As filed with the Securities and Exchange Commission on August 8, 2013

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 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.)

X

Accelerated filer

Smaller reporting company

1522 217th Place SE, Suite 100, Bothell, Washington 98021 (Address of Principal Executive Offices) (Zip Code)

> OncoGenex Pharmaceuticals, Inc. 2010 Performance Incentive Plan (Full title of the plan)

Scott Cormack Chief Executive Officer OncoGenex Pharmaceuticals, