reasonably to obtain all customs licenses or permits necessary to ship Product (the evaluation of which customs licenses or permits required shall be **[*]**), and no shipment shall be made until such licenses or permits, if any, have been obtained

FibroGen shall diligently examine Product delivered under this Definitive Agreement as soon as practicable after receipt. Notice of all claims arising out of (i) damage to or total or partial loss of Product or such other item in transit shall be given in writing to BI Pharma and the carrier or (ii) non-delivery shall be given in writing to BI Pharma within **[*]** after the date of BI Pharma's dispatch notice. FibroGen shall make damaged Product available for inspection and shall comply with the requirements of any insurance policy covering Product. BI Pharma shall offer FibroGen all reasonable assistance, **[*]**, in pursuing any claims arising out of the transportation of Product.

Except as otherwise provided herein and as set forth in Section 2.4, FibroGen shall have **[*]** from the date of delivery of Product in order to evaluate Product and accept or reject such delivery; provided that FibroGen shall only be permitted to reject Product if (a) BI Pharma fails to deliver a Certificate of Analysis and a Confirmation of Compliance, (b) the Product does not meet the Acceptance Criteria or (c) the Product, if intended for human use, was not manufactured in accordance with cGMPs and applicable laws at the place of manufacturing.

FibroGen will have no obligation to accept any Product that does not meet the foregoing requirements. If FibroGen determines after reviewing the relevant documentation and performing reasonable testing that any Batch does not meet such requirements, or if Product is determined by BI Pharma to be unsuitable for release, then the Parties will mutually agree, as promptly as reasonably possible, whether (a) to produce a new Batch at BI Pharma's cost and expense, including the costs of materials used in the manufacture of such Batch, or (b) to rework or reprocess the Batch, at BI Pharma's cost and expense, so that the Batch can be deemed to have been manufactured in compliance with cGMP and the agreed Process Description, and to conform to the Acceptance Criteria, or (c) BI Pharma shall credit in full the fees and expenses paid by FibroGen for such Batch, including the costs of materials used in the manufacture of such Batch or, if there are no further orders of Product or such credit exceeds the amount to be paid by FibroGen for any future orders, refund all uncredited or excess amounts to FibroGen. If the remedy set forth in either (a) or (b) is agreed to be performed by BI Pharma, then BI Pharma shall start the applicable work as soon as reasonably practicable, such that the next available manufacturing slot shall be used by BI Pharma to produce Product, with the goal to resupply within **[*]** from time of rejection by FibroGen. For the avoidance of doubt, if drug product is not accepted by FibroGen as provided above, then BI Pharma's obligations set forth above shall apply both to the drug product and the bulk drug substance contained therein.

Notwithstanding the foregoing, the Parties agree that BI Pharma will perform a minimum of **[*]** runs in the initial campaign for production of the Product at the **[*]** scale, as outlined in the Project Plan. FibroGen shall accept or reject the Product for (i) the **[*]** runs according to the procedures and requirements set forth in this Section 4.1, and (ii) the **[*]** or — if applicable — subsequent runs according to the procedures and requirements set forth in this Section 4.1, provided, however, that with respect to any such **[*]** and — if applicable — subsequent runs, FibroGen shall only be responsible to accept and pay for the Product produced in the event that such Product meets the Acceptance Criteria and is qualified for use by regulatory authorities in **[*]** for use by FibroGen in clinical studies.

In the event FibroGen rejects Product for failure to meet Acceptance Criteria, BI Pharma shall have the right to sample and retest the Product, which shall be done as soon as practicable. In the event of a discrepancy between FibroGen's and BI Pharma's test results such that one Party's results fall within the Acceptance Criteria and the other Party's test results fall outside

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the Acceptance Criteria, or there exists a dispute over whether such failure is due (in whole or in part) to acts or omissions of FibroGen or any third party after Delivery, the Parties shall cause a testing laboratory agreeable to both Parties to perform comparative tests and/or analyses on samples of the alleged defective Product. The testing laboratory's results shall be in writing and shall be final and binding save for manifest error on the face of its report. Unless otherwise agreed to by the Parties in writing, the costs associated with such testing and review shall be borne by the Party against whom the testing laboratory rules. The testing laboratory shall be required to enter into written undertakings of confidentiality no less burdensome than set forth or referred to by this Definitive Agreement.

4.2 Access to Facility

Upon reasonable notice FibroGen and its duly authorized representatives (which will consist of at least one quality representative and one technical representative) will — upon BI Pharma's agreement regarding timing and specific manufacturing areas, which shall not be unreasonably withheld — have reasonable access to BI Pharma's facilities used to manufacture Product, during operating hours and during active manufacturing of Product, to inspect the facility and manufacturing process to ascertain compliance by BI Pharma with the requirements of cGMP, the Acceptance Criteria and applicable German law in a manner that is customary in the biopharmaceutical contract manufacturing business.

4.3 Recall

BI Pharma shall reimburse to FibroGen the cost of any recall due to BI Pharma's breach of this Definitive Agreement or the Quality Agreement, or BI Pharma's negligence or willful misconduct by replacing the respective Product (or credit or refund, as set forth in Section 4.1, third paragraph (a) and (c), respectively) and paying the costs to return the Product.

5. Ownership and Use of Project Data and Cell Banks.

5.1 Project Data

In consideration of the Project Fee:

(a) BI Pharma shall carry out the Project and provide FibroGen with a summary containing the results from manufacturing and analytical release and also shall provide FibroGen with summary report with results on the various stages of cell line development and process development;

(b) BI Pharma shall supply FibroGen with data, results and information required to comply with any request of any applicable regulatory body or to comply with such regulatory body's requirement; and

(c) BI Pharma shall prepare the draft chemistry, manufacturing and controls section of any regulatory filing supporting the clinical development or application for marketing approval of the Product for **[*]** or other similar filing. FibroGen shall review, finalize and approve the chemistry, manufacturing and controls section of any regulatory filing drafted by BI Pharma. BI Pharma shall timely perform a final review of the chemistry, manufacturing and controls section of any such regulatory filing for accuracy of content of such section prior to filing by FibroGen with the relevant regulatory authorities. FibroGen may use the same information as provided for **[*]** for filing in other jurisdictions, in which regulatory approval is sought for which FibroGen gives BI Pharma prior written notice. Certain trade secret information may be provided by BI Pharma via DMF or similar filing (e.g. to a notified body) directly to the respective authorities.

(d) For the avoidance of doubt, subject to FibroGen's confidentiality obligations hereunder and without affecting the ownership of Improvements as set forth in Section 9, all Product specific reports (including but not limited to development reports, including SOP's, if Product specific) generated as a result of the BI Pharma's performance under this Definitive Agreement will be the sole and exclusive property of FibroGen **[*]**. This should not prevent BI Pharma to comply with regulatory requirements.

5.2 Use of the Process

Except as set forth in this Definitive Agreement, the Process shall not be used by FibroGen outside the scope of this Definitive Agreement.

The BI Pharma Contribution or cells derived therefrom contain **[*]**, e.g. **[*]**, which use is **[*]**. Any use outside of this Definitive Agreement, e. g. **[*]** may affect BI Pharma´s and/or third party rights. BI Pharma hereby represents and warrants that the use of the BI Pharma Contribution, **[*]** and the Process pursuant to and in compliance with this Definitive Agreement, including pursuant to the licenses granted to FibroGen hereunder, as of the Effective Date does not, to the Knowledge of BI Pharma, infringe any third party rights, and that no third party has made any claim to the contrary.

5.3 Licenses

Terms and conditions for the use of BI Pharma Confidential Information and Know-How by FibroGen, are laid down in Appendix 4. BI Pharma hereby grants to FibroGen [*], irrevocable, non-exclusive, sublicenseable, license under BI Pharma Technology and the BI Pharma Confidential Information and Know-How to make, have made, use, import, offer for sale and sell the Product for all purposes subject to the terms set forth in this Definitive Agreement. In the event that BI Pharma exercises its Option(s) set forth in Section 6, this license shall be royalty-free, or royalty bearing depending upon the circumstances set forth in Appendix 4

6. [*] Manufacture

6.1 BI Pharma's Option for [*] Contract Manufacturing

6.1.1. BI Pharma Option Part 1

FibroGen hereby grants to BI Pharma the "BI Pharma Option Part 1", a first option to manufacture and supply **[*]** Product using the Process with the Product **[*]** on **[*]** basis. Such option must be exercised by BI Pharma no later than **[*]**, and such option will lapse if not exercised by BI Pharma by such date. This BI Pharma Option Part 1 for **[*]** Product at **[*]** scale by BI Pharma shall give BI Pharma the right and the obligation to conduct, to the extent Product is required by FibroGen, **[*]** runs at **[*]** scale per **[*]** period for a period of **[*]** periods commencing with **[*]**. In addition, BI Pharma will be entitled and obligated, to supply **[*]** of FibroGen's **[*]** Product requirement in a calendar year during such period, up to a total of **[*]** in any calendar year **[*]**. If however, FibroGen does not require **[*]** (defined as **[*]** or **[*]** in the **[*]** based on the respective Manufacturing Titer achieved by BI Pharma) in a particular **[*]** period, always subject to the agreed forecasting system and as further defined in any **[*]** supply agreement for the Product, FibroGen will **[*]**, which will be deemed to satisfy **[*]** obligation of FibroGen owed to BI Pharma.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

6.1.2. BI Pharma Option Part 2

FibroGen hereby grants to BI Pharma the "BI Pharma Option Part 2", an option, exercisable by BI Pharma only if it has properly exercised the BI Pharma Option Part 1 and the Parties have entered into the **[*]** supply agreement described in Section 6.2, to increase **[*]** to the amount produced in **[*]** runs at **[*]** in any **[*]** period of the **[*]** periods measured from **[*]** and **[*]** to **[*]** in any such **[*]** period. Such option must be exercised by BI Pharma no later than **[*]** after receipt of written notification by FibroGen of proof of concept of the Product in the indication **[*]** (currently anticipated to occur in **[*]**, but subject to change based on FibroGen's Product and business plans), and such BI Pharma Option Part 2 will lapse if not exercised by BI Pharma by such date. Effective upon BI Pharma's proper exercise of the BI Pharma Option Part 2, **[*]** will be increased to the levels set forth in this paragraph.

6.1.3. Negotiations, etc.

It is hereby understood by the Parties that BI Pharma Option Part 1 and BI Pharma Option Part 2 to manufacture and supply the Product **[*]** are subject to **[*]** and **[*]** and **[*]**, which are **[*]**. Subject to BI Pharma Option Part 1 and BI Pharma Option Part 2, FibroGen will be free and BI Pharma will assist FibroGen to source Product from another manufacturer as described in the following paragraph, in a timely manner and taking into account the necessary lead time. The Parties also agree that if during the exclusive **[*]** supply period BI Pharma fails to timely fill any order for Product for any reason, **[*]** will be due on amounts of Product produced by another supplier and **[*]**.

6.1.4. Termination Right by FibroGen

On lapse of the BI Pharma Option Part 1 for any reason, or if BI Pharma materially breaches this Definitive Agreement, then (a) FibroGen may terminate the Definitive Agreement (subject, in the case of a material breach by BI Pharma only, to the terms described in Section 11.2.2, and (b) BI Pharma will (i) grant FibroGen **[*]**, irrevocable, non-exclusive, fully sublicensable, **[*]** license to all the BI Pharma Technology, the BI Pharma Confidential Information and Know-How, the BI Pharma Improvements and BI Pharma's interest in all Other Improvements; (ii) provide to FibroGen the manufacture and release documentation, in process and final Product standards, and other information regarding the Product including, without limitation, with respect to both (i) and (ii) all information, know how and intellectual property necessary to enable a knowledgeable manufacturer (i.e. FibroGen or a third party, as applicable) to establish the Process at such other manufacturing facility and thereby manufacture the Product using the Product **[*]** and the Process, including providing the **[*]** used in the Process or providing access to **[*]** that **[*]** used in the Process to such manufacturer, and (iii) assist such knowledgeable manufacturer in a reasonable Process and Technology transfer process sufficient to effect the foregoing at **[*]** to FibroGen.

6.2 Negotiation of the Definitive Exclusive [*] Manufacture and Supply Agreement

The Parties shall negotiate in good faith a **[*]** supply agreement upon such terms and conditions as they may agree. Such agreement is intended by the Parties to be concluded by **[*]**. However, the final execution date of said **[*]** supply agreement shall not be later than **[*]**.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

6.3 Non Execution of the Supply Agreement

In the case that (i) BI Pharma expressly waives all its rights laid down in Section 6.1 (i.e. it does not exercise either BI Pharma Option Part 1 or it lapses), or (ii) without agreement between the Parties to terms and conditions of a **[*]** supply agreement by **[*]**, or (iii) this Definitive Agreement is terminated by either Party other than by BI Pharma due to a material breach of this Definitive Agreement by FibroGen, or (iv) BI Pharma is not willing to perform **[*]** supply of the Product for FibroGen, of which circumstance BI Pharma must notify FibroGen no later than **[*]**, then, in addition to any other rights of FibroGen under this Definitive Agreement:

(a) If it has not already done so, BI Pharma will comply with its obligations under Section 6.1.3.

(b) **[*]** of the Process transfer will be **[*]**, except in the event of termination of this Definitive Agreement by FibroGen due to the material breach of BI Pharma, in which case, **[*]** shall **[*]**. These shall be the **[*]** with respect to the Process transfer, including without limitation, the transfer of any BI Pharma Confidential Information and Know-How to FibroGen or a third party, in connection with such Process transfer or otherwise.

In the case described above that the Parties have not been able to agree to terms and conditions of a **[*]** supply agreement by **[*]**, the Parties agree that the **[*]** of the license granted to FibroGen shall be calculated as set forth in Appendix 4.

7. Representations, Warranties and Indemnification

The Parties acknowledge that the Definitive Agreement supersedes the ATP as set forth in Section 12.10; however, each Party hereby agrees that each of the representations, warranties, and covenant made in this Section 7 shall be made both as of the Effective Date and as of July 12, 2006.

7.1 Mutual Representations, Warranties and Covenants

Each Party hereby represents, warrants and covenants to the other Party as follows:

a. it is a corporation duly organized and validly existing under the laws of the state or other jurisdiction of incorporation or formation;

b. the execution, delivery and performance of this Definitive Agreement by such Party has been duly authorized by all requisite corporate action;

c. it has the power and authority to execute and deliver this Definitive Agreement and to perform its obligations hereunder;

d. it will not during the term enter into any agreements, contracts or other arrangements that would conflict with its obligations under this Definitive Agreement.

7.2 FibroGen Warranties

FibroGen hereby warrants that:

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

a. FibroGen has the right to provide the FibroGen Confidential Information and Know-How and is not aware of any third party rights that will affect supply or use of the FibroGen Confidential Information and Know-How to and by BI Pharma;

b. FibroGen is not aware of any special or unusual hazards involved in handling the Product of which it has failed to inform BI Pharma; and that it will inform BI Pharma after the date of execution of this Definitive Agreement only, of any changes related thereto coming to FibroGen's attention after the date of execution of this Definitive Agreement; and

c. FibroGen has full corporate authority to enter into this Definitive Agreement and the Definitive Agreement is binding upon FibroGen in accordance with its terms; and

d. to the best of its Knowledge at the Effective Date the FibroGen Contribution and its use in the Product **[*]** by BI Pharma does not infringe the intellectual property rights of any third party and it will promptly notify BI Pharma in writing should it become aware of any claims asserting such infringement or of any third party intellectual property rights, that would be infringed by the FibroGen Contribution.

7.3 BI Pharma Warranties

BI Pharma hereby warrants that:

a. BI Pharma is entitled to use the Biberach Facility and BI Pharma Confidential Information and Know-How, for the purposes set forth in this Definitive Agreement; and

b. BI Pharma is not aware of any special or unusual hazards that would arise as a result of its carrying out of the Project as planned; and

c. BI Pharma has full corporate authority to enter into this Definitive Agreement and the Definitive Agreement is binding upon BI Pharma in accordance with its terms.

d. BI Pharma has the right, without restriction, to grant the licenses granted under this Definitive Agreement

e. all Product that is required to be produced to cGMP standards will, at the time of delivery to FibroGen, (a) have been manufactured in accordance with such cGMP requirements and all other laws applicable at the place of manufacture, the Process Description approved by FibroGen, and the Acceptance Criteria, and (b) not be adulterated or misbranded under the United States Federal Food, Drug and Cosmetic Act, 21 U.S.C. §321 et seq., as amended from time to time;

f. it has not been debarred, nor is it subject to a pending debarment, and that it will not use in any capacity in connection with the services under this Definitive Agreement any person who has been debarred pursuant to section 306 of the FDCA, 21 U.S.C. § 335a, or who is the subject of a conviction described in such section. BI Pharma agrees to notify FibroGen in writing immediately if BI Pharma or any person who is performing services under this Definitive Agreement is debarred or is the subject of a conviction described in section 306, or if any action, suit, claim, investigation, or proceeding is pending, or to BI Pharma's Knowledge, is threatened, relating to the debarment or conviction of BI Pharma or any person performing services under this Definitive Agreement.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

g. to the best of its Knowledge at the Effective Date its performance under this Definitive Agreement including, but not limited to, the BI Pharma Contribution, and its use in the Product **[*]**, and/or the Process, by BI Pharma, FibroGen or a third party manufacturer of FibroGen, does not infringe the intellectual property rights of any third party and it will promptly notify FibroGen in writing should it become aware of any claims asserting such infringement or of any third party intellectual property rights, that would be infringed by the BI Pharma Contribution, and its use in the Product **[*]** and/or the Process; and

h. as of the Effective Date no third party has asserted any claim or lawsuit against BI Pharma claiming infringement of any intellectual property owned by a third party with relation to BI Pharma Contribution and/or the Process, or any part or component thereof.

For avoidance of doubt, all BI Pharma and FibroGen liability or indemnification obligations that might result from the representations and warranties under this Section 7.3 are always subject to the limitations set forth in Section 8.1 of this Definitive Agreement.

7.4 Process for Defense of Infringement

Subject to each Party's indemnification obligations, in the event that there occurs a Claim (as defined below), the Parties shall follow the following procedures with respect to the defense of the Claim:

- BI Pharma agrees that if a third party threatens or asserts any claim or files any lawsuit, claiming that BI Pharma intellectual property utilized or necessary for manufacture and production of the Product, including, without limitation, the BI Pharma Contribution or the Product **[*]** or the Process, or the use thereof, constitutes infringement of any intellectual property owned by a third party (each, a "Claim"), BI Pharma will promptly and timely inform FibroGen of such Claim, and BI Pharma shall have the first right to negotiate, litigate and/or settle any such Claim, and shall defend any such Claim unless **[*]** for BI Pharma **[*]** from any settlement or judgment resulting from such Claim, provided, that FibroGen shall have the right to fully participate in the litigation, negotiation and settlement of all such Claims. For the avoidance of doubt, the **[*]**, as used in this paragraph shall be **[*]** based on the BI Pharma Intellectual Property and **[*]** under this Definitive Agreement.
- BI Pharma will keep FibroGen informed about such negotiation or litigation at all times, including all material events related thereto, and in the event that the amounts paid or to be paid by BI Pharma in settlement of any such Claim or group of related or unrelated Claims appear reasonably likely to exceed, individually or in the aggregate, BI Pharma's indemnification obligations, or any contemplated settlement would place any obligations or restrictions upon FibroGen, then BI Pharma shall immediately inform FibroGen.
- BI Pharma grants FibroGen "most favored nation" status with respect to any settlement entered into with respect to a Claim; i.e. BI Pharma agrees that in the event that BI Pharma settles any Claim, in whole or in part, including without limitation by entering into a license, then such settlement shall cover FibroGen and shall contain terms individually and in the aggregate equally as or more favorable to FibroGen as to BI Pharma and/or to any other third party, including, without limitation, any affiliates of BI Pharma and/or Boehringer Ingelheim GmbH. If BI Pharma settles any Claim in whole or in part on terms individually or more favorable to BI Pharma and/or to any other third party as to FibroGen, then the terms and conditions of the settlement with respect to FibroGen shall automatically adjust to the most favorable of such terms.

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- FibroGen shall not be responsible to pay for any costs of any settlement by BI Pharma of any Claim(s) that exceed BI Pharma's indemnification obligations or be bound by any obligations or restrictions agreed to by BI Pharma in any such settlement, without the prior written consent of FibroGen, which may be granted or withheld in its sole discretion.

In the case that BI Pharma decides not to negotiate, litigate or settle any Claim, FibroGen shall have the right to negotiate, litigate and settle any such Claim, and, provided that FibroGen decides to pursue such negotiation, litigation or settlement, BI Pharma will provide all reasonable cooperation to FibroGen such that FibroGen may appropriately defend such Claims. For the avoidance of doubt, BI Pharma's indemnification obligations with respect to any Claim shall apply whether or not BI Pharma defends against (i.e. negotiates, litigates or settles) such Claim.

7.5 Disclaimer of Warranties

EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS DEFINITIVE AGREEMENT, NEITHER PARTY MAKES ANY WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO ANY INTELLECTUAL PROPERTY, TECHNOLOGY, RIGHTS, RESULTS OF THE PROJECT; THE DELIVERABLES OR OTHER SUBJECT MATTER OF THIS DEFINITIVE AGREEMENT OR THAT THE PROJECT WILL RESULT IN A COMMERCIALLY-VIABLE PROCESS, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

8. Limitation of Liability, Indemnification and Insurance

8.1 Limitation of Liability

8.1.1. General

BI Pharma has no knowledge or awareness of or control over the manner in which FibroGen intends to use the results of the Project, the Product or the Deliverables, if any, obtained in the Project and in particular does not know or control how FibroGen intends to use such Product or results in clinical studies.

Except for willful misconduct, for which there shall be no limitation on liability, BI Pharma´s liabilities under Section 7 of this Definitive Agreement shall be limited to **[*]**. Except for willful misconduct, for which there shall be no limitation on liability, FibroGen's liabilities under Section 7 of this Definitive Agreement shall be limited to **[*]** with respect to any BI Pharma Confidential Information and Know-How.

BI Pharma will provide reasonable co-operation, if requested by FibroGen, on matters relating to the Project in the event of such claims.

8.1.2. No Consequential Damages

Under no circumstance either Party shall be entitled to incidental, indirect, consequential or special damages arising in connection with any default or breach of said Party's obligations, but — for the avoidance of doubt — the respective indemnification obligations of each Party shall not be considered incidental, indirect, consequential or special damages.

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8.1.3. Indemnification

BI Pharma shall indemnify, defend and hold FibroGen, its affiliates and their respective officers, directors, employees and agents harmless from and against all third party claims (including, but not limited to, claims relating to infringement of such third party's intellectual property), losses, damages, costs and expenses including, without limitation, reasonable attorneys' fees, resulting from or arising out of (i) BI Pharma's performance of any activities under this Definitive Agreement (or any omission in connection therewith), except to the extent resulting from or arising out of the breach of this Definitive Agreement by, or the negligence or willful misconduct of, FibroGen, and except for any third party infringement claims to the extent such claims arise out of the use of the FibroGen Contribution or the Materials in the performance of any activities under this Definitive Agreement, (ii) any breach of this Definitive Agreement by BI Pharma, (iii) BI Pharma's use of BI Pharma Technology including, to the extent included as part of the Product **[*]**, in the performance of the Activities, or (iv) BI Pharma's use of Improvements (including, to the extent included as part of the Product **[*]**) for any purpose. Notwithstanding anything to the contrary in this Section 8.1.2, BI Pharma's liability for third party claims, losses, damages, costs and expenses including, without limitation, reasonable attorneys' fees, under this Section 8.1.2 will be reduced to the extent such liability results from or arises out of any matter that falls within the scope of FibroGen's obligations under this Section 8.1.2. As a condition of this indemnification obligation, FibroGen must promptly notify BI Pharma of a covered claim, must tender to BI Pharma (and/or its insurer) full authority to defend or settle the claim, and must reasonably cooperate with the defending party. The amounts payable by BI Pharma under this Section 8.1.2 will be limited as set forth in Section 8.1.1.

FibroGen shall indemnify, defend and hold BI Pharma, its affiliates and their respective officers, directors, employees and agents harmless from and against all third party claims (including, but not limited to, claims relating to infringement of such third party's intellectual property), losses, damages, costs and expenses including, without limitation, reasonable attorneys' fees, resulting from or arising out of (i) any breach of this Definitive Agreement by FibroGen, (ii) any use (including but not limited to the use in clinical trials) of the Product and/or Materials by or on behalf of FibroGen, except to the extent resulting from or arising out of the breach of this Definitive Agreement by, or the negligence or willful misconduct of, BI Pharma, and except for any third party infringement claims to the extent such claims arise out of the use of BI Pharma Technology in the performance of any activities under this Definitive Agreement (or any omission in connection therewith), or (iii) the use of Improvements by FibroGen for any purpose. Notwithstanding anything to the contrary in this Section 8.1.2, FibroGen's liability for third party claims, losses, damages, costs and expenses including, without limitation, reasonable attorneys' fees, under this Section 8.1.2 will be reduced to the extent such liability results from or arises out of any matter that falls within the scope of BI Pharma's indemnification obligations under this Section 8.1.2. As a condition of this indemnification obligation, BI Pharma must promptly notify FibroGen of a covered claim, must tender to FibroGen (and/or its insurer) full authority to defend or settle the claim, and must reasonably cooperate with the defense. The amounts payable by FibroGen under this Section 8.1.2 will be limited as set forth in Section 8.1.1.

8.2 Insurance

Each of BI Pharma and FibroGen shall maintain during the term of this Definitive Agreement and for a period of **[*]** thereafter, comprehensive general liability insurance including

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products coverage, in amounts, which are reasonable and customary in the pharmaceutical industry for companies of comparable size and activities at their respective place of business. Such product liability insurance shall insure against all mandatory liability, including liability for personal injury, physical injury and property damage. Upon a Party's written request the other Party shall within **[*]** provide the requesting Party with a written confirmation of the existence of such insurance. FibroGen shall have BI Pharma named as an additional insured party on any insurance policies described above. BI Pharma is self insuring in order to meet the obligations of this Section under this Definitive Agreement.

9. Intellectual Property

9.1 Existing Intellectual Property Rights

BI Pharma hereby acknowledges that FibroGen is the owner of FibroGen Confidential Information and Know-How and the FibroGen Technology and BI Pharma shall acquire no rights, title or interest whatsoever in or to any of FibroGen Confidential Information and Know-How or FibroGen Technology, except as specifically provided for in this Definitive Agreement.

FibroGen hereby acknowledges that BI Pharma is the owner of BI Pharma Confidential Information and Know-How and the BI Pharma Technology and FibroGen shall acquire no rights, title or interest whatsoever in or to any of BI Pharma Confidential Information and Know-How or BI Pharma Technology, except as specifically provided for in this Definitive Agreement.

FibroGen hereby grants to BI Pharma and BI Pharma hereby accepts for the purpose of this Definitive Agreement a non-exclusive, non-sub-licensable, royalty free, license to use FibroGen Confidential Information and Know-How and FibroGen Technology solely to develop the Process and to manufacture the Product for clinical purposes under this Definitive Agreement.

9.2 New Intellectual Property and Project Results

9.2.1. FibroGen

Improvements that (i) relate to FibroGen Confidential Information and Know-How, and (ii) do not relate to BI Pharma Confidential Information and Know-How, and (iii) which arise out of or in connection with BI Pharma's activities performed under this Definitive Agreement (collectively, "FibroGen Intellectual Property") will be exclusively owned by FibroGen and FibroGen shall control patent prosecution and maintenance thereof. BI Pharma agrees to assign and hereby assigns to FibroGen all right title and interest it may have in any FibroGen Intellectual Property. BI Pharma shall provide reasonable assistance to FibroGen for any action which may be necessary to assign or otherwise transfer any rights to FibroGen Intellectual Property contemplated by this Section 9.2. BI Pharma shall notify FibroGen within **[*]** of becoming aware of such FibroGen Intellectual Property.

9.2.2. BI Pharma

Improvements that (i) relate to BI Pharma Confidential Information and Know-How, and (ii) do not necessarily rely upon FibroGen Confidential Information and Know-How, and (iii) which arise out of or in connection with BI Pharma's performance of this Definitive Agreement (collectively, "BI Pharma Intellectual Property") will be exclusively owned by

BI Pharma, and BI Pharma shall control patent prosecution and maintenance thereof, except to the extent such Improvements may solely relate to the Process, provided, however, that if BI Pharma intends to file a patent application on BI Pharma Intellectual Property that exemplifies an embodiment using FibroGen Technology and/or the FibroGen Confidential Information and Know How (i.e. it contains an example wherein FibroGen Technology and/or the FibroGen Confidential Information and Know How is used as an example of the invention) (a "FibroGen Embodiment"), BI Pharma will provide FibroGen with a copy of the application for review not less than **[*]** prior to the intended filing date, and FibroGen will have the right to amend any section of the application describing the FibroGen Embodiment prior to filing. In addition, as soon as practicable after the initial filing of any such application, BI Pharma will amend the application to replace the FibroGen Embodiment with an embodient based on technology that does not constitute the FibroGen Technology or Confidential Information and Know How. If a granted or issued claim contained within BI Pharma Intellectual Property may not be practiced without the use of FibroGen Technology or FibroGen Confidential Information and Know How, BI Pharma hereby assigns and shall promptly execute any documents necessary to assign the patent to FibroGen, thereby giving FibroGen complete and sole ownership of the patent, at no cost to FibroGen. FibroGen agrees to assign and hereby assigns to BI Pharma all right title and interest it may have in any BI Pharma Intellectual Property except to the extent it relies upon FibroGen Confidential Information and Know How, to which extent such right title and interest shall be retained by FibroGen under this Definitive Agreement. FibroGen shall provide reasonable assistance to BI Pharma for any action which may be necessary to assign or otherwise transfer such rights to BI Pharma Intellectual Property contemplated by this Section 9.2.

9.2.3. Other Improvements

a. Any Improvements that are not FibroGen Intellectual Property or BI Pharma Intellectual Property shall be defined as "Other Improvements" and shall be jointly owned by BI Pharma and FibroGen, with the parties entitled to practice the same as joint owners. Any Other Improvements shall be listed on Appendix 10, hereto, which shall be amended from time to time upon the creation of any additional Other Improvements. For the avoidance of doubt, know-how pertaining to **[*]** and **[*]** this Definitive Agreement, but **[*]** in the exercise of its rights under this Definitive Agreement may be **[*]**, provided, that, notwithstanding the foregoing, BI Pharma may not use any Other Improvement that relates to FibroGen Technology in the production of antibodies to CTGF, including the Product, modifications and derivatives thereof, without FibroGen's prior written consent, **[*]**, provided, however, that it **[*]** for **[*]**.

For avoidance of doubt, the Parties agree that the Product **[*]** and those portions of the Process that relate specifically to the Product or the Product **[*]** are Other Improvements, and FibroGen shall own the Product **[*]**, however FibroGen hereby agrees **[*]**.

In the event that either BI Pharma or FibroGen desires to file a patent application that contains the other Party's Technology or Confidential Information and Know How, then the Party filing the application will provide the other Party with a copy of the application for review not less than **[*]** prior to the intended filing date, in order that the other Party may review the application such that it may amend the disclosure of its Technology or Confidential Information and Know-How, and the Party filing the application shall comply with all such requests for amendment.

b. BI Pharma hereby grants and agrees to grant to FibroGen a non-exclusive, **[*]** fully sublicensable license to BI Pharma's interest under all Other Improvements developed, conceived or reduced to practice in the performance of the Authorization to Proceed or this Definitive Agreement to make, have made, use, import, sell, offer for sale and have sold the Product.

c. The Parties shall meet and confer in good faith with regard to establishment and implementation of efforts to pursue patent protection for the Process, including, but not limited to, BI Intellectual Property comprising any part thereof. If BI Pharma elects not to pursue, or intends to abandon or not to file or maintain any patent or patent application in any jurisdiction, reasonable notice of which shall be given to FibroGen, FibroGen shall be entitled to pursue or maintain such patent or patent application, as applicable, and BI Pharma agrees to assign to FibroGen all right, title and interest it may have to such items of intellectual property.

d. FibroGen hereby grants to BI Pharma and BI Pharma hereby accepts for the purpose of pursuing the Project under this Definitive Agreement a non-exclusive, non-sub-licensable (except to BI Pharma affiliates), royalty-free, license to use the FibroGen Intellectual Property solely to develop the Process, and to use the Process solely for the manufacturing of the Product for clinical purposes in accordance with this Definitive Agreement.

e. The Parties shall be obligated to acquire the inventions and rights on the inventions made under this Definitive Agreement of its employees, consultants, agents and representatives. Employee invention compensation claims arising under the German Law on Employee Inventions ("Arbeitnehmererfindergesetz") shall be borne by the Party that is exclusively entitled to own such invention, following the allocation of intellectual property as set forth in this Definitive Agreement, provided, that each Party shall have the right to decline to exploit or abandon its rights to any such invention and avoid paying any compensation therefore, provided, in the event that any such invention is subject to the licenses granted by BI Pharma to FibroGen hereunder, then not less than **[*]** prior to notifying the inventing employee(s) of its intention to decline to exploit and/or abandon such invention, BI Pharma shall offer to FibroGen the right to pursue protection of and exploit such invention and, if accepted by FibroGen within the **[*]** prior to the intended notification date (or such later date if extended), BI Pharma shall assign all rights to such invention exclusively to FibroGen on an irrevocable, **[*]**, and **[*]** to **[*]** under the **[*]**.

f. Subject to the terms and conditions contained in this Definitive Agreement, BI Pharma shall be responsible for filing, prosecution and maintenance of patent applications and patents granted or generated under this Definitive Agreement and owned by BI Pharma. FibroGen shall be responsible for filing, prosecution and maintenance of patent applications and patents granted or generated under this Definitive Agreement and owned by FibroGen.

g. BI Pharma shall keep FibroGen and FibroGen shall keep BI Pharma reasonably informed about prosecution of any patent applications and maintenance of any patents generated under this Definitive Agreement, including, without limitation, compliance with the terms of this Section 9.

10. Confidentiality

Exchange of confidential information by the Parties shall be subject to the terms and conditions of the Confidentiality Agreement; provided, however, the Parties hereby agree that the Confidentiality Agreement shall apply to any BI Pharma Confidential Information and Know-How disclosed by BI Pharma to FibroGen and to any FibroGen Confidential Information and Know-How disclosed by FibroGen to BI Pharma in connection with this Definitive Agreement and the preceding agreements regarding the Product for a period of **[*]** following the termination or earlier expiration of this Definitive Agreement.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Nothing in this Definitive Agreement or the Confidentiality Agreement shall be construed to restrict the Parties from disclosing any information as required by mandatory law or court order or other governmental order or request, provided in each case the Party requested to make such disclosure shall timely inform the other Party and use all reasonable efforts to limit the disclosure and maintain the confidentiality of such information to the extent possible, if it comprises BI Pharma Confidential Information and Know-How or FibroGen Confidential Information and Know-How. In addition, the Party proposing to make such disclosure shall permit the other Party to attempt to limit such disclosure by appropriate legal means.

Furthermore, a Party may make such disclosures of the other Party's Confidential Information and Know-How, to governmental entities to the extent reasonably necessary in connection with pursuit of intellectual property protection, development and commercialization activities related to the Product, and approvals to use and sell the Product. Moreover, upon BI Pharma's prior written approval, which shall not be unreasonably withheld or delayed, FibroGen may disclose BI Pharma Confidential Information and Know-How to entities with whom FibroGen has (or may have) a marketing and/or development collaboration for the Product and who have a specific need to know such information and who are bound by reasonable obligations of confidentiality and restrictions on use.

11. Term and Termination

11.1 Term

This Definitive Agreement shall take effect as of the Effective Date, but shall govern activities originally performed under the Authorization to Proceed and shall expire upon completion of the Project, unless terminated earlier in accordance with this Definitive Agreement.

11.2 Right to Terminate

11.2.1. General

If it is apparent to either Party at any stage of the Project that

- it will not be possible to carry out the Project for scientific or technical reasons,
- the Parties cannot agree on any material changes or amendments to the scope of the Project Plan of this Definitive Agreement necessary to proceed with the Project, including, but not limited to, time lines, price, costs and the services to be subject to BI Pharma's obligations in Section 2.2

FibroGen may terminate this Definitive Agreement upon **[*]** prior written notice to the BI Pharma.

In addition, FibroGen may terminate this Agreement upon **[*]** notice for regulatory, commercial or medical developments only that have a material effect on its Product resulting in a discontinuation of the Product, provided, that if such developments have a material effect on the supply requirements but it is not finally determined to discontinue the Product, in which case FibroGen and BI Pharma shall work together to develop, if possible, a reasonable plan to respond to any such issues that arise, including indeterminate or extended delays that result from such developments.

11.2.2. Termination for Material Breach

This Agreement may be terminated at once by written notice by either Party, if the other Party breaches this Agreement in any material manner and shall have failed to remedy such default within **[*]** after written notice thereof from the terminating Party.

11.3 Effect of Termination

11.3.1. General

Upon the expiration or termination of this Agreement, not due to FibroGen default of its contractual obligation:

(a) In the event of termination as set forth in Section 11.2.1, no payments need be refunded by BI Pharma to FibroGen and the amount due to BI Pharma hereunder shall be limited to, **[*]** reasonably incurred by BI Pharma prior to such termination in respect of the purchase of supplies or raw materials etc., and **[*]** to **[*]**. BI Pharma shall mitigate all wind-down costs and non-cancellable expenses to the extent possible.

(b) At the request of FibroGen, BI Pharma shall destroy the Product **[*]** as well as the material derived from its culture or deliver the Product **[*]** and materials derived therefrom at FibroGen's request to FibroGen or a party nominated by FibroGen **[*]** and shall promptly return all FibroGen Confidential Information and Know-How to FibroGen; except for a copy and/or sample of each material for documentation purposes only. Except for the foregoing, BI Pharma´s responsibility to keep and store the Product **[*]** and any other materials shall terminate **[*]** after expiration or termination of this Agreement, and

(c) FibroGen shall promptly return all BI Pharma Confidential Information and Know-How to BI Pharma, except for a single copy and/or sample for documentation purposes only.

(d) At the request of FibroGen, BI Pharma shall ship all investments and raw material purchased in the course of the Project to FibroGen or a third contract manufacturer.

11.3.2. Surviving Provisions

As far as not expressly set forth in this Definitive Agreement the following provisions of this Definitive Agreement shall survive the termination or expiration of this Definitive Agreement: 1, 2.6, 4.3, 5, 6, 7, 8, 9, 10, 11, 12.

In the case of termination by BI Pharma due to material breach based on willful misconduct of FibroGen, all licenses granted by BI Pharma under this Definitive Agreement shall be null and void and neither FibroGen nor any third party on behalf of or for FibroGen shall be entitled to further use BI Pharma Confidential Information and Know-How. The Parties agree that with regard to the payment obligations of FibroGen under this Definitive Agreement, a material breach based on willful misconduct of FibroGen shall only be considered to exist, if the delay in payment shall last for more than **[*]** after written notification by BI Pharma. It shall not be a material breach if there is a good faith dispute between the Parties with regard to that non payment.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

12. Miscellaneous

12.1 Force Majeure

Neither Party shall be in breach of this Definitive Agreement if there is any failure of performance under this Definitive Agreement (except for payment of any amounts due hereunder) occasioned by any act of God, fire, act of government or state, war, civil commotion, insurrection, embargo, prevention from or hindrance in obtaining energy or other utilities, labour disputes of whatever nature or any other reason beyond the control of either Party.

12.2 Conflict

In case of a conflict between this Definitive Agreement and any of its Appendices, this Definitive Agreement shall prevail, if not expressly determined differently in the respective Appendix with reference to this Definitive Agreement. For the avoidance of doubt, any modification to or amendment of the Specifications shall only be effective upon and amendment of this Definitive Agreement.

12.3 Publicity

No press release or other form of publicity regarding the Project or this Definitive Agreement shall be permitted by either Party to be published unless both Parties have indicated their consent to the form of the release in writing. Nothing in this Section shall prevent the Parties from disclosing this Definitive Agreement, if and as far as required by applicable laws, rules or regulations. However, the disclosing Party shall inform the other Party well in advance whenever reasonably possible and shall provide the opportunity to comment on such required disclosure (e.g. under SEC rules).

12.4 Notices

Any notice required or permitted to be given hereunder by either Party shall be in writing and shall be (i) delivered personally, (ii) sent by registered mail, return receipt requested, postage prepaid or (iii) delivered by facsimile with immediate confirmation of receipt, to the addresses or facsimile numbers set forth below:

If to BI Pharma:
Boehringer Ingelheim Pharma GmbH & Co. KG
Birkendorfer Straße 65
88397 Biberach an der Riss
Federal Republic of Germany
Attention: **[*]**
Fax: **[*]**
Phone: **[*]**

If to FibroGen:
FibroGen, Inc.
225 Gateway Boulevard
South San Francisco, CA 94080

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

U.S.A.
Attention: Thomas B. Neff
Chief Executive Officer
Phone: **[*]**
Fax: **[*]**

With a copy to:

Legal Department
Attn: General Counsel
Phone: **[*]**
Fax: **[*]**

12.5 Applicable Law and Jurisdiction

This Definitive Agreement shall be exclusively governed by and construed in accordance with the laws of Switzerland, except of its conflict of laws provisions. Exclusive place of jurisdiction and venue shall be the competent court in Geneva, Switzerland.

12.6 Waiver

No waiver of any term, provision or condition of this Definitive Agreement whether by conduct or otherwise in any one or more instances shall be deemed to be or construed as a further or continuing waiver of any such term, provision or condition or of any other term, provision or condition of this Definitive Agreement.

12.7 Severability

If any provision of this Definitive Agreement is held to be invalid or unenforceable by a court of competent jurisdiction all other provisions shall continue in full force and effect. The Parties hereby agree to attempt to substitute for any invalid or unenforceable provision a valid and enforceable provision which achieves to the greatest extent possible the economic legal and commercial objectives of the invalid or unenforceable provision.

12.8 Dispute Resolution

Any dispute relating to the validity, performance, construction or interpretation of this Definitive Agreement shall first be submitted for resolution to the Steering Committee.

12.9 Assignment

This Definitive Agreement shall be binding upon the successors and assigns of the Parties and the name of a Party appearing herein shall be deemed to include the names of its successors and assigns provided always that nothing herein shall permit any assignment by either Party. However, BI Pharma may assign this Definitive Agreement to a member of the Boehringer Ingelheim group of companies, which control, are controlled by or are under common control with BI Pharma, and FibroGen may assign this Definitive Agreement to its affiliates or in connection with the sale of all or substantially all of the assets and/or stock of the business related to the Product, provided, that the Parties agree that the activities under this Definitive Agreement shall be performed at the Biberach Facility. Such control shall exist through direct or indirect ownership of 50% or more of the nominal value of the issue equity share capital or of 50% or more of the shares entitling the holders to vote for the election of directors or persons performing similar functions.

12.10 Impact of Definitive Agreement on Authorization to Proceed

This Definitive Agreement shall supersede and replace the Authorization to Proceed in its entirety, and all activities conducted under the ATP, and all rights accruing to the Parties in connection therewith, shall be governed by the terms and condition of this Definitive Agreement, and, except as provided for herein in Sections 2.6 (fourth subsection) and 7.2b, shall be retroactively deemed to have been conducted or arisen hereunder.

IN WITNESS WHEREOF, the Parties have caused this Definitive Agreement to be executed as of the Effective Date.

South San Francisco, November 29, 2007	Biberach, 3 December 2007
FibroGen, Inc.	**Boehringer IngeIheim Pharma GmbH & Co. KG**
	ppa.
/s/ Thomas B. Neff	**[*]** **[*]**
Thomas B. Neff	**[*]** **[*]**
CEO	SVP Biopharmaceuticals VP Legal Dept.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

List of Appendices:

Appendix 1:	FibroGen Materials
Appendix 2:	Project Plan including Project Timeline and Payment Schedule
Appendix 3:	Members of the Project Team & Steering Committee, Chief Executives
Appendix 4:	Conditions for the use of BI Pharma Confidential Information and Know-How
Appendix 5:	General Policy regarding BI Pharma Confidential Information and Know-How
Appendix 6:	Quality Assurance Agreement
Appendix 7:	not applicable
Appendix 8:	Authorization to Proceed and Letter Agreements (see Section 1.2 of the Definitive Agreement)
Appendix 9:	Specifications, incl. shipping and packing instructions agreed by the Parties (to be attached upon agreement of the Parties)
Appendix 10:	Other Improvements
Appendix 11:	Description of the “BI Pharma Contribution”
Appendix 12:	Description of the “FibroGen Contribution”
Appendix 13:	Bill and Hold Provisions

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Appendix 1

FibroGen Materials

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 2:

Project Plan including Project Timeline and Payment Schedule

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 3:

Members of the Project Team & Steering Committee, Chief Executives

Members of Project Team:

Project Team					
BI-Team Member	**Contact Information**	**Function**	**FG-Team Member**	**Contact Information**	**Function**
[*]		[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]	[*]	[*]
[*]	[*]	[*]			
[*]	[*]	[*]	[*]	[*]	[*]
[*]	[*]	[*]			
[*]	[*]	[*]			
[*]	[*]	[*]	[*]	[*]	[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Project Team

BI-Team Member	Contact Information	Function	FG-Team Member	Contact Information	Function
[*]	[*]	[*]	[*]	[*]	[*]
[*]	[*]	[*]			
[*]	[*]	[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]	[*]	[*]
			[*]	[*]	[*]
[*]	[*]	[*]	[*]	[*]	[*]
			[*]	[*]	[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Members of Steering Committee:

FibroGen Member	Function	BI Pharma Member	Function
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Chief Executives:

Thomas B. Neff
CEO
FibroGen, Inc.

[*]
SVP Biopharmaceuticals
Boehringer Ingelheim Pharma GmbH & Co. KG

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 4:

Conditions for the use of BI Pharma Confidential Information and Know-How

License: Subject to the royalty provisions set forth below, which are subject to Section 5.3 of the Definitive Agreement, BI Pharma hereby grants and agrees to grant to FibroGen a **[*]**, fully sublicensable exclusive license under (i) BI Pharma Technology and (ii) BI Pharma Improvements, in each case (i) and (ii) to make, have made, use, import, sell, offer for sale and have sold Product, as set forth in Section 5.3 of the Definitive Agreement and only to the extent relating to the Product **[*]** under this Definitive Agreement. Any possible licenses that might be granted by BI Pharma to FibroGen relating to **[*]** or any **[*]** shall always be subject to separate discussion and agreement between the Parties, if any.

Milestone and Royalties:

(a) FibroGen will pay BI Pharma:

(i) **[*]** upon **[*]**; and

(ii) Any **[*]** supply agreement for the Product between BI Pharma and FibroGen will provide that FibroGen will pay royalties on net commercial sales of Products manufactured by or on behalf of FibroGen by a manufacturer other than BI Pharma using the BI Pharma Contribution and/or BI Pharma Process when FibroGen has not purchased **[*]** in a calendar year from BI Pharma. The royalty will be calculated on the resulting net sales of commercial Product representing **[*]** the **[*]** at royalty rates based on fermentation titer (which for the purpose of this Appendix 4 shall mean the yield of Product obtained from a particular manufacturing run **[*]**, expressed in grams of Product per liter of media used in such manufacturing run) as follows:

fermentation titer (g/L)	royalty (% of net sales)
[*]	**[*]**

If BI Pharma does not agree to manufacture and supply Product for **[*]**, or if BI Pharma so agrees, but then fails to fulfill its obligation to do so for any reason, then no royalties or milestone payment shall be payable to BI Pharma under the license.

In case that the Parties did not agree to terms and conditions of a definitive exclusive **[*]** supply agreement by **[*]**, the Parties agree that the royalties of the license granted to FibroGen according to this Appendix 4, shall be **[*]** on the **[*]**.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 5:

General Policy regarding BI Pharma Confidential Information and Know-How

BI Pharma represents a bench mark in Biopharmaceuticals and has to keep certain trade secrets to maintain its leading position in this technology

- As a consequence the following policy has been issued:
  - No Photos, Mobile Phones or other devices to make images in BI Pharma's facility
  - No paper and writing during visits in the manufacturing facilities
  - No recording devices
  - No technical information about BI Pharma equipment or processing beyond the actual customer process to cover GMP-requirements
  - No copies of batch record but acceptance for onsite batch record review to cover GMP requirements
  - BI Pharma to provide agreed upon development and manufacturing progress reports and copies of transparencies shown during meetings
  - BI Pharma is willing to discuss Tech Transfer Terms during contractual negotiations

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 6:

Quality Assurance Agreement

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 7: Not applicable

Appendix 8:

Authorization to Proceed and Letter Agreements (see Section 1.2 of the Definitive Agreement)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

July 12th, 2006

Boehringer Ingelheim Pharma GmbH & Co. KG
Attn. **[*]**
Birkendorfer Strasse 65
D-88397 Biberach an der Riss

RE: AUTHORIZATION TO PROCEED

Dear Sirs:

This letter (the "Authorization to Proceed") constitutes formal notification that FibroGen, Inc., 225 Gateway Boulevard, South San Francisco, California 94080 ("FibroGen") intends to retain Boehringer Ingelheim Pharma GmbH & Co. KG, Birkendorfer Strasse 65, 88397 Biberach a.d. Riss ("BI Pharma") to perform certain services ("Services") with respect to the human monoclonal antibody directed at Connective Tissue Growth Factor (CTGF) identified by FibroGen as FG-3019 ("Product") as described in the proposed master plan dated June 30, 2006 attached hereto as Appendix A (the "Proposal").

1. Authorization.

FibroGen and BI Pharma are negotiating in parallel a definitive agreement for BI Pharma's provision of Services to FibroGen ("Definitive Agreement"). FibroGen and BI Pharma recognize that this Authorization to Proceed is necessary to expedite the Services due to the desired time frame for the project. Accordingly, .pending completion of such negotiations and the execution of a Definitive Agreement with respect to the Services, FibroGen hereby authorizes BI Pharma, under the terms and conditions set forth in this Authorization to Proceed, to commence performance of certain activities under the Services (the "Activities"), i.e. the Services described under the headings **[*]** and **[*]**, all as more fully described in the Proposal. No Product will be produced under this Authorization to Proceed for human clinical studies or use.

FibroGen shall provide the Materials, and all know-how and other information and documents necessary for BI Pharma to perform the Activities at the latest on **[*]**. In the case that FibroGen has failed to provide such deliverables, BI Pharma is entitled to terminate this Authorization to Proceed.

2. Definitive Agreement.

FibroGen and BI Pharma will continue negotiations in good faith to execute a signed Definitive Agreement covering the anticipated terms and scope of the Services. The Definitive Agreement shall also include certain additional terms set forth in Appendix B to this Authorization to Proceed. It is anticipated that both parties will sign such an agreement on or before **[*]**. If the parties fail to do so, a new or revised Authorization to Proceed signed by authorized representatives of the parties defining the revised terms and activities will be necessary for BI Pharma to continue. The execution of the Definitive Agreement is subject to the approval of FibroGen's and BI Pharma's Board of Directors. This Authorization to Proceed is binding on the parties hereto, but does not obligate the parties to enter into the Definitive Agreement.

3. FibroGen Materials.

(a) Subject to the terms of this Authorization to Proceed, FibroGen shall transfer such Materials (defined below) to BI Pharma as FibroGen deems reasonably required for the performance of the Activities by BI Pharma. "Materials" shall mean all (a) cDNA encoding Product, cell lines, cell banks, and master cell banks (collectively, "FibroGen Cell Lines") and (b) constructs, reagents, antibodies and/or other tangible materials, in each case provided by FibroGen to BI Pharma connection with the Activities.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

(b) BI Pharma shall use the Materials solely to conduct the Activities in accordance with the Proposal or as otherwise agreed by the parties in writing. The Materials may not be provided to any other individual, entity or institution, including institutions and entities affiliated or under contract with BI Pharma without the prior written consent of FibroGen, which may be withheld by FibroGen for any reasonable business reason. The Materials will not be used in - connection with any diagnosis, treatment or any other activity in humans or for any use not directly related to the Activities. BI Pharma's use of the Materials will be in compliance with all applicable federal, state and local laws and regulations. BI Pharma accepts the Materials with the knowledge that they are experimental.

(c) The Materials are the property-of FibroGen and FibroGen shall retain all right, title and interest in the Materials. It is agreed that the transfer of the Materials hereunder shall be a bailment and shall not constitute a sale of the Materials or a grant, option or license of any patent or other rights except to allow BI Pharma to perform the Activities. BI Pharma shall at all times take such measures as are required to protect the Materials from loss or damage and shall promptly notify FibroGen if at any time it believes any Materials have been damaged, lost or stolen. BI Pharma will ensure that the Materials remain free and clear of any liens or encumbrances.

(d) THE MATERIALS ARE UNTESTED AND HAVE BEEN GIVEN TO BI PHARMA GRATUITOUSLY. ACCORDINGLY, THE MATERIAL IS PROVIDED "AS IS" WITH NO WARRANTIES EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. FIBROGEN MAKES NO REPRESENTATION AND PROVIDES NO WARRANTY THAT THE USE OF THE MATERIALS WILL NOT INFRINGE ANY PATENT OR OTHER PROPRIETARY RIGHT.

4. Confidential Information.

(a) The parties agree that the terms of the confidentiality agreement dated August 16, 2004 between BI Pharma and FibroGen, as amended on May 18, 2006 (the "CDA"), shall remain in full force and effect and shall apply to information and materials (i) disclosed and/or provided by FibroGen to BI Pharma in connection with the Activities, and (ii) generated by BI Pharma in the performance of the Activities, which in each case (notwithstanding anything to the contrary contained in such CDA) shall be deemed FibroGen's Information (as defined in the CDA). The transfer of information hereunder shall not constitute any grant, option, or license under any patent or other rights of either party. BI Pharma shall use such FibroGen Information for the sole purpose of performing the Activities under the terms of this Authorization to Proceed or for such other purposes as may be approved by FibroGen in writing. This Authorization to Proceed and its appendices constitute "Information" of both parties under the CDA. The confidentiality obligation of the CDA shall apply to any Information received under this Authorization to Proceed until **[*]** after the effective date of this Authorization to Proceed.

(b) Each party (the "disclosing party") may disclose the Information of the other party (the "receiving party") to persons within the receiving party's organization who have a need to receive such Information to perform the Activities and who are bound to protect the confidentiality of the disclosing party's Information, as set forth in the immediately following paragraph. Furthermore, if required, the receiving party may disclose (i) the disclosing party's Information to a governmental authority or by order of a court of competent jurisdiction, provided that such disclosure is subject to all applicable governmental or judicial protection available for like information and reasonable advance notice is given to the disclosing party and (ii) Improvements to the extent required to exploit its rights under Section 5 of this Agreement. Moreover, upon BI Pharma's prior written approval, FibroGen may disclose BI Pharma Information relating to the Activities to entities with whom FibroGen has (or may have) a marketing and/or development collaboration and who have a specific need to know such Information and who are bound by a like obligation of confidentiality and restrictions on use.

(c) Each party has or will obtain agreements with all employees (as already provided for in the respective employee contracts), consultants and advisors and affiliates who are permitted access to the other party's confidential information under this Authorization to Proceed which impose comparable confidentiality and non-use obligations on such persons.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

5. Intellectual Property Rights.

None of the intellectual property rights generated in the performance of the Activities under this Authorization to Proceed will be used outside the scope of the Authorization to Proceed without having the Definitive Agreement and/or separate terms in place.

Furthermore, BI Pharma cannot use FibroGen Information, as defined in the CDA, or FibroGen Technology generated under this Authorization to Proceed in or in the support of any patent applications without the written consent of FibroGen. FibroGen cannot use BI Pharma Information, as defined in the CDA, or FibroGen Technology generated under this Authorization to Proceed in or in the support of any patent applications without the written consent of BI Pharma.

For the purpose of the Activities performed under this Authorization to Proceed the following definitions, whether used in the singular or plural, shall have the meaning as listed below:

"Technology" means all cDNA, cell lines, cell banks, master cell banks, constructs, reagents, antibodies and/or other tangible materials, methods, techniques, processes, trade secrets, copyrights, know-how, data, documentation, regulatory submissions, specifications and other intellectual property of any kind (whether or not protectible under patent, trademark, copyright or similar laws).

"BI Pharma Technology" means the Technology developed or obtained by or on behalf of BI Pharma (i) prior to May 18, 2006 (the "Effective Date"), or (ii) independent of this Agreement and without the use of the of FibroGen Information (as defined in the CDA), including without limitation, the BI Pharma proprietary technology known as **[*]** as well as the BI Pharma Process, as defined in Appendix B.

"FibroGen Technology" means (i) the Materials, (ii) Product, and (iii) the Technology of FibroGen developed or obtained by or on behalf of FibroGen (x) prior to May 18,2006 (the Effective Date), or (y) independent of this Agreement and without the use of BI Pharma Information as defined in the CDA.

"Improvements" means all Technology, discoveries and inventions, and all modifications, derivatives and improvements thereto or new uses thereof (whether or not protectible under patent, trademark, copyright or similar laws) that are discovered, developed or reduced to practice in the performance of the Activities.

The parties agree that (i) all Improvements that relate solely to FibroGen Technology or FibroGen Information, as defined in the CDA, (collectively, "FibroGen Improvements"), and (ii) all reports generated as a result of the performance of the Activities will in each case be the sole and exclusive property of FibroGen, and such FibroGen Improvements are hereby assigned to FibroGen (or its designee) without additional compensation to BI Pharma. BI Pharma will take such steps as FibroGen may reasonably request (at FibroGen's expense) to vest in FibroGen (or its designee) ownership of the FibroGen Improvements. The parties agree that all Improvements (i) that relate solely to BI Pharma Technology or BI Pharma Information (collectively, "BI Pharma Improvements") will be the sole and exclusive property of BI Pharma and such BI Pharma Improvements are hereby assigned to BI Pharma (or its designee) without additional compensation to FibroGen. FibroGen will take such steps as BI Pharma may reasonably request (at BI Pharma's expense) to vest in BI Pharma (or its designee) ownership of the BI Pharma Improvements.

Any Improvement that are not FibroGen Improvements or BI Pharma Improvements ("Other Improvements") will not be used outside this Authorization to Proceed without the parties mutual written agreement For the avoidance of doubt, know-how and intellectual property **[*]** under this Authorization to Proceed, and that is **[*]** shall be exempted from such non-use obligation, and **[*]**.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

6. Licenses.

FibroGen hereby grants to BI Pharma and BI Pharma hereby accepts for the purpose of this Authorization to Proceed a non-exclusive, non-sublicensable (except to BI Pharma corporate affiliates), royalty-free license to use FibroGen Technology solely to perform the Activities in accordance with this Agreement.

7. Indemnification.

(a) BI Pharma shall indemnify, defend and hold FibroGen, its affiliates and their respective officers, directors, employees and agents harmless from and against all third party claims, losses, damages, costs and expenses including, without limitation, reasonable attorneys' fees, resulting from or arising out of (i) performance of the Activities, except to the extent resulting from or arising out of the breach of this Authorization to Proceed by, or the negligence or willful misconduct of, FibroGen, and except for any third party infringement claims arising solely out of the use of FibroGen Technology in the performance of the Activities, (ii) any breach of this Authorization to Proceed by BI Pharma, (iii) the use of BI Pharma Technology in the performance of the Activities, or (iv) the use of Improvements by BI Pharma for any purpose. As a condition of this indemnification obligation, FibroGen must promptly notify BI Pharma of a covered claim, must tender to BI Pharma (and/or its insurer) full authority to defend or settle the claim, and must reasonably cooperate with the defending party.

(b) FibroGen shall indemnify, defend and hold BI Pharma, its affiliates and their respective officers, directors, employees and agents harmless from and against all third party claims, losses, damages, costs and expenses including, without limitation, reasonable attorneys' fees, resulting from or arising out of (i) any breach of this Authorization to Proceed by FibroGen, or (ii) the use of Improvements by FibroGen for any purpose. As a condition of this indemnification obligation, BI Pharma must promptly notify FibroGen of a covered claim, must tender to FibroGen (and/or its insurer) full authority to defend or settle the claim, and must reasonably cooperate with the defense.

8. Remedy; Limitation of Liability.

In the event of a breach or default by BI Pharma under this Authorization to Proceed, BI Pharma agrees, at FibroGen's option, to either repeat the Activities at issue or refund the portion of the consideration attributable thereto. UNDER NO CIRCUMSTANCES SHALL EITHER PARTY BE ENTITLED TO INCIDENTAL, INDIRECT, CONSEQUENTIAL OR SPECIAL DAMAGES ARISING IN CONNECTION WITH ANY DEFAULT OR BREACH OF SAID PARTY'S OBLIGATIONS UNDER THIS AUTHORJZATION TO PROCEED, OR ANY ATTACHMENTS HERETO; PROVIDED, HOWEVER, THAT BI PHARMA'S LIABILITY UNDER THIS AUTHORIZATION TO PROCEED IS LIMITED TO **[*]**, PROVIDED, FURTHER, THAT NOTWITHSTANDING THE FOREGOING, THE LIMITATIONS SET FORTH IN THIS PARAGRAPH WILL NOT APPLY TO DAMAGES RESULTING FROM BREACHES BY A PARTY OF ITS DUTY OF CONFIDENTIALITY AND NON-USE IMPOSED UNDER SECTION 4.

9. Termination.

(a) FibroGen may terminate this Authorization to Proceed upon **[*]** prior written notice to BI Pharma if FibroGen decides to discontinue the development of the Product or due to major technical or business issues. FibroGen will pay any monies due and owing BI Pharma, up to the effective date of termination, for Activities actually performed and all authorized expenses actually incurred (as specified in the Proposal), and BI Pharma will immediately return and deliver to FibroGen all FibroGen Technology, FibroGen Information (as defined in the CDA), the Materials and tangible

modifications and derivatives of the Materials. Based on the cost of Services set forth in Appendix A, if BI Pharma has received payment from FibroGen in excess of the amount of Activities it has completed at the time of termination by FibroGen, BI Pharma will then refund to FibroGen all such overpayment of funds. Sections 3(b), (c) and (d), 4, 5, 7, 8, 9(a) and 10 will survive the expiration or earlier termination of this Authorization to Proceed.

(b) FibroGen acknowledges that BI Pharma has **[*]** for manufacturing of clinical grade material for FibroGen **[*]** in the **[*]** under the assumption of a successful development of the process by BI Pharma. Therefore, (a) if process development by BI Pharma proceeds as planned and (b) milestones are achieved to meet the clinical trial supplies of FibroGen, and FibroGen and BI Pharma enter into the Definitive Agreement for clinical supply, **[*]**. However, this shall not apply if **[*]** to **[*]** for **[*]**.

10. Miscellaneous.

(a) If there is a conflict between this Authorization to Proceed and ..any appendix hereto, this Authorization to Proceed will control.

(b) This Authorization to Proceed shall be governed by and construed in accordance with the laws of Switzerland. Any disputes arising out of or in connection with this Authorization to Proceed shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce by arbitrators appointed in accordance to such Rules. Any Arbitration proceedings will be carried out in Geneva, Switzerland and in the English language.

(c) For convenience, this Authorization to “Proceed may be signed in more than one counterpart and signature pages may be exchanged by facsimile.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

If this Authorization to Proceed represents our mutual understanding, please sign and return the enclosed copy, keeping the original for your files.

Very truly yours,

FibroGen, Inc.

By: /s/ Tom Neff
Name: Tom Neff
Title: CEO

Agreed to this 12th day of July, 2006:

Boehringer Ingelheim Pharma GmbH & Co.KG

By: **[*]**
Name: **[*]**
Title: SVP Biopharmaceuticals

By: **[*]**
Name: **[*]**
Title: VP Legal Dept.

List of Appendices:

Appendix A: Master Plan

Appendix B: Development and Clinical Manufacturing Agreement, Additional Terms

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix A

Master Plan

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix B

Development and Clinical Manufacturing Agreement
Additional Terms

Overview: FibroGen has developed, and is further developing, the Product **[*]**. FibroGen desires BI Pharma to develop and optimize a cell line using BI Pharma Technology, and to evaluate **[*]**. FibroGen, in its sole discretion, will select **[*]** for BI Pharma to produce, using the a manufacturing process to be developed by BI Pharma ("BI Pharma Process"), quantities of Product for evaluation by FibroGen in clinical studies.

Clinical Supply: The Definitive Agreement will contain provisions regarding transfer pricing, forecasting, ordering, shipment, delivery, quality, Product testing, acceptance and rejection, tech transfer, representations and warranties, indemnification and other terms typically included in an agreement for the supply of material for **[*]**. Following the commencement of this Authorization to Proceed, Parties will negotiate and execute all quality terms necessary for the manufacture and supply of the Product for the use in clinical trials.

License to Other Improvements: Upon execution of the Definitive Agreement, BI Pharma will grant to FibroGen a non-exclusive, **[*]**, sublicensable license to any Other Improvements developed under the Authorization to Proceed for FibroGen's use in the manufacture of its Product.

License: Under the conditions as laid down below, BI Pharma will grant FibroGen a **[*]**, fully sublicensable license exclusive to the Product under and to BI Pharma Technology, BI Pharma Improvements and Other Improvements, to make, have made, use, import, market, sell and have sold Product (the "License"). The License is royalty bearing as set forth below.

Milestone and Royalties: (a) FibroGen wilt pay BI Pharma: (i) **[*]** upon **[*]**; and (ii) subject to the provisions of the section entitled "**[*]** Supply" below, FibroGen will pay royalties on net sales of Products manufactured by or on behalf of FibroGen **[*]** (defined below) of **[*]** in a calendar year from BI Pharma. The royalty will be calculated on the resulting net sales of Product representing **[*]** the **[*]** (defined below) at royalty rates based on manufacturing titer (definition to be negotiated in good faith by the parties and included in the Definitive Agreement) as follows:

Titer (g/L)	Royalty (% of Net Sales)
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]

(b) If the Product is manufactured by or on behalf of FibroGen using the BI Pharma Process **[*]**, then FibroGen will pay BI Pharma **[*]** of the milestones and royalties described in paragraph (a) above. FibroGen may offset against these royalties **[*]** of payments to third parties under intellectual property licenses that are necessary or desirable to facilitate the development and manufacture of the Product.

If BI Pharma does not agree to manufacture and supply Product **[*]**, or if BI Pharma so agrees, but then fails to fulfill its obligation to do so for any reason, then no royalties or milestone payment shall be payable to BI Pharma under the License.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

[*] Supply: FibroGen will grant BI Pharma a first option to manufacture and supply on an exclusive basis, using the BI Pharma Process **[*]** to be agreed by the parties upon **[*]** and **[*]** at **[*]**. The exclusive supply will be based on **[*]** for a period of **[*]** from **[*]**. In addition, BI Pharma will be entitled to supply **[*]** of FibroGen's Product requirement in a calendar year during the exclusive supply period. B1 Pharma may supply up to **[*]** in any calendar year. If however, FibroGen does not require **[*]** in a particular calendar or contractual year, as further defined in the **[*]** supply agreement, FibroGen will **[*]** and will have satisfied **[*]** obligation to BI Pharma.

It is hereby understood by the parties that BI Pharma's first option to manufacture and supply the Product on an exclusive basis is subject to **[*]** and **[*]** and **[*]** which are **[*]**. The parties also agree that if during the exclusive supply period BI Pharma fails to satisfactorily meet **[*]** for any reason, FibroGen in its sole discretion will be free and BI Pharma will assist FibroGen to source Product from another supplier and no royalties will apply. Following the execution of BI Pharma option, and upon successful proof of concept for the Product the parties will negotiate the definitive **[*]** supply agreement.

