

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

AMENDMENT NO. 1 TO

**FORM S-3**

**REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

**ONCOGENEX PHARMACEUTICALS, INC.**

*(Exact name of registrant as specified in its charter)*

**Delaware**

*(State or other jurisdiction of incorporation or organization)*

**95-4343413**

*(I.R.S. Employer Identification No.)*

**1522 217<sup>th</sup> Place SE, Suite 100  
Bothell, Washington 98021  
(425) 686-1500**

*(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)*

**Stephen Anderson  
Chief Financial Officer  
1522 217<sup>th</sup> Place SE, Suite 100  
Bothell, Washington 98021  
(425) 686-1500**

*(Name, address, including zip code, and telephone number, including area code, of agent for service)*

*Copies to:*

**Randal R. Jones  
Christopher L. Doerksen  
Dorsey & Whitney LLP  
U.S. Bank Center  
1420 Fifth Avenue, Suite 3400  
Seattle, WA 98101-4010  
Tel: (206) 903-8800**

**Approximate date of commencement of proposed sale to the public:** From time to time after the effective date of this Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box

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, other than securities offered only in connection with dividend or interest reinvestment plans, 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, please 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 earliest effective registration statement for the same offering:

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I. D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Smaller reporting company

(Do not check if a smaller reporting company)

**CALCULATION OF REGISTRATION FEE**

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price <sup>(1)(2)</sup>	Amount of Registration Fee <sup>(3)</sup>
Common Stock, \$0.001 par value per share		
Preferred Stock, \$0.001 par value per share		
Warrants		
Debt Securities		

Total	\$	100,000,000	\$	5,580(4)
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- (1) An indeterminate number of shares of common stock and preferred stock, and an indeterminate number of warrants to purchase debt securities, common stock or preferred stock and an indeterminate amount of debt securities are being registered hereunder, but in no event will the aggregate initial offering price exceed \$100,000,000. If any debt securities are issued at an original issue discount, then the offering price of such debt securities shall be in such greater principal amount as shall result in an aggregate initial offering price not to exceed \$100,000,000, less the aggregate dollar amount of all securities previously issued hereunder. Any securities registered hereunder may be sold separately or as units with other securities registered hereunder. The securities registered also include such indeterminate amount and number of shares of common stock as may be issued upon conversion of preferred stock or pursuant to the antidilution provisions of any such securities. The securities registered also include such indeterminate amount and number of shares of common stock as may be issued upon exercise of warrants or pursuant to the antidilution provisions of any such securities. The securities registered also include such indeterminate amount and number of shares of common stock and debt securities as may be issued upon conversion of or exchange for debt securities that provide for conversion or exchange or pursuant to the antidilution provisions of any such securities.
- (2) Unspecified pursuant to General Instruction II.D to Form S-3 under the Securities Act.
- (3) Calculated in accordance with Rule 457(o) under the Securities Act.
- (4) Previously Paid.

**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 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 prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities, and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.**

**SUBJECT TO COMPLETION, DATED July 13, 2009**

**PROSPECTUS**

**\$100,000,000**

## **OncoGenex Pharmaceuticals, Inc.**

### **Common Stock, Preferred Stock, Debt Securities and Warrants**

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We may offer and sell any combination of common stock, preferred stock, warrants, debt securities and any combination thereof, with a total value of up to \$100,000,000.

This prospectus provides a general description of securities we may offer and sell from time to time. Each time we sell those securities, we will provide their specific terms in a supplement to this prospectus. This prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest in any securities. This prospectus may not be used to consummate a sale of securities unless accompanied by the applicable prospectus supplement.

We may offer and sell these securities, from time to time, to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis, at prices and on other terms to be determined at the time of offering. If we use agents, underwriters or dealers to sell the securities, we will name them and describe their compensation in a prospectus supplement.

Our common stock is listed on the Nasdaq Capital Market under the symbol "OGXI."

**An investment in our securities involves a high degree of risk. You should carefully consider the information under the heading "Risk Factors" beginning on page 8 of this prospectus before investing in our securities.**

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**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

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The date of this prospectus is     , 2009

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized anyone to provide you with information different from that contained in this prospectus. We are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. The information contained in this prospectus is accurate only as of the date of this prospectus.

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (the “Commission”) using a “shelf” registration process. Under this shelf registration process, from time to time, we may sell any combination of the securities described in this prospectus in one or more offerings, up to a total dollar amount of \$100,000,000. We have provided to you in this prospectus a general description of the securities we may offer. Each time we sell securities under this shelf registration process, we will provide a prospectus supplement that will contain specific information about the terms of the offering. We may also add, update or change in the prospectus supplement any of the information contained in this prospectus. To the extent there is a conflict between the information contained in this prospectus and the prospectus supplement, you should rely on the information in the prospectus supplement; provided that, if any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in this prospectus or any prospectus supplement — the statement in the document having the later date modifies or supersedes the earlier statement. You should read both this prospectus and any prospectus supplement together with additional information described under the next heading “Where You Can Find More Information.”

We have not authorized any dealer, salesman or other person to give any information or to make any representations other than those contained or incorporated by reference in this prospectus and the accompanying prospectus supplement. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or the accompanying prospectus supplement. This prospectus and the accompanying supplement to this prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus and the accompanying supplement to this prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus and the accompanying prospectus supplement is accurate on any date subsequent to the date set forth on the front cover of this document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus and any accompanying prospectus supplement is delivered or securities sold on a later date.

***THIS PROSPECTUS MAY NOT BE USED TO OFFER AND SELL SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.***

## PROSPECTUS SUMMARY

This summary highlights information contained or incorporated by reference in this prospectus. Because this is only a summary, it does not contain all of the information that may be important to you. You should read the entire prospectus, including our historical consolidated financial statements and the notes to those financial statements, included in this prospectus. You should also carefully consider the matters discussed under “Risk Factors.”

In this prospectus, unless the context otherwise requires, the terms “OncoGenex Pharmaceuticals, Inc.,” the “Company”, “OncoGenex,” “we,” “us” and “our” refer to OncoGenex Pharmaceuticals, Inc.

As permitted by the rules and regulations of the Commission, the registration statement that contains this prospectus includes additional information not contained in this prospectus. You may read the registration statement and the other reports we file with the Commission at the Commission’s web site or at the Commission’s offices described below under the heading “Where You Can Find More Information.”

### Company Overview

OncoGenex is a biopharmaceutical company committed to the development and commercialization of new therapies that address unmet needs in the treatment of cancer. The Company has five product candidates in its pipeline, namely, OGX-011, OGX-427, OGX-225, SN2310 and CSP-9222, with each product candidate having a distinct mechanism of action and representing a unique opportunity for cancer drug development.

OncoGenex’ product candidates OGX-011, OGX-427 and OGX-225 focus on mechanisms of treatment resistance in cancer patients and are designed to address treatment resistance by blocking the production of specific proteins that OncoGenex believes promote survival of tumor cells and are over-produced in response to a variety of cancer treatments. OncoGenex’ aim in targeting these particular proteins is to disable the tumor cell’s adaptive defenses and thereby render the tumor cells more susceptible to attack with a variety of cancer therapies, including chemotherapy, which OncoGenex believes will increase survival time and improve the quality of life for cancer patients. Product candidate SN2310 is a novel camptothecin for the treatment of cancer. Camptothecins are potent anticancer agents that belong to the family of drugs called topoisomerase I inhibitors that bind reversibly to the TOPO-I-DNA complex causing breaks in the DNA strands during replication resulting in cell death. Product candidate CSP-9222 is the lead compound from a family of compounds demonstrating activation of programmed cell death in pre-clinical models that have been in-licensed from Bayer HealthCare LLC.

### Product Candidate OGX-011

We have designed two phase 3 clinical trials to evaluate the clinical benefit of OGX- 011 in metastatic castrate resistant prostate cancer, or CRPC. OncoGenex believes that two phase 3 trials will be required for initial product marketing approval. The two clinical trial designs are:

- Evaluating a survival benefit for OGX-011 in combination with first-line docetaxel treatment in approximately 800 men with CRPC; and
- Evaluating a durable pain palliation benefit for OGX-011 in combination with docetaxel as second-line chemotherapy in approximately 300 men with CRPC.

OncoGenex intends to conduct the above phase 3 trials with OGX-011 in metastatic CRPC, subject to the receipt of additional funding through corporate partnerships, debt or equity financings.

OGX-011 has received Fast Track designation from the U.S. Food & Drug Administration (FDA) for the treatment of progressive metastatic prostate cancer in combination with docetaxel. The FDA has agreed on the design of two phase 3 registration trials, via the Special Protocol Assessment (SPA) process, of OGX-011 in combination with chemotherapy. One trial design evaluating OGX-011 with first-line chemotherapy investigates overall survival as the primary endpoint, whereas the other trial design evaluating OGX-011 with second-line chemotherapy investigates pain palliation as the primary endpoint.

Final results of a randomized phase 2 Trial evaluating the benefit of combining OGX-011 with first-line docetaxel chemotherapy were presented during an oral presentation at the American Society of Clinical Oncology (ASCO) 2009 Annual Meeting. Analyses indicating a survival benefit in patients treated with OGX-011 in combination with first-line docetaxel compared to docetaxel alone, the latter of which being the current standard care for patients with advanced, progressive metastatic prostate cancer, is described below:

- The median overall survival in patients with advanced metastatic prostate cancer who were treated with OGX-011 plus docetaxel in a randomized phase 2 trial was 23.8 months compared to 16.9 months for patients treated with docetaxel alone, indicating a 6.9 month survival advantage in the OGX-011 arm;
- The unadjusted hazard ratio (HR), unadjusted hazard ratio (HR), a measure used to compare the death rates between treatment groups, was 0.61, representing a 39% lower rate of death for patients treated with OGX-011; and
- A prospectively defined multivariate analysis indicated that the significant predictors of overall survival were treatment arm, performance status and presence of metastases other than in bone or lymph nodes. Patients treated with OGX-011 had a rate of death 51% lower than patients treated with docetaxel alone (HR=0.49; p=0.012). Additional exploratory analyses found that the lower rate of death was associated with the effect of OGX-011 treatment even when varying amounts of chemotherapy were administered (i.e. OGX-011 treatment resulted in a lower rate of death when compared to the control arm for patients receiving 6 or less cycles of chemotherapy as well as for patients receiving 10 cycles of chemotherapy).

OGX-011 treatment was well tolerated in combination with docetaxel. There was an increase in incidence of mild fever, chills and creatinine levels (a laboratory measure for reduced kidney function) and a moderate to significant decrease in circulating lymphocytes in the blood (another laboratory measure) without any increase in infection rate compared to the docetaxel arm.

Durable pain palliation defined as pain palliation of 12 weeks or greater has been observed in another phase 2 trial evaluating patients with metastatic CRPC who progressed while receiving, or within 6 months of completing, first-line docetaxel treatment. In this trial, 44% of patients who were retreated with docetaxel as second-line treatment in combination with OGX-011 had durable pain palliation. This is favorable even when compared to the 35% pain responses of 3 weeks or greater observed in the phase 3 study registering docetaxel as first-line chemotherapy in patients with CRPC. Due to the results of this

phase 2 trial, the other phase 3 registration trial will evaluate the durable pain palliation benefit of OGX-011 in patients treated with second-line chemotherapy.

#### Product Candidate OGX-427

A phase 1 trial has evaluated 41 patients with a variety of cancers, with enrollment ongoing. OGX-427 was first evaluated as a single agent in a dose escalation manner up to 1000mg OGX-427. A maximum tolerated dose was not identified up to and including the 1000mg dose of OGX-427 monotherapy. Subsequently, as defined by the protocol, an 800mg dose of OGX-427 in combination with docetaxel was evaluated, to be followed by, a 1000mg OGX-427 plus docetaxel. OGX-427 is administered as three loading doses within the first nine days and then continued weekly, with three weeks defined as a treatment cycle, until disease progression or toxicity. In those groups receiving OGX-427 in combination with docetaxel, 75mg/M2 docetaxel was administered on day 1 of every 3-week cycle starting after completion of the OGX-427 loading doses.

Preliminary results of this phase 1 trial were presented during an oral presentation at the American Society of Clinical Oncology (ASCO) 2009 Annual Meeting. Patients enrolled had a diagnosis of breast, ovarian, prostate or non-small cell lung cancer and most had failed multiple prior chemotherapy treatments. A median of two cycles (range of one to eight cycles) was administered.

OGX-427 treatment was well tolerated as a monotherapy. No evidence of altered cardiac activity was observed. A majority of adverse events were mild and mainly occurred during the loading doses. Adverse events consisted of chills, itching and fatigue in over one-third of patients. There was a trend for increasing incidence of some mild adverse events with escalating OGX-427 doses. For example, 33% of patients at the 200mg dose compared to 67% of patients at the 1000mg dose had mild adverse events during the loading doses. The half-life of OGX-427 in the blood remained constant, although there appeared to be an increase in maximum blood levels and a corresponding decrease in blood clearance of OGX-427 as doses were escalated.

The combination of 800mg OGX-427 with docetaxel was also well tolerated and escalation to 1000mg OGX-427 with docetaxel will be evaluated next.

Circulating tumor cells (CTCs), an emerging metric to assess treatment effect, was evaluated at baseline before treatment and during treatment. Both total and Hsp27-positive CTCs were evaluated. Declines of 50% or greater in both total and Hsp27-positive CTCs were observed in over one-half of the patients in each cohort and in each cancer category. Declines in Hsp27 CTCs to 5 or less cells occurred in 27% of patients who had greater than 5 CTCs at baseline. Reduction in tumor markers defined as declines of prostate specific antigen, or PSA, levels in prostate cancer or CA-125 levels in ovarian cancer were also observed. A reduction in PSA level was observed in 7 of 20 patients (35%) with prostate cancer and a reduction in CA-125 levels was observed in 3 of 5 patients (60%) with ovarian cancer.

#### Product Candidates OGX-225, SN2310 and CSP-9222

SN2310 was evaluated in a phase 1 clinical trial to evaluate safety in patients with advanced cancer who have received on average three to five prior chemotherapy treatments. The phase 1 clinical trial has been completed.

OGX-225, an inhibitor of insulin growth factor binding proteins 2 and 5, and CSP-9222 are in pre-clinical development.



**Abandoned Private Placement**

Between late 2008 and June 18, 2009, we were engaged in preliminary discussions with a number of potential investors, both directly and through registered broker-dealers, concerning a possible private placement of shares of our common stock and/or warrants to purchase shares of our common stock having an aggregate offering value of between \$5 million and \$50 million. We and any person acting on our behalf offered securities only to persons that were, or that we reasonably believed to be, accredited investors, as defined in Regulation D under the Securities Act of 1933, as amended. The private placement was intended to be completed in reliance upon Rule 506 of Regulation D. On June 18, 2009, the Company abandoned the private placement and all offering activity in connection therewith terminated. No offers to buy or indications of interest given in the private placement discussions were accepted. This prospectus supersedes any offering materials used in the abandoned private placement.

\* \* \*

The Company was incorporated in the state of California in October 1991 and subsequently reorganized as a Delaware corporation in September 1995. The Company's principal executive offices are located at 1522 217th Place SE, Suite 100, Bothell, Washington 98021, and its telephone number is (425) 686-1500.

## **RISK FACTORS**

An investment in our securities involves a high degree of risk. The prospectus supplement applicable to each offering of securities will contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading "Risk Factors" in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under Item 1A, "Risk Factors," in our Annual Report on Form 10-K for the fiscal year ended December 31, 2008, which is incorporated herein by reference, and may be amended, supplemented or superseded from time to time by other reports we file with the Commission in the future. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations.

## **WHERE YOU CAN FIND MORE INFORMATION**

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and are required to file annual, quarterly and other reports, proxy statements and other information with the Commission. You may inspect and copy these reports, proxy statements and other information at the public reference facilities maintained by the Commission in Washington, D.C., 100 F Street N.E., Washington, D.C. 20549. Copies of such materials can be obtained from the Commission's public reference section at prescribed rates. You may obtain information on the operation of the public reference rooms by calling the Commission at (800) SEC-0330. Additionally, the Commission maintains an Internet site (<http://www.sec.gov>) that contains reports, proxy and information statements, and various other of our information. You may also inspect the documents described herein at our principal executive offices, 1522 217<sup>th</sup> Place SE, Suite 100, Bothell, Washington 98021, during normal business hours.

In addition, we are subject to the filing requirements prescribed by the securities legislation of all Canadian provinces or territories. You are invited to read and copy any reports, statements or other information that we file with the Canadian provincial securities commissions or other similar regulatory authorities at their respective public reference rooms. These filings are also electronically available from the Canadian System for Electronic Document Analysis and Retrieval at <http://www.sedar.com>, which is commonly known by the acronym "SEDAR," the Canadian equivalent of the Commission's EDGAR system.

Information about us is also available at our website at <http://www.oncogenex.com>. However, the information on our website is not a part of this prospectus and is not incorporated by reference into this prospectus.

## **INCORPORATION OF INFORMATION BY REFERENCE**

The Commission allows us to "incorporate by reference" information that we file with the Commission, which means that we can disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus, and information we file later with the Commission will automatically update and supercede this information. All documents filed by us with the Commission under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (excluding any information furnished in current reports on Form 8-K under Item 2.02 or 7.01 of such form) after the date of initial filing of this registration statement and until the date that the offering of securities by means of this prospectus is terminated shall be deemed to be incorporated by reference into this prospectus. We incorporate by reference the following previously filed documents:

- Our Annual Report on Form 10-K for the year ended December 31, 2008, including certain information incorporated by reference therein from our Definitive Proxy Statement for our 2009 annual meeting of stockholders;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2009;
- Our current reports on Form 8-K filed on February 17, 2009, March 9, 2009, March 11, 2009, April 2, 2009 and June 26, 2009 (excluding any information furnished in such reports under Item 2.02 and 7.01);
- The financial statements and financial information required by Rule 3-05 and Article 11 of Regulation S-X disclosed by the Company in its Definitive Proxy Statement filed on July 3, 2008; and
- The description of our common stock contained in our registration statement on Form 8-A filed with the Commission on September 27, 1995 under Section 12 of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

Upon written or oral request, we will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, a copy of any or all of such documents that are incorporated herein by reference (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this prospectus incorporates). Written or oral requests for copies should be directed to OncoGenex Pharmaceuticals, Inc., Attn: Stephen Anderson, 1522 217<sup>th</sup> Place SE, Suite 100, Bothell, Washington 98021, telephone number (425) 686-1500. See the section of this prospectus entitled "Where You Can Find More Information" for information concerning how to read and obtain copies of materials that we file with the Commission at the Commission's public offices.

Any statement contained in this prospectus, or in a document all or a portion of which is incorporated by reference, shall be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, any supplement or any document incorporated by reference modifies or supersedes such statement. Any such statement so modified or superseded shall not, except as so modified or superseded, constitute a part of this prospectus.

### **FORWARD-LOOKING STATEMENTS**

This document contains and incorporates by reference "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements involve a number of risks and uncertainties. We caution readers that any forward-looking statement is not a guarantee of future performance and that actual results could differ materially from those contained in the forward-looking statement. These statements are based on current expectations of future events. Such statements include, but are not limited to, statements about the anticipated benefits of the acquisition (the "Arrangement") completed on August 21, 2008 by Sonus Pharmaceuticals, Inc. ("Sonus") of OncoGenex Technologies Inc. (pursuant to which Sonus changed its name to OncoGenex Pharmaceuticals, Inc.), including future financial and operating results, the combined company's plans, objectives, expectations and intentions, costs and expenses, interest rates, outcome of contingencies, financial condition, results of operations, liquidity, business strategies, cost savings, objectives of management and other statements that are not historical facts. You can find many of these statements by looking for words like "believes," "expects," "anticipates," "estimates," "may," "should," "will," "could," "plan," "intend," or similar

expressions in this document or in documents incorporated by reference in this document. We intend that such forward-looking statements be subject to the safe harbors created thereby. Examples of these forward-looking statements include, but are not limited to:

- our anticipated future capital requirements and the terms of any capital financing agreements;
- progress and preliminary and future results of clinical trials;
- anticipated regulatory filings, requirements and future clinical trials;
- timing and amount of future contractual payments, product revenue and operating expenses; and
- market acceptance of our products and the estimated potential size of these markets.

These forward-looking statements are based on the current beliefs and expectations of our management and are subject to significant risks and uncertainties. If underlying assumptions prove inaccurate or unknown risks or uncertainties materialize, actual results may differ materially from current expectations and projections. The following factors, among others, could cause actual results to differ from those set forth in the forward-looking statements:

- future capital requirements and uncertainty of obtaining additional funding through corporate partnerships, debt or equity financings;
- dependence on the development and commercialization of products;
- the risk that results in humans may not be indicative of results in future studies;
- the risk that results of research and preclinical studies may not be indicative of results in humans;
- uncertainty relating to the timing and results of clinical trials;
- uncertainties regarding the safety and effectiveness of the Company's products and technologies;
- the timing, expense and uncertainty associated with the development and regulatory approval process for products;
- uncertainties regarding the Company's future operating results, and the risk that the Company's products will not obtain the requisite regulatory approvals to commercialize its products or that the future sales of the Company's products may be less than expected;
- acceptance of our products by the medical community;
- our ability to build out our product candidate pipeline through product in-licensing or acquisition activities;
- the uncertainty associated with exiting or subleasing our excess office and laboratory space;
- general competitive conditions within the drug development and pharmaceutical industry;
- the potential inability to integrate and realize benefits from the Arrangement;

- the reliance on third parties who license intellectual property rights to the Company to comply with the terms of such agreements and to enforce, prosecute and defend such intellectual property rights;
- the potential for product liability issues and related litigation;
- the potential for claims arising from the use of hazardous materials in our business;
- proper management of our operations will be critical to the success of the Company;
- the potential inability to successfully protect and enforce our intellectual property rights;
- the impact of current, pending or future legislation, regulations and legal actions in the United States, Canada and elsewhere affecting the pharmaceutical and healthcare industries;
- currency fluctuation in the Company's primary markets;
- volatility in the value of our common stock;
- fluctuations in our operating results;
- history of operating losses and uncertainty of future financial results; and
- general economic conditions.

You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this document or, in the case of documents referred to or incorporated by reference, the date of those documents.

All subsequent written or oral forward-looking statements attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. We do not undertake any obligation to release publicly any revisions to these forward-looking statements to reflect events or circumstances after the date of this document or to reflect the occurrence of unanticipated events, except as may be required under applicable U.S. securities law. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

#### RATIO OF EARNINGS TO FIXED CHARGES

The following table shows our ratio of earnings to fixed charges for the periods indicated.

	Year Ended December 31,					Three Months Ended March 31, 2009
	2004	2005	2006	2007	2008	
Ratio of earnings to fixed charges <sup>(1)</sup>	—	—	—	—	—	—
Deficiency of earnings to fixed charges <sup>(2)</sup>	(3,665)	(4,497)	(10,919)	(7,823)	(10,691)	(2,419)

(1) In each of the periods presented, no earnings were sufficient to cover fixed charges.

- (2) The deficiency of earnings is equivalent to net income (loss) before tax benefit (provision) and extraordinary gain.

#### USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds to us from the sale of our securities under this prospectus. Unless otherwise provided in the applicable prospectus supplement, we intend to use the net proceeds from the sale of securities under this prospectus for general corporate purposes, which may include funding research and development, increasing our working capital, reducing indebtedness, acquisitions or investments in businesses, products or technologies that are complementary to our own and capital expenditures. We will set forth in the prospectus supplement our intended use for the net proceeds received from the sale of any securities. Pending the application of the net proceeds, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing securities.

#### PLAN OF DISTRIBUTION

We may sell the securities covered by this prospectus to one or more underwriters for public offering and sale by them, and may also sell the securities to investors directly or through agents. We will name any underwriter or agent involved in the offer and sale of securities in the applicable prospectus supplement. We have reserved the right to sell or exchange securities directly to investors on our own behalf in jurisdictions where we are authorized to do so. We may distribute the securities from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

We may solicit directly offers to purchase the securities being offered by this prospectus. We may also designate agents to solicit offers to purchase the securities from time to time. We will name in a prospectus supplement any agent involved in the offer or sale of our securities. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis, and a dealer will purchase securities as a principal for resale at varying prices to be determined by the dealer.

If we utilize an underwriter in the sale of the securities being offered by this prospectus, we will execute an underwriting agreement with the underwriter at the time of sale and we will provide the name of any underwriter in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we, or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agent.

We will provide in the applicable prospectus supplement any compensation we pay to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against civil

liabilities, including liabilities under the Securities Act, and to reimburse them for certain expenses. We may grant underwriters who participate in the distribution of our securities under this prospectus an option to purchase additional securities to cover any over-allotments in connection with the distribution.

The securities we offer under this prospectus may or may not be listed on a national securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involves the sale by persons participating in the offering of more securities than we sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

We may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and they may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in these sale transactions will be an underwriter and will be identified in the applicable prospectus supplement or in a post-effective amendment to the registration statement relating to this prospectus. In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus. The financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

To the extent required pursuant to Rule 424(b) of the Securities Act, or other applicable rule, we will file a prospectus supplement to describe the terms of any offering of our securities covered by this prospectus. The prospectus supplement will disclose:

- the terms of the offer;
- the names of any underwriters, including any managing underwriters, as well as any dealers or agents;
- the purchase price of the securities from us;
- the net proceeds to us from the sale of the securities;
- any delayed delivery arrangements;
- any underwriting discounts, commissions or other items constituting underwriters' compensation and any commissions paid to agents;
- any initial public offering price; and
- other facts material to the transaction.

We will bear substantially all of the costs, expenses and fees in connection with the registration of our securities under this prospectus. The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business.

## DESCRIPTION OF CAPITAL STOCK

### General

As of the date of this prospectus, our authorized capital stock consists of 16,019,930 shares. Those shares consist of 11,019,930 shares of common stock, par value of \$0.001 per share, and 5,000,000 shares of preferred stock. The only equity securities currently outstanding are shares of common stock. As of June 23, 2009, there were approximately 5,551,760 shares of common stock issued and outstanding. Our common stock is traded on the Nasdaq Capital Market under the symbol "OGXI".

The following description summarizes the material terms of our capital stock. This summary is, however, subject to the provisions of our certificate of incorporation and bylaws. For greater detail about our capital stock, please refer to our certificate of incorporation and bylaws.

### Common Stock

Each holder of common stock is entitled to one vote for each share held on all matters to be voted upon by the stockholders, except that all holders are entitled to cumulate their votes in the election of directors. Every stockholder voting in the election of directors may cumulate his or her votes and may cast all such votes for a single director or may distribute them among the number to be voted for, or for any two or more of them as the stockholder may see fit. At any meeting of the stockholders, a quorum as to any matter shall consist of a majority of the votes entitled to be cast on the matter, except where a larger quorum is required by law, by our certificate of incorporation or by our bylaws.

Holders of our common stock are entitled to receive dividends declared by our board of directors out of funds legally available for the payment of dividends, subject to the rights, if any, of preferred stockholders. In the event of our liquidation, dissolution or winding up, holders of common stock are entitled to share ratably in all of our assets remaining after we pay our liabilities and distribute the liquidation preference of any then outstanding preferred stock. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of holders of any series of preferred stock that we may designate and issue in the future. Holders of common stock have no preemptive or other subscription or conversion rights. There are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of our common stock are fully paid and nonassessable, and any shares of our common stock to be issued upon an offering pursuant to this prospectus and the related prospectus supplement will be fully paid and nonassessable upon issuance.

The transfer agent and registrar for our common stock is Computershare Investor Services Inc.

See "Certain Provisions of Delaware Law, the Company's Certificate of Incorporation and Bylaws and the Company's Stockholder Rights Plan" for a description of provisions of the Company's certificate of incorporation and bylaws which may have the effect of delaying, deferring or preventing changes in the Company's control.

### Preferred Stock

The following description of preferred stock and the description of the terms of any particular series of preferred stock that we choose to issue hereunder and that will be set forth in the related prospectus supplement are not complete. These descriptions are qualified in their entirety by reference to the certificate of designation relating to that series. The rights, preferences, privileges and restrictions of the preferred stock of each series will be fixed by the certificate of designation relating to that series.



The board of directors has the authority, without stockholder approval, subject to limitations prescribed by law, to provide for the issuance of the shares of preferred stock in one or more series, and by filing a certificate pursuant to the applicable law of the State of Delaware, to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences and rights of the shares of each series and the qualifications, limitations or restrictions, including, but not limited to, the following:

- the number of shares constituting that series;
- dividend rights and rates;
- voting rights;
- conversion terms;
- rights and terms of redemption (including sinking fund provisions); and
- rights of the series in the event of liquidation, dissolution or winding up.

All shares of preferred stock offered hereby will, when issued, be fully paid and nonassessable and will not have any preemptive or similar rights. Our board of directors could authorize the issuance of shares of preferred stock with terms and conditions that could have the effect of discouraging a takeover or other transaction that might involve a premium price for holders of the shares or which holders might believe to be in their best interests.

We will set forth in a prospectus supplement relating to the series of preferred stock being offered the following items:

- the title and stated value of the preferred stock;
- the number of shares of the preferred stock offered, the liquidation preference per share and the offering price of the preferred stock;
- the dividend rate(s), period(s) and/or payment date(s) or method(s) of calculation applicable to the preferred stock;
- whether dividends are cumulative or non-cumulative and, if cumulative, the date from which dividends on the preferred stock will accumulate;
- the procedures for any auction and remarketing, if any, for the preferred stock;
- the provisions for a sinking fund, if any, for the preferred stock;
- the provision for redemption, if applicable, of the preferred stock;
- any listing of the preferred stock on any securities exchange;
- the terms and conditions, if applicable, upon which the preferred stock will be convertible into common stock, including the conversion price (or manner of calculation) and conversion period;
- voting rights, if any, of the preferred stock;
- a discussion of any material and/or special United States federal income tax considerations applicable to the preferred stock;

- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon the liquidation, dissolution or winding up of our affairs;
- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the class or series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of our affairs; and
- any other specific terms, preferences, rights, limitations or restrictions of the preferred stock.

The transfer agent and registrar for any series of preferred stock will be set forth in the applicable prospectus supplement.

### **DESCRIPTION OF DEBT SECURITIES**

This description is a summary of the material provisions of the debt securities and the related indenture. We urge you to read the form of indenture filed as an exhibit to the registration statement of which this prospectus is a part because the indenture, and not this description, governs your rights as a holder of debt securities. References in this prospectus to an "indenture" refer to the particular indenture under which we may issue a series of debt securities.

#### **General**

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in an officers' certificate or by a supplemental indenture. Debt securities may be issued in separate series without limitation as to aggregate principal amount. We may specify a maximum aggregate principal amount for the debt securities of any series. The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series, including any pricing supplement. The prospectus supplement will set forth specific terms relating to some or all of the following:

- the offering price;
- the title;
- any limit on the aggregate principal amount;
- the person who shall be entitled to receive interest, if other than the record holder on the record date;
- the date the principal will be payable;
- the interest rate, if any, the date interest will accrue, the interest payment dates and the regular record dates;
- the place where payments may be made;
- any mandatory or optional redemption provisions;
- if applicable, the method for determining how the principal, premium, if any, or interest will be calculated by reference to an index or formula;
- if other than U.S. currency, the currency or currency units in which principal, premium, if any, or interest will be payable and whether we or the holder may elect payment to be made in a different currency;

- the portion of the principal amount that will be payable upon acceleration of stated maturity, if other than the entire principal amount;
- any defeasance provisions if different from those described below under “Satisfaction and Discharge; Defeasance”;
- any conversion or exchange provisions;
- any obligation to redeem or purchase the debt securities pursuant to a sinking fund;
- whether the debt securities will be issuable in the form of a global security;
- any subordination provisions, if different from those described below under “Subordination”;
- any deletions of, or changes or additions to, the events of default or covenants; and
- any other specific terms of such debt securities.

Unless otherwise specified in the prospectus supplement, the debt securities will be registered debt securities. Debt securities may be sold at a substantial discount below their stated principal amount, bearing no interest or interest at a rate which at the time of issuance is below market rates.

#### **Exchange and Transfer**

Debt securities may be transferred or exchanged at the office of the security registrar or at the office of any transfer agent designated by us.

We will not impose a service charge for any transfer or exchange, but we may require holders to pay any tax or other governmental charges associated with any transfer or exchange.

In the event of any potential redemption of debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange, any debt security of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt security of that series selected for redemption, in whole or in part, except the unredeemed portion being redeemed in part.

We may initially appoint the trustee as the security registrar. Any transfer agent, in addition to the security registrar, initially designated by us will be named in the prospectus supplement. We may designate additional transfer agents or change transfer agents or change the office of the transfer agent. However, we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

#### **Global Securities**

The debt securities of any series may be represented, in whole or in part, by one or more global securities. Each global security will:

- be registered in the name of a depository that we will identify in a prospectus supplement;
- be deposited with the depository or nominee or custodian; and

- bear any required legends.

No global security may be exchanged in whole or in part for debt securities registered in the name of any person other than the depositary or any nominee unless:

- the depositary has notified us that it is unwilling or unable to continue as depositary or has ceased to be qualified to act as depositary;
- an event of default is continuing; or
- the Company executes and delivers to the trustee an officers' certificate stating that the global security is exchangeable.

As long as the depositary, or its nominee, is the registered owner of a global security, the depositary or nominee will be considered the sole owner and holder of the debt securities represented by the global security for all purposes under the indenture. Except in the above limited circumstances, owners of beneficial interests in a global security:

- will not be entitled to have the debt securities registered in their names;
- will not be entitled to physical delivery of certificated debt securities; and
- will not be considered to be holders of those debt securities under the indentures.

Payments on a global security will be made to the depositary or its nominee as the holder of the global security. Some jurisdictions have laws that require that certain purchasers of securities take physical delivery of such securities in definitive form. These laws may impair the ability to transfer beneficial interests in a global security.

Institutions that have accounts with the depositary or its nominee are referred to as "participants." Ownership of beneficial interests in a global security will be limited to participants and to persons that may hold beneficial interests through participants. The depositary will credit, on its book-entry registration and transfer system, the respective principal amounts of debt securities represented by the global security to the accounts of its participants.

Ownership of beneficial interests in a global security will be shown on and effected through records maintained by the depositary, with respect to participants' interests, or any participant, with respect to interests of persons held by participants on their behalf.

Payments, transfers and exchanges relating to beneficial interests in a global security will be subject to policies and procedures of the depositary.

The depositary policies and procedures may change from time to time. Neither we nor the trustee will have any responsibility or liability for the depositary's or any participant's records with respect to beneficial interests in a global security.

#### **Payment and Paying Agent**

The provisions of this paragraph will apply to the debt securities unless otherwise indicated in the prospectus supplement. Payment of interest on a debt security on any interest payment date will be made to the person in whose name the debt security is registered at the close of business on the regular record date. Payment on debt securities of a particular series will be payable at the office of a paying agent or

paying agents designated by us. However, at our option, we may pay interest by mailing a check to the record holder. The corporate trust office will be designated as our sole paying agent.

We may also name any other paying agents in the prospectus supplement. We may designate additional paying agents, change paying agents or change the office of any paying agent. However, we will be required to maintain a paying agent in each place of payment for the debt securities of a particular series.

All moneys paid by us to a paying agent for payment on any debt security which remain unclaimed at the end of two years after such payment was due will be repaid to us. Thereafter, the holder may look only to us for such payment.

#### **Consolidation, Merger and Sale of Assets**

Except as otherwise set forth in the prospectus supplement, we may not consolidate with or merge into any other person, in a transaction in which we are not the surviving corporation, or convey, transfer or lease our properties and assets substantially as an entirety to, any person, unless:

- the successor, if any, is a U.S. corporation, limited liability company, partnership, trust or other entity;
- the successor assumes our obligations on the debt securities and under the indenture;
- immediately after giving effect to the transaction, no default or event of default shall have occurred and be continuing; and
- certain other conditions are met.

#### **Events of Default**

Unless we inform you otherwise in the prospectus supplement, the indenture will define an event of default with respect to any series of debt securities as one or more of the following events:

- (1) failure to pay principal of or any premium on any debt security of that series when due;
- (2) failure to pay any interest on any debt security of that series for 30 days when due;
- (3) failure to deposit any sinking fund payment when due;
- (4) failure to perform any other covenant in the indenture continued for 90 days after being given the notice required in the indenture;
- (5) our bankruptcy, insolvency or reorganization; and
- (6) any other event of default specified in the prospectus supplement.

An event of default of one series of debt securities is not necessarily an event of default for any other series of debt securities.

If an event of default, other than an event of default described in clause (5) above, shall occur and be continuing, either the trustee or the holders of at least 25% in aggregate principal amount of the

outstanding securities of that series may declare the principal amount of the debt securities of that series to be due and payable immediately.

If an event of default described in clause (5) above shall occur, the principal amount of all the debt securities of that series will automatically become immediately due and payable. Any payment by us on subordinated debt securities following any such acceleration will be subject to the subordination provisions described below under "Subordinated Debt Securities."

After acceleration the holders of a majority in aggregate principal amount of the outstanding securities of that series may, under certain circumstances, rescind and annul such acceleration if all events of default, other than the non-payment of accelerated principal, or other specified amount, have been cured or waived.

Other than the duty to act with the required care during an event of default, the trustee will not be obligated to exercise any of its rights or powers at the request of the holders unless the holders shall have offered to the trustee reasonable indemnity. Generally, the holders of a majority in aggregate principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee.