Transfer of Product Manufacturing Process: BI Pharma agrees to assist in the transfer of the manufacturing process for the Product subject to the provisions to be negotiated in the Definitive Agreement and or definitive **[*]** supply agreement described above.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

AMENDMENT TO AUTHORIZATION TO PROCEED

This Amendment No.1 to the Authorization to Proceed dated July 12, 2006 (the "Agreement"), by and between Boehringer Ingelheim Pharma GmbH & Co. KG, and FibroGen, Inc. and its subsidiaries (collectively, the "Parties") shall be effective September 14, 2006. The Parties, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agree as follows:

(1) Section 2 of the Agreement is hereby amended in its entirety to read as follows:

FibroGen and BI Pharma will continue negotiations in good faith to execute a signed Definitive Agreement covering the anticipated terms and scope -of the Services. The Definitive Agreement shall also include certain additional terms set forth in **Appendix B** to this Authorization to Proceed. It is anticipated that both parties will sign such an agreement on or before **[*]**. If the parties fail to do so, a prolongation of Authorization to Proceed signed by authorized representatives of the parties will be necessary for BI Pharma to continue. The execution of the Definitive Agreement is subject to the approval of FibroGen's and BI Pharma's Board of Directors. This Authorization to Proceed is binding on the parties hereto, but does not obligate the parties to enter into the Definitive Agreement; and

(2) Except as otherwise provided herein, the Agreement has not been modified or amended and remains in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment as of the date first set forth above.

FIBROGEN, INC.
By: /s/ Thomas B. Neff
Name: Thomas B. Neff
Title: Chief Executive Officer
Date: 28 September 2006

Boehringer Ingelheim Pharma GmbH & Co. KG

By: **[*]**	By: **[*]**
Name: **[*]**	Name: **[*]**
Title: SVP Biopharmaceuticals	Title:
Date: 27.10.06	Date: 25.10.06

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

AMENDMENT NO. 2 TO AUTHORIZATION TO PROCEED

This Amendment No. 2 to the Authorization to Proceed dated July 12, 2006, as amended on September 14, 2006 (the Agreement"), by and between Boehringer Ingelheim Pharma GmbH & Co. KG, and FibroGen, Inc. and its subsidiaries (collectively, the "Parties") shall be effective November 14, 2006. The Parties, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agree as follows:

(1) Section 2 of the Agreement is hereby amended in its entirety to read as follows:

FibroGen and BI Pharma will continue negotiations in good faith to execute a signed Definitive Agreement covering the anticipated terms and scope of the Services. The Definitive Agreement shall also include certain additional .terms set forth in **Appendix B** to this Authorization to Proceed. It is anticipated that both parties will sign such an agreement on or before **[*]**. If the parties fail to do so, a new or revised Authorization to Proceed signed by authorized representatives of the parties defining the revised terms and activities will be necessary for BI Pharma to continue. The execution of the Definitive Agreement is subject to the approval of FibroGen's and BI Pharma's Board of Directors. This Authorization to Proceed is binding on the parties hereto, but does not obligate the parties to enter into the Definitive Agreement; and

(2) Except as otherwise provided herein, the Agreement has not been modified or amended and remains in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment No. 2 as of the date first set forth above.

FIBROGEN, INC.
By: /s/ Thomas B. Neff
Name: Thomas B. Neff
Title: CEO
Date: 14 Nov. 2006

Boehringer Ingelheim Pharma GmbH & Co. KG

By: **[*]**	By: **[*]**
Name: **[*]**	Name: **[*]**
Title: SVP Biopharmaceuticals	Title: Corporate Lawyer
Date: 28.11.06	Date:

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

AMENDMENT NO. 3 TO AUTHORIZATION TO PROCEED

This Amendment No. 3 to the Authorization to Proceed dated July 12, 2006, as amended on September 14, 2006 and November 14, 2006 (the "Agreement"), by and between Boehringer Ingelheim Pharma GmbH & Co.KG, and FibroGen, Inc. and its subsidiaries (collectively, the "Parties") shall be effective February 14, 2007. The Parties, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agree as follows:

(1) Section 2 of e Agreement is hereby amended in its entirety to read as follows:

FibroGen and BI Pharma will continue negotiations in good faith to execute a signed Definitive Agreement covering the anticipated terms and scope of the Services. The Definitive Agreement shall also include certain additional terms set forth in **Appendix B** to this Authorization to Proceed. It is anticipated that both parties will sign such a Definitive Agreement on or before **[*]**. If the parties fail to do so, a new or revised Authorization to Proceed signed by authorized representatives of the parties defining the revised terms and activities will be necessary for BI Pharma to continue. The execution of the Definitive Agreement is subject to the approval of FibroGen's and BI Pharma's Board of Directors. This Authorization to Proceed is binding on the parties hereto, but does not obligate the parties to enter into the Definitive Agreement;

(2) The services initially described in the proposed master plan dated June 30, 2006 attached to the Authorization to Proceed as **Appendix A** (the "Proposal") and are now described in the proposed master plan dated **[*]** as **Appendix A** hereto, which shall replace the original Proposal.; and

[The reminder of this page was intentionally left blank]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

(3) Except as otherwise provided herein, the Agreement has not been modified or amended and remains in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment No. 3 as of the date first set forth above.

FIBROGEN, INC.
By: /s/ Thomas B. Neff
Name: Thomas B. Neff
Title: CEO
Date: 13 Feb. 2007

Boehringer Ingelheim Pharma GmbH & Co. KG

By: **[*]**
Name: **[*]**
Title: VPBP Quality & Compliance
Date: Feb. 15, 2007

By: **[*]**
Name: **[*]**
Title: Corporate Lawyer
Date: Feb. 15, 2007

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix A

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

FibroGen, Inc.
225 Gateway Boulevard,
South San Francisco, California 94080
USA

25 May 2007

Expiration of Amendment No. 3 to Authorization to Proceed; Our intended discussions with regard to a new Authorization to Proceed before [*].

Dear Virginia.

This Letter Agreement by and between Boehringer Ingelheim Pharma GmbH & Co. KG, Birkendorfer Straße 65,88397 Biberach an der Riss ("BI Pharma") and FibroGen, Inc., 225 Gateway Boulevard, South San Francisco, California 94080, USA ("FibroGen") shall confirm the mutual understanding of BI Pharma and FibroGen (each individually called a "Party" and both collectively called the "Parties"), that

1. as the Definitive Agreement and the Quality Agreement between both Parties are still in a negotiation process, and
2. the Authorization to Proceed dated July 12, 2006 as amended on September 14, 2006 and November 14, 2006 and February 14, 2006 (the "ATP") will expire on **[*]**, and
3. with regard to the ongoing negotiations between the Parties for a new Authorization to Proceed, which is deemed to be signed on or before **[*]**, and:
4. to avoid any situation not covered by an agreement between the Parties,

the Parties mutually acknowledge and agree that the ATP shall be valid and therefore be extended until **[*]**, and therefore shall be read to be binding for both Parties until **[*]**.

The Parties further agree that, except as otherwise provided in this Letter Agreement, the ATP has not been modified or amended and remains in full force and effect.

If this Letter Agreement also reflects your understanding, we would kindly ask you to sign this Letter Agreement and to send one copy back to us for our files. The other copy is for your files.

Best regards

Boehringer Ingelheim Pharma GmbH & Co. KG.

[*]
[*]
VP Process Science

[*]
[*]
Biotech Business Development

Accepted and agreed!
South San Francisco,
FibroGen, Inc.

/s/ Tom Neff
Tom Neff
CEO

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

FibroGen, Inc.
225 Gateway Boulevard
South San Francisco
California 94080
USA

15 June 2007

Expiration of the Letter Agreement to Amendment No. 3 to Authorization to Proceed; Our intended discussions with regard to a new Authorization to Proceed before [*].

Dear Virginia.

This Additional Letter Agreement by and between Boehringer Ingelheim Pharma GmbH & Co. KG, Birkendorfer Straße 65,88397 Biberach an der Riss ("BI Pharma") and FibroGen, Inc., 225 Gateway Boulevard, South San Francisco, California 94080, USA ("FibroGen") shall confirm the mutual understanding of BI Pharma and FibroGen (each individually called a "Party" and both collectively called the "Parties"), that

1. as the Definitive Agreement and the Quality Agreement between both Parties are still in a negotiation process, and
2. the Authorization to Proceed dated July 12, 2006 as amended on September 14, 2006 and November 14, 2006 and February l4, 2006 and May 25, 2007 (the "ATP") will expire on **[*]**, and
3. with regard to the ongoing negotiations between the Parties for a new Authorization to Proceed, which is deemed to be signed on or before **[*]**, and
4. to avoid any situation not covered by an agreement between the Parties,

the Parties mutually acknowledge and agree that the ATP shall be valid and therefore be extended until **[*]**, and therefore shall be read to be binding for both Parties until **[*]**.

The Parties further agree that, except as otherwise provided in this Additional Letter Agreement, the ATP has not been modified or amended and remains in full force and effect.

If this Additional Letter Agreement also reflects your understanding, we would kindly ask you to sign this Additional Letter Agreement and to send one copy back to us for our files. The other copy is for your files.

Best regards

Boehringer Ingelheim Pharma GmbH & Co. KG

__[*]_____
[*]
VP Process Science

__[*]_____
[*]
Biotech Business Development

Accepted and agreed!
South San Francisco,

/s/ Tom Neff
Tom Neff
CEO

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

FibroGen, Inc.
225 Gateway Boulevard
South San Francisco
California 94080
USA

June 29, 2007

Expiration of the Additional Letter Agreement to Amendment No. 3 to Authorization to Proceed; Our intended discussions with regard to a new Authorization to Proceed before [*].

Dear Virginia.

This Second Additional Letter Agreement by and between Boehringer Ingelheim Pharma GmbH & Co. KG, Birkendorfer Straße 65,88397 Biberach an der Riss ("BI Pharma") and FibroGen, Inc., 225 Gateway Boulevard, South San Francisco, California 94080, USA ("FibroGen") shall confirm the mutual understanding of BI Pharma and FibroGen (each individually called a "Party" and both collectively called the "Parties"), that

1. as the Definitive Agreement and the Quality Agreement between both Parties are still in a negotiation process, and
2. the Authorization to Proceed dated July 12, 2006 as amended on September 14,2006 and November 14,2006 and February 14,2006 and May 25, 2007 and June 15, 2007 (the "ATP") will expire on **[*]**, and
3. with regard to the ongoing negotiations between the Parties for a new Authorization to Proceed, which is deemed to be signed on or before **[*]**, and
4. to avoid any situation not covered by an agreement between the Parties,

the Parties mutually acknowledge and agree that the ATP shall be valid and therefore be extended until **[*]**, and therefore shall be read to be binding for both Parties until **[*]**.

The Parties further agree that, except as otherwise provided in this Additional Letter Agreement, the ATP has not been modified or amended and remains in full force and effect.

If this Second Additional Letter Agreement also reflects your understanding, we would kindly ask you to sign this Second Additional Letter Agreement and to send one copy back to us for our files. The other copy is for your files.

Best regards

Boehringer Ingelheim Pharma GmbH & Co. KG

__[*]_____
[*]
VP Process Science

__[*]_____
[*]
Biotech Business Development

Accepted and agreed!
South San Francisco,

/s/ Tom Neff
Tom Neff
CEO

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

FibroGen, Inc.
225 Gateway Boulevard
South San Francisco
California 94080
USA

July 23, 2007

Expiration of the Additional Letter Agreement to Amendment No. 3 to Authorization to Proceed; Our intended discussions with regard to a new Authorization to Proceed before [*].

Dear Virginia.

This Third Additional Letter Agreement by and between Boehringer Ingelheim Pharma GmbH & Co. KG, Birkendorfer Straße 65,88397 Biberach an der Riss ("BI Pharma") and FibroGen, Inc., 225 Gateway Boulevard, South San Francisco, California 94080, USA ("FibroGen") shall confirm the mutual understanding of BI Pharma and FibroGen (each individually called a "Party" and both collectively called the "Parties"), that

1. as the Definitive Agreement and the Quality Agreement between both Parties are still in a negotiation process, and
2. the Authorization to Proceed dated July 12, 2006 as amended on September 14,2006 and November 14, 2006 and February 14, 2006 and May 25, 2007 and June 15, 2007 and June 29, 2007 (the "ATP") will expire on **[*]**, and
3. with regard to the ongoing negotiations between the Parties for a new Authorization to Proceed, which is deemed to be signed on or before **[*]**, and
4. to avoid any situation not covered by an agreement between the Parties,

the Parties mutually acknowledge and agree that the ATP shall be valid and therefore be extended until **[*]**, and therefore shall be read to be binding for both Parties until **[*]**.

The Parties further agree that, -except as otherwise provided in this Third Additional Letter Agreement, the ATP has not been modified or amended and remains in full force and effect.

If this Third Additional Letter Agreement also reflects your understanding, we would kindly ask you to sign this Third Additional Letter Agreement and to send one copy back to us for our files. The other copy is for your files.

Best regards

Boehringer Ingelheim Pharma GmbH & Co. KG

__[*]_____
[*]
VP Process Science

__[*]_____
[*]
Biotech Business Development

Accepted and agreed!
South San Francisco,

/s/ Tom Neff
Tom Neff
CEO

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

FibroGen, Inc.
225 Gateway Boulevard
South San Francisco
California 94080
USA

August 29, 2007

Expiration of the Additional Letter Agreement to Amendment No. 3 to Authorization to Proceed; Our intended discussions with regard to a new Authorization to Proceed before [*].

Dear Virginia.

This Fourth Additional Letter Agreement by and between Boehringer Ingelheim Pharma GmbH & Co. KG, Birkendorfer Straße 65,88397 Biberach an der Riss ("BI Pharma") and FibroGen, Inc., 225 Gateway Boulevard, South San Francisco, California 94080, USA ("FibroGen") shall confirm the mutual understanding of BI Pharma and FibroGen (each individually called a "Party" and both collectively called the "Parties"), that

1. as the Definitive Agreement and the Quality Agreement between both Parties are still in a negotiation process, and
2. the Authorization to Proceed dated July 12, 2005 as amended on September 14, 2006 and November 14, 2006 and February 14, 2006 and May 25, 2007 and June 15, 2007 and June 29, 2007 and July 23 (the "ATP") will expire on **[*]**, and
3. with regard to the ongoing negotiations between the Parties for a new Authorization to Proceed, which is deemed to be signed on or before **[*]**, and
4. to avoid any situation not covered by an agreement between the Parties,

the Parties mutually acknowledge and agree that the ATP shall be valid and therefore be extended until **[*]**, and therefore shall be read to be binding for both Parties until **[*]**.

The Parties further agree that, except as otherwise provided in this Fourth Additional Letter Agreement, the ATP has not been modified or amended and remains in full force and effect.

If this Fourth Additional Letter Agreement also reflects your understanding, we would kindly ask you to sign this Fourth Additional Letter Agreement and to send one copy back to us for our files. The other copy is for your files.

Best regards

Boehringer Ingelheim Pharma GmbH & Co. KG

__[*]_____
[*]
VP Process Science

__[*]_____
[*]
Biotech Business Development

Accepted and agreed!
South San Francisco,

/s/ Tom Neff
Tom Neff
CEO

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 9:

Specifications, incl. shipping and packing instructions agreed by the Parties (to be attached upon agreement of the Parties)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 10:

Other Improvements

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 11:

Description of the "BI Pharma Contribution"

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 12:

Description of the "FibroGen Contribution"

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Appendix 13:

Bill and Hold Provisions

1. BI Pharma shall be entitled to invoice FibroGen for Product held on a bill and hold basis when such Product has been accepted by FibroGen.

2. BI Pharma shall store such Product under appropriate cGMP conditions as set forth in applicable written standard operating procedures pertaining to the storage of similar items by BI Pharma on its own behalf or, in the alternative, pursuant to written agreement of the Parties.

3. FibroGen shall arrange for insurance for the Product stored at BI Pharma. Provided that BI Pharma has complied with the requirements of cGMP and any applicable standard operating procedures, including any storage procedures agreed by the Parties, BI Pharma shall not be liable for deterioration in Product. BI Pharma be liable for deterioration of or other damage to the Product that result from its failure to comply with the requirements of cGMP and any applicable standard operating procedures, including any storage procedures agreed by the Parties.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

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Exhibit 10.28(ii)

Boehringer Ingelheim
Pharma GmbH & Co. KG
Legal Department

Boehringer Ingelheim Pharma GmbH & Co. KG • 88397 Biberach an der Rise

26 June 2008

FibroGen Inc.
225 Gateway Boulevard
South San Francisco, CA 94080
U. S. A.

Re: Postponement of exercise date for "BI Pharma Option Part 1" granted under the Process Development and Clinical Supply Agreement effective as of November 29, 2007 (the "Definitive Agreement")

Dear Ladies and Gentlemen:

Under the Definitive Agreement FibroGen, Inc. ("FibroGen") granted to Boehringer Ingelheim Pharma GmbH & Co. KG ("BI", and together with FibroGen, the "Parties") a first option to manufacture and supply **[*]** Product (the "Option"), which must be exercised no later than **[*]**.

As described in the Definitive Agreement, the Parties have been engaged in negotiations for a **[*]** supply agreement (the "Supply Agreement") which, if BI exercises the Option, shall be finalized no later than **[*]**.

As the negotiations require further discussion between the Parties, the purpose of this letter agreement (this "Letter Agreement") is to set forth the mutual agreement of FibroGen and BI with respect to an extension of the date by which the BI Pharma Option Part 1 as described in the Definitive Agreement must be exercised. Accordingly, FibroGen and BI agree that the Definitive Agreement shall be amended as follows:

1. The second sentence of Section 6.1.1 of the Definitive Agreement shall be amended to read as follows:

"Such option must be exercised by BI Pharma no later than **[*]**, and such option will lapse if not exercised by BI Pharma by such date."

2. The second sentence of Section 6.2 shall be deleted.

Except as expressly set forth in this Letter Agreement, all other terms and conditions of the Definitive Agreement shall remain in full force and effect. This Letter Agreement may be executed in one or more counterparts, each of which shall constitute together the same document.

Please indicate your agreement with the matters set forth herein by executing this Letter Agreement in the space provided below.

Very truly yours,

Boehringer Ingelheim Pharma	**GmbH & Co. KG**
ppa.	i. V.
By: **[*]**	**[*]**
Name: **[*]**	**[*]**
Title: VP Supply Chain	Corporate Lawyer

Acknowledged and Agreed:

FibroGen, Inc.

By: /s/ Thomas B. Neff
Name: **Thomas B. Neff**
Title: **Chairman & CEO**

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Exhibit 10.28(iii)

FibroGen Inc.
225 Gateway Boulevard
South San Francisco, CA 94080
U. S. A.

Boehringer Ingelheim
Pharma GmbH & Co. KG

Legal Department

18 August 2008

Re: Postponement of exercise date for "BI Pharma Option Part 1" granted under, and final execution date of the "[*] supply agreement" according to the Process Development and Clinical Supply Agreement effective as of November 29, 2007 and amended by the Letter Agreement (the "Letter Agreement") effective as of June 26, 2008 (together the "Definitive Agreement").

Dear Ladies and Gentlemen:

Under the Definitive Agreement FibroGen, Inc. ("FibroGen") granted to Boehringer Ingelheim Pharma GmbH & Co. KG ("BI", and together with FibroGen, the "Parties") a first option to manufacture and supply **[*]** Product (the "Option"), which must be exercised no later than **[*]**.

The Parties now agree, that the exercise of the Option and the negotiation of the **[*]** supply agreement (the "Supply Agreement") needs further postponement. As the Parties are engaged in negotiations for an Addendum No. 1 to the Definitive Agreement reflecting the changes discussed during the previous months, the purpose of this second letter agreement (this "Letter Agreement No. 2") is to set forth the mutual agreement of FibroGen and BI with respect to an extension of the date by which the Option as described in the Definitive Agreement must be exercised and the Supply Agreement shall be finally executed. Accordingly, FibroGen and BI agree that the Definitive Agreement shall be amended as follows:

1. The second sentence of Section 6.1.1 of the Definitive Agreement shall be amended to read as follows:

   "Such option must be exercised by BI Pharma no later than **[*]**, and such option will lapse if not exercised by BI Pharma by such date."

2. The second sentence (which has been the third sentence prior to deletion of the former second sentence by the Letter Agreement) of Section 6.2 shall be amended to read as follows:

"However, the final execution date of said **[*]** supply agreement shall not be later than **[*]**."

Except as expressly set forth in this Letter Agreement No. 2, all other terms and conditions of the Definitive Agreement shall remain in full force and effect. This Letter Agreement No. 2 may be executed in one or more counterparts, each of which shall constitute together the same document.

Please indicate your agreement with the matters set forth herein by executing this Letter Agreement No. 2 in the space provided below.

Very truly yours,

Boehringer Ingelheim Pharma GmbH & Co. KG

	ppa.	i. V.
By:	**[*]**	**[*]**
Name:	**[*]**	**[*]**
Title:	**VP Supply Chain**	**Corporate Lawyer**

Acknowledged and Agreed:

FibroGen, Inc.

By: /s/ William Hodder
Name: **William Hodder**
Title: **Vice President, Business Development**

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Exhibit 10.28(iv)

Amendment No. 1

(hereinafter called the "Amendment")

to the

Process Development and Clinical Supply Agreement
effective as of 29 November 2007 and signed by the Parties
on November 29 and December 03, 2007

between

FibroGen Inc.
409 Illinois St
San Francisco, CA 94158
USA

(hereinafter called "FibroGen")

and

Boehringer Ingelheim Pharma GmbH & Co. KG
Birkendorfer Straße 65
88397 Biberach an der Riß
Germany
(hereinafter called "BI Pharma")

(each party individually called a "Party" and both parties collectively called the "Parties").

Preamble

The Parties entered into the Process Development and Clinical Supply Agreement, effective as of 29 November 2007 and signed by the Parties on November 29 and December 03, 2007, which has been modified by the Letter Agreements entered into on 26 June 2008 and 18 August 2008 (hereinafter together called the "Agreement").

Amendment 1 to the Process Development and Clinical Supply Agreement between FibroGen / BI Pharma

The Parties have agreed to update Appendix 2 of the Agreement due to their needs and hereby agree to modify the Agreement as follows:

1. The current Appendix 2 of the Agreement "Project Plan including Project Timeline and Payment Schedule" shall be replaced by the "Master plan: Anti — CTGF FibroGen Inc. / BI Pharma GmbH & Co. KG" (version of May 12, 2009), attached to this Amendment as Attachment 1. Any reference in the Agreement to the Appendix 2 shall be read to reference the new Appendix 2 as attached to this Amendment (including but not limited to the List of Appendices on page 29 of the Agreement).

2. This Amendment shall take effect as of the date of last signature below and as far as not amended herein, the Agreement shall remain in full force and effect.

Biberach, May 14, 2009	San Francisco, May 28, 2009
Boehringer Ingelheim Pharma GmbH & Co. KG	**FibroGen Inc.**
ppa.	ppa.
[*]	**[*]**
[*]	**[*]**
	/s/ James Polarek
	James Polarek
	VP, Protein Therapeutics and Collagen Development

Attachment 1: Master plan: Anti- CTGF Fibrogen Inc./ BI Pharma GmbH & Co. KG (Version of May 12, 2009)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Attachment 1

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

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Exhibit 10.28(v)

AMENDMENT NO. 3 TO PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 3 (the "Third Amendment") is effective retroactively as of November 5, 2010 (the "Third Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG,** Birkendorfer Straße 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and **FibroGen, Inc.,** 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen") amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, and the Amendment No. 1, effeactive as of May 28, 2009 (hereinafter together the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as, the "Parties". The Supply Agreement and this Third Amendment are collectively, the "Agreement".

WHEREAS, FibroGen wishes to engage BI Pharma to conduct additional **[*]**, in compliance with the terms of the Supply Agreement.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Third Amendment shall have the meaning ascribed to them in the Supply Agreement.

(2) The Parties hereby agree that the **[*]** that shall be performed by BI Pharma shall be considered part of the Project and therefore, pursuant to Section 2.2 of the Agreement, the Exhibit "Work Scope and Cost Estimate for **[*]**", attached to this Third Amendment shall be added as an amendment to the existing Appendix 2 of the Agreement, and pursuant thereto BI Pharma shall conduct a **[*]** on behalf of FibroGen, and in accordance with the Supply Agreement.

(3) This Third Amendment, together with the Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Third Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Third Amendment.

(4) This Third Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Third Amendment to the Agreement as of Third Amendment Effective Date.

FIBROGEN, INC.

By: /s/ Jim Polarek
Name: Jim Polarek
Title: VP, Protein Therapeutics and Collagen Development
Date: December 13, 2010

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG
ppa.

By: **[*]**
Name: **[*]**
Title: Head of ICB, SCM

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG
i. V.

By: **[*]**
Name: **[*]**
Title: Lawyer
Date: November 22, 2010

Exhibit: Work Scope and Cost Estimate for **[*]** (Version 3, 2010)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

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Exhibit 10.28(vi)

AMENDMENT NO. 4 TO PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 4 (the "Fourth Amendment") is effective as of January 24, 2011 (the "Fourth Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG** ("BI Pharma") and **FibroGen, Inc.** ("FibroGen") amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of on June 26, 2008 and August 18, 2008, the First Amendment on May 14, 2009 and the Third Amendment on November 5, 2010 (the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as, the "Parties".

WHEREAS, as contemplated under Section 2.4 of the Supply Agreement, BI Pharma has conducted on behalf of FibroGen **[*]** using the Product **[*]**, and the Process and the Product **[*]** have not been materially changed;

WHEREAS, the Parties have agreed upon Specifications to which the Product must be manufactured by BI Pharma, both for bulk drug substance and formulated drug product; and

WHEREAS, FibroGen wishes to engage BI Pharma to conduct additional GMP runs, in compliance with the terms of the Supply Agreement.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Fourth Amendment shall have the meaning ascribed to them in the Supply Agreement.

(2) Pursuant to Section 2.2 of the Supply Agreement, the work plan entitled "**[*]**", attached hereto as Exhibit A, is hereby added as an amendment to Appendix 2 to the Supply Agreement BI Pharma, and pursuant thereto BI Pharma shall manufacture on behalf of FibroGen in accordance with the Supply Agreement, **[*]** and **[*]**.

(3) The Specifications for the Product to be produced pursuant to Section 2 hereof have agreed to by the Parties and are set forth in the Amended and Restated Quality Agreement by and between the Parties, and are hereby added as an amendment to Appendix 9 to the Supply Agreement, and shall apply to the activities contemplated by Section (2) above as part of the Acceptance Criteria for the Product.

(4) This Fourth Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Fourth Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Fourth Amendment.

(5) This Fourth Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Fourth Amendment to the Supply Agreement as of Fourth Amendment Effective Date.

FIBROGEN, INC.

By:	/s/ Michael Lowenstein
Name:	Michael Lowenstein
Title:	Legal Attorney
Date:	January 24, 2011

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG
ppa.

By:	**[*]**
Name:	**[*]**
Title:	VP Legal Germany
Date:	January 27, 2011

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG
ppa.

By:	**[*]**
Name:	**[*]**
Title:	VP Business & Contracts
Date:	January 28, 2011

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

EXHIBIT A

[*]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

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Exhibit 10.28(vii)

AMENDMENT NO. 5 TO THE PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 5 (the "Fifth Amendment") is effective as of April 15, 2011 (the "Fifth Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG**, Birkendorfer Straße 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and **FibroGen, Inc.**, 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen") amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, the Amendment No. 1, effective as of May 28, 2009, the Amendment No. 3, effective as of November 5, 2010, and the Amendment No. 4, effective as of January 24, 2011 (hereinafter together the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as, the "Parties".

WHEREAS, FibroGen wishes to engage BI Pharma to conduct **[*]** as outlined in the Amendment No. 4, effective as of January 24, 2011.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Fifth Amendment shall have the meaning ascribed to them in the Supply Agreement.

(2) Pursuant to Section 2.2 of the Supply Agreement, the work plan entitled "**[*]** (Work scope and cost estimate, Version of March 16, 2011)", attached hereto as Exhibit A, is hereby added as an amendment to Appendix 2 to the Supply Agreement, and pursuant thereto BI Pharma shall **[*]** on behalf of FibroGen in accordance with the Supply Agreement.

(3) This Fifth Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Fifth Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Fifth Amendment.

(4) This Fifth Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Fifth Amendment to the Supply Agreement as of Fifth Amendment Effective Date.

FIBROGEN, INC.

By: /s/ Jim Polarek
Name: Jim Polarek
Title: VP, Protein Therapeutics and Collagen Development
Date: April 19, 2011

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG

Biberach, April 15, 2011

	ppa.	ppa.
By:	**[*]**	**[*]**
Name:	**[*]**	**[*]**
Title:	VP Business & Contracts	VP Legal Germany

Exhibit:

Exhibit A: Work scope and cost estimate (Version of March 16, 2011)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit A
Work scope and cost estimate
(Version of March 16, 2011)
(3 pages)

[*]

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Exhibit 10.28(viii)

AMENDMENT NO. 6 TO THE PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 6 (the "Sixth Amendment"), effective as of May 26, 2011 (the "Sixth Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG**, Birkendorfer Straße 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and **FibroGen, Inc.**, 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen"), amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, Amendment No. 1, effective as of May 28, 2009, Amendment No. 3, effective as of November 5, 2010, Amendment No. 4, effective as of January 24, 2011 (the "Fourth Amendment"), and Amendment No. 5, effective as of April 15, 2011 (hereinafter together the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as, the "Parties".

WHEREAS, as contemplated under Section 2.4 of the Supply Agreement, BI Pharma has conducted on behalf of FibroGen **[*]** using the Product **[*]**, and the Process and the Product **[*]** have not been materially changed;

WHEREAS, the Parties have agreed upon Specifications to which the Product must be manufactured by BI Pharma, both for bulk drug substance and formulated drug product; and

WHEREAS, FibroGen wishes to engage BI Pharma to conduct additional GMP runs and drug product fills, in compliance with the terms of the Supply Agreement.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Sixth Amendment shall have the meaning ascribed to them in the Supply Agreement.

(2) Pursuant to Section 2.2 of the Supply Agreement, the work plan entitled "**[*]** (Work Scope and Cost Estimate, Version of November 12, 2010)", as attached to the Fourth Amendment is hereby retroactively as of January 24, 2011 replaced in its entirety by the Work Scope and Cost Estimate, Version of May 24, 2011, which is attached hereto as Exhibit A and is hereby added as an amendment to Appendix 2 to the Supply Agreement, and pursuant thereto BI Pharma shall **[*]** accordance with the Supply Agreement, **[*]** and **[*]**

(3) The Specifications for the Product to be produced pursuant to Section 2 hereof have been agreed to by the Parties and are set forth in the Amended and Restated Quality Agreement by and between the Parties and shall apply to the activities contemplated by Section (2) above as part of the Acceptance Criteria for the Product.

(4) This Sixth Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Sixth Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Sixth Amendment.

(5) This Sixth Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Sixth Amendment to the Supply Agreement as of Sixth Amendment Effective Date.

Biberach, July 15, 2011

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG

i.V.	i.V.
[*]	**[*]**
[*]	**[*]**
Dir. Business and Contracts	Head of Team Biberach — Dep. Legal Germany

San Francisco, July 18, 2011

FIBROGEN, INC

/s/ Jim Polarek	
Name Jim Polarek	Name
Title: VP Protein Therapeutics and Collagen Development	Title

Exhibit:

Exhibit A: Work Scope and Cost Estimate (Version of May 24, 2011)

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit A

Work Scope and Cost Estimate
(Version of May 24, 2011)
(4 pages)

[*]

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Exhibit 10.28(ix)

AMENDMENT NO. 7 TO THE PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 7 (the "Seventh Amendment"), effective as of January 01, 2012 (the "Seventh Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG**, Birkendorfer Straße 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and **FibroGen, Inc.**, 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen"), amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, Amendment No. 1, effective as of May 28, 2009, Amendment No. 3, effective as of November 5, 2010, Amendment No. 4, effective as of January 24, 2011, Amendment No. 5, effective as of April 15, 2011, and Amendment No. 6, effective as of May 26, 2011 (hereinafter together the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as, the "Parties".

WHEREAS, as contemplated under Section 2.4 of the Supply Agreement, BI Pharma has conducted on behalf of FibroGen **[*]** using the Product **[*]**, and the Process and the Product **[*]** have not been materially changed;

WHEREAS, the Parties have agreed upon Specifications to which the Product must be manufactured by BI Pharma, both for bulk drug substance and formulated drug product; and

WHEREAS, FibroGen wishes to engage BI Pharma to **[*]** to the Supply Agreement and pursuant to the work plan entitled "**[*]**, Version of May 24, 2011" but **[*]** (the "**[*]**"); and to **[*]**, in compliance with the terms of the Supply Agreement as set forth in and as amended by this Seventh Amendment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Seventh Amendment shall have the meaning ascribed to them in the Supply Agreement.

(2) The Parties agree that pursuant to Section 2.2 of the Supply Agreement, the work plan (in its current version, i.e. as amended by the Work Scope and Cost Estimate entitled "**[*]**, Version of May 24, 2011" entered into under Amendment **6** to the Supply Agreement) shall be amended by the "Work Scope entitled "**[*]** (Version of February 2, 2012)", attached hereto as Exhibit A, and is hereby added as an amendment to Appendix 2 to the Supply Agreement. Pursuant thereto BI Pharma shall manufacture and/or supply, as applicable, under the terms and conditions of the Supply Agreement (including but not limited to Section 4.1 of the Supply Agreement) and this Seventh Amendment, (i) the **[*]** (ii) **[*]** of **[*]**, (iii) **[*]**, and (iv) **[*]** of **[*]** under (iii) above.

(3) The Specifications for the Product to be produced pursuant to Section 2 hereof have been agreed to by the Parties and are set forth in the Amended and Restated Quality Agreement by and between the Parties and shall apply to the activities contemplated by Section (2) above as part of the Acceptance Criteria for the Product.