A holder will not have any right to institute any proceeding under the indentures, or for the appointment of a receiver or a trustee, or for any other remedy under the indentures, unless:

- (1) the holder has previously given to the trustee written notice of a continuing event of default with respect to the debt securities of that series;
- (2) the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made a written request and have offered reasonable indemnity to the trustee to institute the proceeding; and
- (3) the trustee has failed to institute the proceeding and has not received direction inconsistent with the original request from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series within 90 days after the original request.

Holders may, however, sue to enforce the payment of principal or interest on any debt security on or after the due date without following the procedures listed in (1) through (3) above.

#### **Modification and Waiver**

Except as provided in the next two succeeding paragraphs, the applicable trustee and we may make modifications and amendments to the indentures (including, without limitation, through consents obtained in connection with a tender offer or exchange offer for, outstanding securities) and may waive any existing default or event of default (including, without limitation, through consents obtained in connection with a tender offer or exchange offer for, outstanding securities) with the consent of the holders of a majority in aggregate principal amount of the outstanding securities of each series affected by the modification or amendment.

However, neither we nor the trustee may make any amendment or waiver without the consent of the holder of each outstanding security of that series affected by the amendment or waiver if such amendment or waiver would, among other things:

- change the amount of securities whose holders must consent to an amendment, supplement or waiver;
- change the stated maturity of any debt security;
- reduce the principal on any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund;
- reduce the principal of an original issue discount security on acceleration of maturity;
- reduce the rate of interest or extend the time for payment of interest on any debt security;
- make a principal or interest payment on any debt security in any currency other than that stated in the debt security;
- impair the right to enforce any payment after the stated maturity or redemption date;
- waive any default or event of default in payment of the principal of, premium or interest on any debt security (except certain rescissions of acceleration); or
- waive a redemption payment or modify any of the redemption provisions of any debt security;

Notwithstanding the preceding, without the consent of any holder of outstanding securities, we and the trustee may amend or supplement the indentures:

- to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;
- to provide for uncertificated securities in addition to or in place of certificated securities;
- to provide for the assumption of our obligations to holders of any debt security in the case of a merger, consolidation, transfer or sale of all or substantially all of our assets;
- to make any change that does not adversely affect the legal rights under the indenture of any such holder;
- to comply with requirements of the Commission in order to effect or maintain the qualification of an indenture under the Trust Indenture Act; or
- to evidence and provide for the acceptance of appointment by a successor trustee with respect to the debt securities of one or more series and to add to or change any of the provisions of the indenture as shall be necessary to provide for or facilitate the administration of the trusts by more than one Trustee.

The consent of holders is not necessary under the indentures to approve the particular form of any proposed amendment. It is sufficient if such consent approves the substance of the proposed amendment.

**Satisfaction and Discharge; Defeasance**

We may be discharged from our obligations on the debt securities of any series that have matured or will mature or be redeemed within one year if we deposit with the trustee enough cash to pay all the

principal, interest and any premium due to the stated maturity date or redemption date of the debt securities.

Each indenture contains a provision that permits us to elect:

- to be discharged from all of our obligations, subject to limited exceptions, with respect to any series of debt securities then outstanding; and/or
- to be released from our obligations under the following covenants and from the consequences of an event of default resulting from a breach of certain covenants, including covenants as to payment of taxes and maintenance of corporate existence.

To make either of the above elections, we must deposit in trust with the trustee enough money to pay in full the principal and interest on the debt securities. This amount may be made in cash and/or U.S. government obligations. As a condition to either of the above elections, we must deliver to the trustee an opinion of counsel that the holders of the debt securities will not recognize income, gain or loss for federal income tax purposes as a result of the action.

If any of the above events occurs, the holders of the debt securities of the series will not be entitled to the benefits of the indenture, except for the rights of holders to receive payments on debt securities or the registration of transfer and exchange of debt securities and replacement of lost, stolen or mutilated debt securities.

#### **Notices**

Notices to holders will be given by mail to the addresses of the holders in the security register.

#### **Governing Law**

The indentures and the debt securities will be governed by, and construed under, the law of the State of New York.

#### **Regarding the Trustee**

The indenture limits the right of the trustee, should it become a creditor of us, to obtain payment of claims or secure its claims.

The trustee is permitted to engage in certain other transactions. However, if the trustee, acquires any conflicting interest, and there is a default under the debt securities of any series for which they are trustee, the trustee must eliminate the conflict or resign.

#### **Subordination**

Payment on subordinated debt securities will, to the extent provided in the indenture, be subordinated in right of payment to the prior payment in full of all of our senior indebtedness (except that holders of the notes may receive and retain (i) permitted junior securities and (ii) payments made from the trust described under "Satisfaction and Discharge; Defeasance"). Any subordinated debt securities also are effectively subordinated to all debt and other liabilities, including lease obligations, if any.

Upon any distribution of our assets upon any dissolution, winding up, liquidation or reorganization, the payment of the principal of and interest on subordinated debt securities will be subordinated in right of payment to the prior payment in full in cash or other payment satisfactory to the



holders of senior indebtedness. In the event of any acceleration of subordinated debt securities because of an event of default, the holders of any senior indebtedness would be entitled to payment in full in cash or other payment satisfactory to such holders of all senior indebtedness obligations before the holders of subordinated debt securities are entitled to receive any payment or distribution, except for certain payments made by the trust described under "Satisfaction and Discharge; Defeasance." The indenture requires us or the trustee to promptly notify holders of designated senior indebtedness if payment of subordinated debt securities is accelerated because of an event of default.

We may not make any payment on subordinated debt securities, including upon redemption at the option of the holder of any subordinated debt securities or at our option, if:

- a default in the payment of the principal, premium, if any, interest, rent or other obligations in respect of designated senior indebtedness occurs and is continuing beyond any applicable period of grace (called a "payment default"); or
- a default other than a payment default on any designated senior indebtedness occurs and is continuing that permits holders of designated senior indebtedness to accelerate its maturity, and the trustee receives notice of such default (called a "payment blockage notice") from us or any other person permitted to give such notice under the indenture (called a "non-payment default").

We may resume payments and distributions on subordinated debt securities:

- in the case of a payment default, upon the date on which such default is cured or waived or ceases to exist; and
- in the case of a non-payment default, 179 days after the date on which the payment blockage notice is received by the trustee, if the maturity of the designated senior indebtedness has not been accelerated.

No new period of payment blockage may be commenced pursuant to a payment blockage notice unless 365 days have elapsed since the initial effectiveness of the immediately prior payment blockage notice and all scheduled payments of principal, premium, if any, and interest on the notes that have come due have been paid in full in cash. No non-payment default that existed or was continuing on the date of delivery of any payment blockage notice shall be the basis for any later payment blockage notice.

If the trustee or any holder of the notes receives any payment or distribution of our assets in contravention of the subordination provisions on subordinated debt securities before all senior indebtedness is paid in full in cash, property or securities, including by way of set-off, or other payment satisfactory to holders of senior indebtedness, then such payment or distribution will be held in trust for the benefit of holders of senior indebtedness or their representatives to the extent necessary to make payment in full in cash or payment satisfactory to the holders of senior indebtedness of all unpaid senior indebtedness.

In the event of our bankruptcy, dissolution or reorganization, holders of senior indebtedness may receive more, ratably, and holders of subordinated debt securities may receive less, ratably, than our other creditors (including our trade creditors). This subordination will not prevent the occurrence of any event of default under the indenture.

We are not prohibited from incurring debt, including senior indebtedness, under the indenture. We may from time to time incur additional debt, including senior indebtedness.

We are obligated to pay reasonable compensation to the trustee and to indemnify the trustee against certain losses, liabilities or expenses incurred by the trustee in connection with its duties under the indenture. The trustee's claims for these payments will generally be senior to those of noteholders in respect of all funds collected or held by the trustee.