(4) This Seventh Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Seventh Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Seventh Amendment.

(5) This Seventh Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

Space Left Intentionally Blank — Signatures on Following Page

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

IN WITNESS WHEREOF, the Parties have executed this Seventh Amendment to the Supply Agreement as of Seventh Amendment Effective Date.

Biberach, Febraury 8, 2012

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG

ppa.

[*]
[*]
Head of Team Biberach — Dep. Legal Germany

i.V.

[*]
[*]
Dir. Business & Contracts

San Francisco, February 2, 2012

FIBROGEN, INC

/s/ James Polarek
Dr. James Polarek
VP, Protein Therapeutics and Collagen Development

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit A
Work Scope
(Version of February 2, 2012)

[*]

4

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

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Exhibit 10.28(x)

AMENDMENT NO. 8 TO THE PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 8 (the "Eighth Amendment"), effective retroactively as of July 10, 2012 (the "Eighth Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG**, Birkendorfer Straße 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and **FibroGen, Inc.**, 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen"), amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, Amendment No. 1, effective as of May 28, 2009, Amendment No. 3, effective as of November 5, 2010, Amendment No. 4, effective as of January 24, 2011, Amendment No. 5, effective as of April 15, 2011, Amendment No. 6, effective as of May 26, 2011 and Amendment No. 7, effective as of January 01, 2012 (hereinafter together the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as the "Parties".

WHEREAS, FibroGen wishes to engage BI Pharma to **[*]** of the Product, **[*]** of the Product and **[*]**, in **[*]** which has been provided by FibroGen, in compliance with the terms of the Supply Agreement as set forth in and as amended by this Eighth Amendment. Additional documentation for **[*]** for **[*]** with respect to **[*]** under the Supply Agreement will also be provided, if requested by Fibrogen.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Eighth Amendment shall have the meaning ascribed to them in the Supply Agreement.

(2) Pursuant to Section 2.2 of the Supply Agreement, the work plan entitled "**[*]** (Work Scope, Version of September 18, 2012)", attached hereto as Exhibit A, is hereby added as an amendment to Appendix 2 to the Supply Agreement. Pursuant thereto BI Pharma shall **[*]** provided by FibroGen on behalf of FibroGen in accordance with the Supply Agreement.

(3) The Deliverables related to the Work Scope as indicated in the attached Exhibit A hereto is for BI Pharma to **[*]** provided by FibroGen, and, during the term of the Supply Agreement, to **[*]**, as further described in the Work Scope (Exhibit A) which may arise from **[*]**, as needed and requested by FibroGen in the course of **[*]** and the continuation of the Project regarding the specific **[*]**.

The total aggregate payment of **[*]** (as listed under Exhibit A hereto) will be paid by FibroGen to BI Pharma upon **[*]** and provision of such **[*]** to FibroGen. Any questions regarding **[*]** which may arise from the **[*]** will be **[*]** by BI Pharma, as needed and requested by FibroGen in the course of **[*]** and the continuation of the project.

(4) This Eighth Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Eighth Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Eighth Amendment.

(5) This Eighth Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Eighth Amendment to the Supply Agreement as of Eighth Amendment Effective Date.

Biberach, January 9, 2013

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG

i.V.

[*]
[*]
VP Business & Contracts

ppa.

[*]
[*]
Head of Team Biberach — Dep. Legal Germany

San Francisco, January 24, 2012

FIBROGEN, INC

/s/ Jim Polarek
Name: Jim Polarek
Title: VP Protein Therapeutics and Collagen Development

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit A
Work Scope
(Version of September 18, 2012)

[*]

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[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

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Exhibit 10.28(xi)

AMENDMENT NO. 9 TO THE PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 9 (the "Ninth Amendment"), effective as of November 26, 2012 (the "Ninth Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG**, Birkendorfer Straße 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and **FibroGen, Inc.**, 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen"), amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, Amendment No. 1, effective as of May 28, 2009, Amendment No. 3, effective as of November 5, 2010, Amendment No. 4, effective as of January 24, 2011, Amendment No. 5, effective as of April 15, 2011, Amendment No. 6, effective as of May 26, 2011, Amendment No. 7, effective as of January 01, 2012, and Amendment No. 8 (which is under negotiation simultaneously) (hereinafter together the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as the "Parties".

WHEREAS, FibroGen and BI Pharma agreed to the work plan entitled "**[*]** (Version of February 2, 2012)" and both parties are now in agreement that (i) some parts of this work plan have been successfully performed by BI Pharma, and (ii) some other parts need to be removed from said work plan and be replaced by other work packages;

WHEREAS, FibroGen additionally wishes to engage BI Pharma to **[*]**, among others **[*]**, in compliance with the terms of the Supply Agreement as amended by this Ninth Amendment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Sections 2.1, 2.2 and 4 of the work plan entitled "**[*]** (Version of February 2, 2012)" shall be deleted. The other parts of this work plan, including those portions of the work plan which have been performed by BI Pharma, shall remain in full force and effect.

(2) Pursuant to Section 2.2 of the Supply Agreement, additional work packages shall be performed under the Agreement and therefore the Project shall be amended and replaced by the work plan entitled "**[*]** (Version of November 26, 2012)", which is attached hereto as Exhibit A and is hereby added as an amendment to Appendix 2 to the Supply Agreement. These additional work packages are

a) **[*]** (as defined in the Sixth Amendment), **[*]** under the Seventh Amendment that are now deleted according to Section (1) of this Ninth Amendment, and

b) **[*]**,

in accordance with the Supply Agreement.

(3) This Ninth Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full

force and effect. All express or implied agreements and understandings that conflict with the terms of this Ninth Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Ninth Amendment.

(4) This Ninth Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Ninth Amendment to the Supply Agreement as of Ninth Amendment Effective Date.

Biberach, February 21, 2013

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG

ppa.

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[*]
VP Business & Contracts

ppa.

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[*]
Head of Team Biberach – Dep. Legal Germany

San Francisco, March 25, 2013

FIBROGEN, INC

/s/ James Polarek
Name James W. Polarek
Title VP, Protein Therapeutics and Collagen Development

Name
Title

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit A
Work Scope
(Version of November 26, 2012)

[*]

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[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

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Exhibit 10.28(xii)

AMENDMENT NO. 10 TO THE PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 10 (the "Tenth Amendment"), effective as of June 21, 2013 (the "Tenth Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG**, Birkendorfer Straße 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and **FibroGen, Inc.**, 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen"), amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, Amendment No. 1, effective as of May 28, 2009, Amendment No. 3, effective as of November 5, 2010, Amendment No. 4, effective as of January 24, 2011, Amendment No. 5, effective as of April 15, 2011, Amendment No. 6, effective as of May 26, 2011, Amendment No. 7, effective as of January 01, 2012, Amendment No. 8, effective as of July 10, 2012 and Amendment No. 9, effective as of November 26, 2012 (hereinafter together the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as, the "Parties".

WHEREAS, FibroGen wishes to engage BI Pharma to **[*]**, in compliance with the terms of the Supply Agreement as set forth in and as amended by this Tenth Amendment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Tenth Amendment shall have the meaning ascribed to them in the Supply Agreement.

(2) The Parties agree that pursuant to Section 2.2 of the Supply Agreement, the work plan entitled "**[*]**, Version of April 19, 2013", attached hereto as Exhibit A, is hereby added as an Amendment to Appendix 2 to the Supply Agreement. Pursuant thereto BI Pharma shall, on behalf of FibroGen, manufacture in accordance with the Supply Agreement, (i) **[*]** (as defined in the Amended and Restated Quality Agreement between the Parties dated March 03, 2011 (hereinafter "Amended and Restated Quality Agreement"), (ii) **[*]** (as defined in the Amended and Restated Quality Agreement) **[*]**, and (iii) **[*]**. The term **[*]** shall mean **[*]** for clinical supply that **[*]** agreed upon between the Parties in writing.

(3) The Specifications for **[*]** pursuant to Section 2 hereof have been agreed to by the Parties and are set forth in the Amended and Restated Quality Agreement by and between the Parties. Such Specifications for **[*]**, as applicable, shall apply to the activities contemplated by Section (2) above as part of the Acceptance Criteria for **[*]**, respectively.

(4) All provisions of the Supply Agreement relating to the manufacture of Product which are reasonably applicable to **[*]** shall apply accordingly to such **[*]** as set forth in Exhibit A hereto, including but not limited the provisions regarding delivery of Product set forth in Section 4 of the Supply Agreement, Parties' warranties set forth in Section 7 of the Supply Agreement (including, for the avoidance of doubt, the disclaimer set forth in Section 7.5 of the Supply Agreement) and the limitations of the Parties' liability and indemnification obligations set forth in Section 8 of the Supply Agreement.

(5) This Tenth Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Tenth Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Tenth Amendment.

(6) This Tenth Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Tenth Amendment to the Supply Agreement as of Tenth Amendment Effective Date.

Biberach, June 21, 2013

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG

ppa. i.V.

[*] **[*]**
[*] **[*]**
Head of Corporate Legal Biopharma Dir. Business & Contracts

San Francisco ,2013

FIBROGEN, INC

/s/ Jim Polarek
Name Jim Polarek
Title Vice President

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit A
Work Scope
(Version of April 19, 2013)

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[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

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Exhibit 10.28(xiii)

AMENDMENT NO. 11 TO THE PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 11 (the "Eleventh Amendment"), effective as of July 09, 2013 (the "Eleventh Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG**, Birkendorfer Straße 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and **FibroGen, Inc.**, 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen"), amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, Amendment No. 1, effective as of May 28, 2009, Amendment No. 3, effective as of November 5, 2010, Amendment No. 4, effective as of January 24, 2011, Amendment No. 5, effective as of April 15, 2011, Amendment No. 6, effective as of May 26, 2011, Amendment No. 7, effective as of January 01, 2012, Amendment No. 8, effective as of July 10, 2012, Amendment No. 9, effective as of November 26, 2012 and Amendment No. 10, effective as of June 21, 2013 (hereinafter together the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as the "Parties".

WHEREAS, FibroGen wishes BI Pharma (i) to **[*]** from **[*]** and (ii) to **[*]** at BI Pharma, in both cases (i) and (ii) in compliance with the terms of the Supply Agreement as set forth in and as amended by this Eleventh Amendment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Eleventh Amendment shall have the meaning ascribed to them in the Supply Agreement.

(2) Pursuant to Section 2.2 of the Supply Agreement, the work plan entitled "**[*]**, Version of July 09, 2013", attached hereto as Exhibit A, is hereby added as an amendment to Appendix 2 to the Supply Agreement. Pursuant thereto BI Pharma shall (i) **[*]** from **[*]** and (ii) **[*]** at BI Pharma, in both cases (i) and (ii) in accordance with the Supply Agreement.

(3) This Eleventh Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Eleventh Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Eleventh Amendment.

(4) This Eleventh Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Eleventh Amendment to the Supply Agreement as of Eleventh Amendment Effective Date.

Biberach, July 23, 2013

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG

ppa.

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[*]
VP Business & Contracts

ppa.

[*]
[*]
Head of Team Biberach – Dep. Legal Germany

San Francisco, July 31, 2013

FIBROGEN, INC

/s/ Jim Polarek
Name Jim Polarek
Title Vice President

Name
Title

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit A
Work Scope
(Version of July 09, 2013)

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Exhibit 10.28(xiv)

AMENDMENT NO. 12 TO THE PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 12 (the "Twelfth Amendment"), effective as of August 01, 2013 (the "Twelfth Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG**, Birkendorfer Straße 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and **FibroGen, Inc.**, 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen"), amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, Amendment No. 1, effective as of May 28, 2009, Amendment No. 3, effective as of November 5, 2010, Amendment No. 4, effective as of January 24, 2011, Amendment No. 5, effective as of April 15, 2011, Amendment No. 6, effective as of May 26, 2011, Amendment No. 7, effective as of January 01, 2012, Amendment No. 8, effective as of July 10, 2012, Amendment No. 9, effective as of November 26, 2012, Amendment No. 10, effective as of June 21, 2013 and Amendment No. 11, effective as of June 26, 2013 (hereinafter together the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as the "Parties".

WHEREAS, FibroGen wishes BI Pharma to **[*]** the terms of the Supply Agreement as set forth in and as amended by this Twelfth Amendment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Twelfth Amendment shall have the meaning ascribed to them in the Supply Agreement.

(2) Pursuant to Section 2.2 of the Supply Agreement, the work plan entitled "**[*]**, Version of July 12 2013", attached hereto as Exhibit A, is hereby added as an amendment to Appendix 2 to the Supply Agreement. Pursuant thereto BI Pharma shall on behalf of FibroGen, **[*]** in accordance with the Supply Agreement. Parties are in agreement, that **[*]** such **[*]** under the Supply Agreement and **[*]**. In the event that Parties agree to **[*]** in the further development of the Product, the terms and conditions of **[*]** in the course of the Project and **[*]** are subject to separate discussion and agreement between the Parties.

(3) This Twelfth Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Twelfth Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Twelfth Amendment.

(4) This Twelfth Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Twelfth Amendment to the Supply Agreement as of Twelfth Amendment Effective Date.

Biberach, July 18, 2013

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG

ppa.

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[*]
VP Business & Contracts

ppa.

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[*]
Head of Team Biberach – Dep. Legal Germany

San Francisco, July 31, 2013

FIBROGEN, INC

/s/ Jim Polarek
Name Jim Polarek
Title Vice President

Name
Title

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit A
Work Scope
(Version of July 12, 2013)

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[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

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Exhibit 10.28(xv)

AMENDMENT NO. 13 TO THE PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT

THIS AMENDMENT NO. 13 (the "Thirteenth Amendment"), effective as of March 06, 2014 (the "Thirteenth Amendment Effective Date") by and between **Boehringer Ingelheim Biopharmaceuticals GmbH**, Binger Str. 173, 55216 Ingelheim, Germany ("BI") and **FibroGen, Inc.**, 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen"), amends the Process Development and Clinical Supply Agreement entered into by and between Boehringer Ingelheim Pharma GmbH & Co. KG, Birkendorfer Str. 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, Amendment No. 1, effective as of May 28, 2009, Amendment No. 3, effective as of November 5, 2010, Amendment No. 4, effective as of January 24, 2011, Amendment No. 5, effective as of April 15, 2011, Amendment No. 6, effective as of May 26, 2011, Amendment No. 7, effective as of January 01, 2012, Amendment No. 8, effective as of July 10, 2012, Amendment No. 9, effective as of November 26, 2012, Amendment No. 10, effective as of June 21, 2013, Amendment No. 11, effective as of June 26, 2013 and Amendment No. 12, effective as of August 01, 2013 and subsequenty assigned by BI Pharma to BI (hereinafter together the "Supply Agreement"). BI and FibroGen shall be referred to individually herein as a "Party", and collectively as the "Parties".

WHEREAS, FibroGen wishes to engage BI to **[*]** in compliance with the terms of the Supply Agreement as set forth in and as amended by this Thirteenth Amendment. The activities hereunder will be performed by BI Pharma on behalf of BI.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this ThirteenthAmendment shall have the meaning ascribed to them in the Supply Agreement.

(2) The Parties agree that pursuant to Section 2.2 of the Supply Agreement, the work plan entitled "**[*]**, Version of March 6, 2014", attached hereto as Exhibit A, is hereby added as an amendment to Appendix 2 to the Supply Agreement. Pursuant thereto BI shall on behalf of FibroGen, (A) **[*]** after the **[*]** and provide the results to FibroGen and (B) manufacture in accordance with the Supply Agreement (i) **[*]** as defined in the Amended and Restated Quality Agreement between the Parties dated March 03, 2011 (hereinafter "Amended and Restated Quality Agreement"), (ii) **[*]** (as defined in the Amended and Restated Quality Agreement) **[*]**, and (iii) **[*]** (as defined in the Supply Agreement).

(3) The Specifications for **[*]** pursuant to Section 2 hereof have been agreed to by the Parties and are set forth in the Amended and Restated Quality Agreement by and between the Parties. Such Specifications for **[*]**, as applicable, shall apply to the activities contemplated by Section (2) above as part of the Acceptance Criteria for **[*]**, respectively.

(4) For the avoidance of doubt, all provisions of the Supply Agreement relating to the manufacture of Product which are reasonably applicable to **[*]** shall apply accordingly to **[*]** as set forth in Exhibit A hereto, including but not limited the provisions regarding delivery of Product set forth in Section 4 of the Supply Agreement, Parties' warranties set forth in Section 7 of the Supply Agreement (including, for the avoidance of doubt, the disclaimer set forth in Section 7.5 of the Supply Agreement) and the limitations of BI Pharma's liability and indemnification obligations set forth in Section 8 of the Supply Agreement.

(5) This Thirteenth Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Thirteenth Amendment, either oral or written, heretofore made with respect to subject matter herein are expressly superseded by this Thirteenth Amendment.

(6) This Thirteenth Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Thirteenth Amendment to the Supply Agreement as of Thirteenth Amendment Effective Date.

Signatures on following page.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Ingelheim, March 7, 2014

BOEHRINGER INGELHEIM BIOPHARMACEUTICALS GMBH

ppa.

[*]
[*]
VP Business & Contracts

ppa.

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[*]
Head of Team Biberach – Dep. Legal Germany

San Francisco, 2014

FIBROGEN, INC

/s/ Michael Lowenstein
Name Michael Lowenstein
Title VP- Legal

/s/ Jim Polarek
Name Jim Polarek
Title VP

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit A
Work Scope
[*]
(Version of March 06, 2014)

[*]

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[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit 10.28(xvi)

AMENDMENT NO. 14 TO THE PROCESS DEVELOPMENT AND CLINICAL SUPPLY AGREEMENT
BETWEEN
FIBROGEN, INC. AND BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG

THIS AMENDMENT NO. 14 (the "Fourteenth Amendment"), effective as of February 5, 2014 (the "Thirteenth Amendment Effective Date") by and between **Boehringer Ingelheim Pharma GmbH & Co. KG**, Birkendorfer Straße 65, 88397 Biberach an der Riss, Germany ("BI Pharma") and **FibroGen, Inc.**, 409 Illinois Street, San Francisco, CA 94158, USA ("FibroGen"), amends the Process Development and Clinical Supply Agreement entered into by and between BI Pharma and FibroGen on November 29, 2007, as amended pursuant to the letter agreements entered into as of June 26, 2008 and August 18, 2008, Amendment No. 1, effective as of May 28, 2009, Amendment No. 3, effective as of November 5, 2010, Amendment No. 4, effective as of January 24, 2011, Amendment No. 5, effective as of April 15, 2011, Amendment No. 6, effective as of May 26, 2011, Amendment No. 7, effective as of January 01, 2012, Amendment No. 8, effective as of July 10, 2012, Amendment No. 9, effective as of November 26, 2012, Amendment No. 10, effective as of June 21, 2013, Amendment No. 11, effective as of July 9, 2013 and Amendment No. 12, effective as of August 1, 2013 (hereinafter together the "Supply Agreement"). BI Pharma and FibroGen shall be referred to individually herein as a "Party", and collectively as the "Parties".

WHEREAS, FibroGen wishes BI Pharma to perform **[*]** in compliance with the terms of the Supply Agreement.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

(1) Unless otherwise defined herein, all capitalized terms and phrases used in this Fourteenth Amendment shall have the meaning ascribed to them in the Supply Agreement.

(2) Pursuant to Section 2.2 of the Supply Agreement, Appendix 2 to the Supply Agreement is hereby amended to add the work plan entitled "**[*]**, Version of March 4, 2014" attached hereto as Exhibit A. In accordance with such work plan, BI Pharma shall **[*]** and if FibroGen **[*]**, BI Pharma shall **[*]**, and **[*]** for FibroGen in accordance with the Supply Agreement. The Parties agree that the Deliverables to be delivered to FibroGen will include **[*]**. In the event that the Parties agree to **[*]** in the further development of the Product, the terms and conditions for **[*]** in the course of the Project and any license thereto shall be subject to separate discussion and pursuant to a separate agreement between the Parties.

(3) This Fourteenth Amendment, together with the Supply Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof. Except as otherwise provided herein, the Supply Agreement has not been modified or amended and remains in full force and effect. All express or implied agreements and understandings that conflict with the terms of this Fourteenth Amendment, either oral or written, made with respect to the subject matter herein are expressly superseded by this Fourteenth Amendment.

(4) This Fourteenth Amendment may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Counterparts may be signed and delivered by facsimile and/or via portable document format (pdf) (or similar format), each of which shall be binding when sent.

IN WITNESS WHEREOF, the Parties have executed this Fourteenth Amendment to the Supply Agreement as of Fourteenth Amendment Effective Date.

Biberach, January 7, 2014

BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG

ppa.	ppa.
[*]	**[*]**
[*]	**[*]**
VP Business & Contracts	Head of Legal Biopharma

San Francisco, March 11, 2014

FIBROGEN, INC.

/s/ Jim Polarek	
Name Jim Polarek	Name
Title Vice President	Title

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Exhibit A
Work Scope
[*]
Version of March 4, 2014

Please see following page.

[*]

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[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

FIBROGEN

225 Gateway Boulevard
South San Francisco, CA 94080
Tel. (650) 866-7200
Fax (650) 866-7201

November 3, 2008

Frank H. Valone, M.D.
[PRIVATE ADDRESS]

Dear Frank:

FibroGen, Inc. is pleased to offer you the position of Chief Medical Officer – reporting to Tom Neff, Chief Executive Officer. We are very excited about the possibility of you joining our team, and we look forward to the prospect of working with you in our innovative company! The following outlines the specific terms of our offer:

- Your salary will be $29,166.67 per month, less taxes and standard deductions as required by law. Paid bimonthly, this figure will annualize to $350,000.
- You will be paid an employment bonus of $30,000, less taxes and standard deductions.
- Pending any necessary approvals, including those of the Company's Board of Directors, and in compliance with applicable laws and regulations, we plan to offer you an option to purchase 200,000 shares of common stock of FibroGen, pursuant to the terms and conditions of the Company's 2005 Stock Plan, and may be amended or modified from time to time.
- You will be eligible for certain FibroGen employee benefits, which will include medical, vision and dental health insurance. Additionally, we offer a 401(k) plan, which provides you with the opportunity for pre-tax long-term savings by deferring from 1-60% of your annual salary, subject to certain maximums. These benefits may be modified or terminated from time to time, and a benefit summary has been included with this letter. More detailed information regarding your benefits will be provided at your New Employee Orientation, shortly after you begin employment.
- As a full-time employee, you will receive twenty (20) days of paid vacation each year, which will accrue at the rate of days per month beginning from your first day of employment at FibroGen.
- You will abide by FibroGen's strict company policy that prohibits any new employee from using or bringing with them from any prior employer any proprietary information, trade secrets, proprietary materials or processes of such former employers. Moreover, because the Company's proprietary information is extremely important, this offer is expressly subject to your executing the enclosed Confidential Information, Secrecy and Invention Agreement for Employees. You also agree to follow all other rules and policies that the Company may announce from time to time.
- You will also be required to sign the Employment Eligibility Verification (Form 1-9). (You will need to complete and return Section One of the 1-9 form along with your signed offer letter). On your first day of employment, please bring the necessary documents that establish your identity and employment eligibility. Acceptable documents are listed on the reverse side of the I-9 form. Such documentation must be provided to us within three (3) business days of your date of hire, or our employment relationship with you may be terminated

- You should be aware that your employment with the Company is for no specified period and constitutes “at-will” employment. As a result, you are free to resign at any time, for any reason, with or without cause or notice. Similarly, the Company is free to conclude its employment with you at any time. The changing needs of the Company could also result in changes to certain aspects of your employment, such as compensation, responsibilities, location, etc. These provisions expressly supersede any previous representations, oral or written. Your at-will employment cannot be modified or amended except by written agreement signed by both you and the President of the Company.
- Any dispute or claim, including all contract, tort, discrimination and other statutory claims, arising under or relating to your employment or termination of your employment with the Company but excepting claims under applicable workers’ compensation law and unemployment insurance claims (“arbitrable claims”) alleged against the Company and/or its agents shall be resolved by arbitration. However, you and the Company agree that this arbitration provision shall not apply to any disputes or claims relating to or arising out of the misuse or misappropriation of the Company’s trade secrets. Such arbitration shall be final and binding on the parties and shall be the exclusive remedy for arbitrable claims. You and the Company hereby waive any rights each may have to a jury trial in regard to the arbitrable claims. Arbitration shall be conducted by the American Arbitration Association in San Mateo (or other mutually agreed upon city) under the National Rules for the Resolution of Employment Disputes. In any arbitration, the burden of proof shall be allocated as provided by applicable law. The Company agrees to pay the fees and costs of the arbitrator. However, the arbitrator shall have the same authority as a court to award equitable relief, damages, costs, and fees (excluding the costs and fees for the arbitrator) as provided by law for the particular claims asserted.

Unless otherwise notified by the Company, this offer of employment is effective for 5 business days from the date of this letter. There are two originals of this letter enclosed. If all of the foregoing is satisfactory, please sign and date each original and return one to me within five business days in the enclosed envelope, saving the other original for yourself. Please also complete the following enclosed forms and mail them back with your signed offer letter:

- I-9 Form
- Confidential Information, Secrecy and Invention Agreement
- FibroGen Employment Application

Frank, we look forward to your joining our team at FibroGen.

Sincerely,

/s/ Ted A. Tucker
Ted A. Tucker
Vice President, Human Resources

ACCEPTED AND AGREED TO this

5th Day of November, 2008

/s/ Frank H. Valone

Frank H. Valone, M.D.

December 1, 2008

Intended Start Date

Enclosures:
Benefits Summary
Duplicate Letter
Return Envelope
Employment Eligibility Verification (I-9) Form
Confidential Information, Secrecy and Invention Agreement
FibroGen Employment Application

FIBROGEN

409 Illinois Street
San Francisco, CA 94158
Phone: 415-978-1200
Fax: 415-978-1902
www.fibrogen.com

November 21, 2008

Kin-Hung Peony Yu, M.D.

Revised 11/25/08

Dear Peony:

FibroGen, Inc. is pleased to offer you the position of Vice President, Clinical Development reporting to Frank Valone, M.D., Chief Medical Officer. We are very excited about the possibility of you joining our team, and we look forward to the prospect of working with you in our innovative company! The following outlines the specific terms of our offer:

- Your salary will be $26,250 per month, less taxes and standard deductions as required by law. Paid bimonthly, this figure will annualize to $315,000.
- You will be paid an employment bonus of $20,000, less taxes and standard deductions
- Pending any necessary approvals, including those of the Company's Board of Directors, and in compliance with applicable laws and regulations, we plan to offer you an option to purchase 175,000 shares of common stock of FibroGen, pursuant to the terms and conditions of the Company's 2005 Stock Plan, and may be amended or modified from time to time.
- You will be eligible for certain FibroGen employee benefits, which will include medical, vision and dental health insurance. Additionally, we offer a 401(k) plan, which provides you with the opportunity for pre-tax long-term savings by deferring from 1-60% of your annual salary, subject to certain maximums. These benefits may be modified or terminated from time to time, and a benefit summary has been included with this letter. More detailed information regarding your benefits will be provided at your New Employee Orientation, shortly after you begin employment.
- As a full-time employee, you will receive fifteen (15) days of paid vacation each year, which will accrue at the rate of 1.25 days per month beginning from your first day of employment at FibroGen.
- You will abide by FibroGen's strict company policy that prohibits any new employee from using or bringing with them from any prior employer any proprietary information, trade secrets, proprietary materials or processes of such former employers. Moreover, because the Company's proprietary information is extremely important, this offer is expressly subject to your executing the enclosed Confidential Information, Secrecy and Invention Agreement for Employees. You also agree to follow all other rules and policies that the Company may announce from time to time.
- You will also be required to sign the Employment Eligibility Verification (Form 1-9). (You will need to complete and return Section One of the 1-9 form along with your signed offer letter). On your first day of employment, please bring the necessary documents that establish your identity and employment eligibility. Acceptable documents are listed on the reverse side of the I-9 form. Such documentation must be provided to us within three (3) business days of your date of hire, or our employment relationship with you may be terminated.

- You should be aware that your employment with the Company is for no specified period and constitutes “at-will” employment. As a result, you are free to resign at any time, for any reason, with or without cause or notice. Similarly, the Company is free to conclude its employment with you at any time. The changing needs of the Company could also result in changes to certain aspects of your employment, such as compensation, responsibilities, location, etc. These provisions expressly supersede any previous representations, oral or written. Your at-will employment cannot be modified or amended except by written agreement signed by both you and the President of the Company.
- Any dispute or claim, including all contract, tort, discrimination and other statutory claims, arising under or relating to your employment or termination of your employment with the Company but excepting claims under applicable workers’ compensation law and unemployment insurance claims (“arbitrable claims”) alleged against the Company and/or its agents shall be resolved by arbitration. However, you and the Company agree that this arbitration provision shall not apply to any disputes or claims relating to or arising out of the misuse or misappropriation of the Company’s trade secrets. Such arbitration shall be final and binding on the parties and shall be the exclusive remedy for arbitrable claims. You and the Company hereby waive any rights each may have to a jury trial in regard to the arbitrable claims. Arbitration shall be conducted by the American Arbitration Association in San Mateo (or other mutually agreed upon city) under the National Rules for the Resolution of Employment Disputes. In any arbitration, the burden of proof shall be allocated as provided by applicable law. The Company agrees to pay the fees and costs of the arbitrator. However, the arbitrator shall have the same authority as a court to award equitable relief, damages, costs, and fees (excluding the costs and fees for the arbitrator) as provided by law for the particular claims asserted.

Unless otherwise notified by the Company, this offer of employment is effective for 5 business days from the date of this letter. There are two originals of this letter enclosed. If all of the foregoing is satisfactory, please sign and date each original and return one to me within five business days in the enclosed envelope, saving the other original for yourself. Please also complete the following enclosed forms and mail them back with your signed offer letter:

- I-9 Form
- Confidential Information, Secrecy and Invention Agreement
- FibroGen Employment Application

Peony, we look forward to your joining our team at FibroGen.

Sincerely,

/s/ Ted A. Tucker
Ted A. Tucker
Vice President, Human Resources

ACCEPTED AND AGREED TO this

5th Day of Dec, 2008

/s/ Kin-Hung Peony Yu
Kin-Hung Peony Yu, M.D.

Dec 3, 2008
Intended Start Date

Enclosures:
- Benefits Summary
- Duplicate Letter
- Return Envelope
- Employment Eligibility Verification (I-9) Form
- Confidential Information, Secrecy and Invention Agreement
- FibroGen Employment Application

FIBROGEN

Revised 10/23/00

225 Gateway Boulevard
South San Francisco, CA 94080
Tel. (650) 866-7200
Fax (650) 866-7201

October 23, 2000

Pat Cotroneo
[PRIVATE ADDRESS]

Dear Pat:

This amends your offer letter dated October 17, 2000. I am delighted to offer you a position as Controller, reporting to Bert Lee, Chief Financial Officer. Your salary will be $11,250.00 per month, paid bimonthly per standard payroll procedures; this figure will annualize to $135,000. In addition, you will be paid an employment bonus of $10,000, less taxes. The net amount of this employment bonus will be repayable to FibroGen should you resign your employment or be terminated for cause during the first 12 months of employment.

You will be given the option to purchase 100,000 shares of common stock of FibroGen, subject to the necessary approvals, including that of the Compensation Committee of the Board of Directors and compliance with other applicable laws and regulations. The option shall contain regular vesting provisions and other terms, including exercise price equal to the then applicable fair market value at the time of grant, to be determined by the Compensation Committee.

You will also be eligible for certain FibroGen employee benefits which will include medical and dental health insurance, a flexible savings plan and a retirement savings plan (401K). Summaries of these benefits are enclosed for your review and information. We have agreed to modify your vacation eligibility and you will accrue 4 weeks paid vacation per year, at the rate of approximately 13.33 hours per month.

You should be aware that your employment with the Company is for no specified period and constitutes “at will” employment. As a result, you are free to resign at any time, for any reason. Similarly, the Company is free to conclude its employment with you at any time, with or without cause.

In the event of any dispute or claim relating to or arising out of our employment relationship, you and the Company agree that all such disputes shall be fully and finally resolved by binding arbitration conducted by the American Arbitration Association in San Mateo County, California. However, we agree that this arbitration provision shall not apply to any disputes or claims relating to or arising out of the misuse or misappropriation of the Company’s assets, trade secrets, or proprietary information.

For purposes of complying with federal immigration law, you will be required to provide to the Company documentary evidence of your identity and eligibility for employment in the United States. Such documentation must be provided to us within three (3) business days of your date of hire, or our employment relationship with you may be terminated.

To indicate your acceptance of the Company's offer, please sign, date, and return this offer letter along with the employee confidential agreement and the FibroGen Employment Application which are also enclosed. A duplicate original of this offer letter is also enclosed for your records. This letter sets forth the terms of your employment with the Company and supersedes any prior representations or agreements, whether written or oral. This letter may not be modified or amended except by a written agreement signed by the President and by you.

We look forward to working with you at FibroGen.

Sincerely,

/s/ Ted A. Tucker
Ted A. Tucker
Director, Human Resources

ACCEPTED AND AGREED TO this

26 day of October, 2000

/s/ Pat Cotroneo
Pat Cotroneo

November 2000
Start Date

Enclosures: Duplicate Original Letter

Exhibit 21.1

List of Subsidiaries of FibroGen, Inc.

Subsidiaries	Incorporation
Beijing FibroGen Medical Technology Development Co., Ltd.	China
FibroGen China Anemia Holdings, Ltd.	Cayman Islands
FibroGen Europe Corporation	Finland
FibroGen International (Cayman) Limited	Cayman Islands
FibroGen International (Hong Kong) Limited	Hong Kong
Skin Sciences, Inc.	Delaware, USA

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the use in this Registration Statement on Form S-1 of FibroGen, Inc. of our report dated June 11, 2014 relating to the consolidated financial statements of FibroGen, Inc., which appears in such Registration Statement. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ PricewaterhouseCoopers LLP

San Jose, California
September 30, 2014