#### **Certain Definitions**

"indebtedness" means:

- (1) all indebtedness, obligations and other liabilities for borrowed money, including overdrafts, foreign exchange contracts, currency exchange agreements, interest rate protection agreements, and any loans or advances from banks, or evidenced by bonds, debentures, notes or similar instruments, other than any account payable or other accrued current liability or obligation incurred in the ordinary course of business in connection with the obtaining of materials or services;
- (2) all reimbursement obligations and other liabilities with respect to letters of credit, bank guarantees or bankers' acceptances;
- (3) all obligations and liabilities in respect of leases required in conformity with generally accepted accounting principles to be accounted for as capitalized lease obligations on our balance sheet;
- (4) all obligations and other liabilities under any lease or related document in connection with the lease of real property which provides that we are contractually obligated to purchase or cause a third party to purchase the leased property and thereby guarantee a minimum residual value of the leased property to the lessor and our obligations under the lease or related document to purchase or to cause a third party to purchase the leased property;
- (5) all obligations with respect to an interest rate or other swap, cap or collar agreement or other similar instrument or agreement or foreign currency hedge, exchange, purchase or other similar instrument or agreement;
- (6) all direct or indirect guaranties or similar agreements in respect of, and our obligations or liabilities to purchase, acquire or otherwise assure a creditor against loss in respect of, indebtedness, obligations or liabilities of others of the type described in (1) through (5) above;
- (7) any indebtedness or other obligations described in (1) through (6) above secured by any mortgage, pledge, lien or other encumbrance existing on property which is owned or held by us; and
- (8) any and all refinancings, replacements, deferrals, renewals, extensions and refundings of, or amendments, modifications or supplements to, any indebtedness, obligation or liability of the kind described in clauses (1) through (7) above.

"permitted junior securities" means (i) equity interests in OncoGenex; or (ii) debt securities of OncoGenex that are subordinated to all senior indebtedness and any debt securities issued in exchange for senior indebtedness to substantially the same extent as, or to a greater extent than the notes are subordinated to senior indebtedness under the indenture.

“senior indebtedness” means the principal, premium, if any, interest, including any interest accruing after bankruptcy, and rent or termination payment on or other amounts due on our current or future indebtedness, whether created, incurred, assumed, guaranteed or in effect guaranteed by us, including any deferrals, renewals, extensions, refundings, amendments, modifications or supplements to the above. However, senior indebtedness does not include:

- indebtedness that expressly provides that it shall not be senior in right of payment to subordinated debt securities or expressly provides that it is on the same basis or junior to subordinated debt securities;
- our indebtedness to any of our majority-owned subsidiaries; and
- subordinated debt securities.

## **DESCRIPTION OF WARRANTS**

### **General**

We may issue warrants for the purchase of our debt securities, preferred stock or common stock, or any combination thereof. Warrants may be issued independently or together with our debt securities, preferred stock or common stock and may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. The warrant agent will act solely as our agent in connection with the warrants. The warrant agent will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants. This summary of certain provisions of the warrants is not complete. For the terms of a particular series of warrants, you should refer to the prospectus supplement for that series of warrants and the warrant agreement for that particular series.

### **Debt warrants**

The prospectus supplement relating to a particular issue of warrants to purchase debt securities will describe the terms of the debt warrants, including the following:

- the title of the debt warrants;
- the offering price for the debt warrants, if any;
- the aggregate number of the debt warrants;
- the designation and terms of the debt securities, including any conversion rights, purchasable upon exercise of the debt warrants;
- if applicable, the date from and after which the debt warrants and any debt securities issued with them will be separately transferable;
- the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities or other property;
- the dates on which the right to exercise the debt warrants will commence and expire;
- if applicable, the minimum or maximum amount of the debt warrants that may be exercised at any one time;

- whether the debt warrants represented by the debt warrant certificates or debt securities that may be issued upon exercise of the debt warrants will be issued in registered or bearer form;
- information with respect to book-entry procedures, if any; the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- the antidilution provisions of the debt warrants, if any;
- the redemption or call provisions, if any, applicable to the debt warrants;
- any provisions with respect to the holder's right to require us to repurchase the warrants upon a change in control or similar event; and
- any additional terms of the debt warrants, including procedures, and limitations relating to the exchange, exercise and settlement of the debt warrants.

Debt warrant certificates will be exchangeable for new debt warrant certificates of different denominations. Debt warrants may be exercised at the corporate trust office of the warrant agent or any other office indicated in the prospectus supplement. Prior to the exercise of their debt warrants, holders of debt warrants will not have any of the rights of holders of the debt securities purchasable upon exercise and will not be entitled to payment of principal or any premium, if any, or interest on the debt securities purchasable upon exercise.

#### **Equity warrants**

The prospectus supplement relating to a particular series of warrants to purchase our common stock or preferred stock will describe the terms of the warrants, including the following:

- the title of the warrants;
- the offering price for the warrants, if any;
- the aggregate number of warrants;
- the designation and terms of the common stock or preferred stock that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;
- the number of shares of common stock or preferred stock that may be purchased upon exercise of a warrant and the exercise price for the warrants;
- the dates on which the right to exercise the warrants shall commence and expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;

- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- the antidilution provisions of the warrants, if any;
- the redemption or call provisions, if any, applicable to the warrants;
- any provisions with respect to holder's right to require us to repurchase the warrants upon a change in control or similar event; and
- any additional terms of the warrants, including procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled:

- to vote, consent or receive dividends;
- receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or
- exercise any rights as stockholders of OncoGenex.

**CERTAIN PROVISIONS OF DELAWARE LAW, THE COMPANY'S CERTIFICATE  
OF INCORPORATION AND BYLAWS AND THE COMPANY'S  
STOCKHOLDER RIGHTS PLAN**

The following paragraphs summarize certain provisions of the Delaware General Corporation Law, or the DGCL, and the Company's certificate of incorporation and bylaws. The summary does not purport to be complete and is subject to and qualified in its entirety by reference to the DGCL and to the Company's certificate of incorporation and bylaws, copies of which are on file with the Commission as exhibits to documents previously filed by the Company. See "Where You Can Find More Information."

Our certificate of incorporation limits the personal liability of our directors to OncoGenex and our stockholders to the fullest extent permitted by the DGCL. The inclusion of this provision in our certificate of incorporation may reduce the likelihood of derivative litigation against directors and may discourage or deter stockholders or management from bringing a lawsuit against directors for breach of their duty of care.

Our bylaws provide that special meetings of stockholders can be called only by the board of directors, the Chairman of the board of directors or the President. Stockholders are not permitted to call a special meeting and cannot require the board of directors to call a special meeting.

We have a stockholder rights plan that may have the effect of discouraging unsolicited takeover proposals. Specifically, the rights issued thereunder could cause significant dilution to a person or group that attempts to acquire us on terms not approved in advance by our board of directors. In addition, our constating documents contain provisions that may discourage unsolicited takeover proposals that stockholders may consider to be in their best interests. These provisions include the ability of our board of directors to designate the terms of and issue new series of preferred stock and the ability of our board of directors to amend the bylaws without stockholder approval.

We are subject to Section 203 of the DGCL, which prohibits a Delaware corporation from engaging in any "business combination" with an "interested stockholder," for a period of three years after the date of the transaction in which a person became an "interested stockholder," unless:

- prior to 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 consummation of the transaction which 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 commenced, excluding for purposes of determining the number of voting shares outstanding (but not the voting shares 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
- at or subsequent to such time the “business combination” is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of a least 66 2/3% of the outstanding voting stock that is not owned by the “interested stockholder.”

A “business combination” includes mergers, stock or asset sales and other transactions resulting in a financial benefit to the “interested stockholders.” An “interested stockholder” is a person who, together with affiliates and associates, owns (or within three years, did own) 15% or more of the corporation’s voting stock. Although Section 203 permits us to elect not to be governed by its provisions, we have not made this election. As a result of the application of Section 203, potential acquirers of OncoGenex may be discouraged from attempting to effect an acquisition transaction with us, thereby possibly depriving holders of our securities of certain opportunities to sell or otherwise dispose of such securities at above-market prices pursuant to such transactions.

#### **LEGAL MATTERS**

Dorsey & Whitney, LLP, Seattle, Washington, will issue an opinion about certain legal matters with respect to the securities. Any underwriters or agents will be advised about legal matters relating to any offering by their own counsel.

#### **EXPERTS**

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2008, as set forth in its report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP’s report, given on its authority as experts in accounting and auditing.

**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 14. Other Expenses of Issuance and Distribution**

The following table sets forth estimated expenses in connection with the issuance and distribution of the securities being registered:

Commission registration fee	\$ 5,580
Legal fees and expenses*	75,000
Transfer Agent and Depository*	5,000
Printing*	10,000
Accounting fees and expenses*	25,000
Miscellaneous*	10,000
<b>Total</b>	<b><u>\$ 130,580</u></b>

\* Estimated for purposes of completing the information required pursuant to this item 14.

**Item 15. Indemnification of Officers and Directors**

As permitted by the DGCL, the Company's certificate of incorporation eliminates the liability of directors to the Company or its stockholders for monetary damages for breach of fiduciary duty as a director, except to the extent otherwise required by the DGCL.

The certificate of incorporation further provides that the Company will indemnify any person who is or was made a party to any proceeding by reason of the fact that such person is or was a director or officer of the Company against expenses, judgments, fines, penalties and amounts paid in settlement incurred in connection therewith to the fullest extent authorized by the DGCL. The Company's bylaws provide for a similar indemnity to directors and officers of the Company to the fullest extent authorized by the DGCL.

The Company's bylaws authorize the Company's board of directors to enter into indemnification contracts with each of its officers and directors. The Company has entered into indemnification contracts with each of its directors and executive officers. The indemnification contracts provide for the indemnification of directors and officers against all expenses, liability and loss actually reasonably incurred to the fullest extent permitted by the Company's certificate of incorporation, bylaws and applicable law.

The Company's bylaws also authorize the Company to maintain insurance to protect any director or officer against any expense, liability or loss, whether or not the Company would have the power to indemnify such person against such expense, liability or loss under the DGCL. The Company maintains such insurance.

**Item 16. Exhibits**

The exhibits listed in the accompanying Exhibit Index are filed (except where otherwise indicated) as part of this Registration Statement.

**Item 17. Undertakings**

(a) The undersigned Registrant hereby undertakes:

(1) to file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however*, that subparagraphs (i),(ii) and (iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment 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.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to



be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *Provided, however,* that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement 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.

(c) The undersigned registrant hereby undertakes to deliver or cause to be delivered with the prospectus, to each person to whom the prospectus is sent or given, the latest annual report, to security holders that is incorporated by reference in the prospectus and furnished pursuant to and meeting the requirements of Rule 14a-3 or Rule 14c-3 under the Securities Exchange Act of 1934; and, where interim financial information required to be presented by Article 3 of Regulation S-X is not set forth in the prospectus, to deliver, or cause to be delivered to each person to whom the prospectus is sent or given, the latest quarterly report that is specifically incorporated by reference in the prospectus to provide such interim financial information.

(d) Insofar as indemnification for liabilities arising under the Securities Act of 1933 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 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 Act and will be governed by the final adjudication of such issue.

(e) If and when applicable, the Registrant hereby further undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Securities and Exchange Commission under Section 305(b)(2) of the Trust Indenture Act.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Amendment No. 1 to the registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Bothell, State of Washington, on July 13, 2009.

**ONCOGENEX PHARMACEUTICALS, INC.**

By: /s/ S. Cormack  
Scott Cormack  
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act, this Amendment No. 1 to the Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>By: /s/ S. Cormack</u> Scott Cormack	Chief Executive Officer, President and Director (principal executive officer)	July 13, 2009
<u>By: /s/ Stephen Anderson</u> Stephen Anderson	Chief Financial Officer and Secretary (principal financial officer and principal accounting officer)	July 13, 2009
<u>By: *</u> Michael Martino	Director	July 13, 2009
<u>By: *</u> Michelle Burris	Director	July 13, 2009
<u>By: *</u> Dwight Winstead	Director	July 13, 2009
<u>By: *</u> Pat Brady	Director	July 13, 2009
<u>By: *</u> Neil Clendeninn	Director	July 13, 2009
<u>*By: /s/ S. Cormack</u> Scott Cormack Attorney-in-fact		

## EXHIBIT INDEX

<b>Exhibit Number</b>	<b>Description of Exhibit</b>
1.1*	Form of Underwriting Agreement
3.1(1)	Amended and Restated Certificate of Incorporation (As Amended Through October 17, 1995)
3.2(2)	Certificate of Amendment to Certificate of Incorporation filed on May 6, 1999
3.3(3)	Certificate of Correction filed on March 9, 2009 to Certificate of Amendment filed on May 6, 1999
3.4(4)	Certificate of Amendment to Certificate of Incorporation filed on May 7, 2004
3.5(3)	Certificate of Correction filed on March 9, 2009 to Certificate of Amendment filed on May 7, 2004
3.6(5)	Certificate of Amendment to Certificate of Incorporation filed on August 20, 2008
3.7(6)	Third Amended and Restated Bylaws of OncoGenex Pharmaceuticals, Inc.
4.1(5)	Specimen Common Stock Certificate
4.2*	Specimen Preferred Stock Certificate
4.3*	Form of Debt Security
4.4***	Form of Indenture between OncoGenex Pharmaceuticals, Inc. and one or more trustees to be named
4.5*	Form of Warrant
4.6*	Form of Warrant Agreement
5.1***	Opinion of Dorsey & Whitney LLP
12.1***	Statement of Computation of Ratio of Earnings to Fixed Charges
23.1	Consent of Independent Registered Public Accounting Firm
23.2***	Consent of Dorsey & Whitney LLP (included as Exhibit 5.1)
24.1***	Power of Attorney
25.1**	Statement of Eligibility of Trustee on Form T-1

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- \* To be filed by amendment or as an exhibit to a current report on Form 8-K of the Company and incorporated by reference herein.
- \*\* To be filed in accordance with the requirements of Section 305(b)(2) of the Trust Indenture Act of 1939 and Rule 5b-3 thereunder.
- \*\*\* Previously filed.
- (1) Incorporated by reference to the Company's Registration Statement on Form S-1, Reg. No. 33-96112.
  - (2) Incorporated by reference to Company's quarterly report on Form 10-Q for the quarter ended March 31, 1999.
  - (3) Incorporated by reference to the Company's current report on Form 8-K filed on March 11, 2009.
  - (4) Incorporated by reference to the Company's annual report on Form 10-K for the year ended December 31, 2008.
  - (5) Incorporated by reference to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2008.
  - (6) Incorporated by reference to the Company's current report on Form 8-K filed on October 30, 2008.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the reference to our firm under the caption "Experts" in Amendment No. 1 to the Registration Statement [Form S-3] and related Prospectus of **OncoGenex Pharmaceuticals, Inc.** for the registration of an indeterminate number of shares of common stock and preferred stock, and an indeterminate number of warrants to purchase common stock or preferred stock and an indeterminate amount of debt securities and to the incorporation by reference therein of our report dated February 25, 2009, with respect to the consolidated financial statements included in its Annual Report [Form 10-K] for the year ended December 31, 2008, filed with the Securities and Exchange Commission.

Vancouver, Canada,  
July 13, 2009.

/s/ Ernst & Young LLP  
Chartered Accountants

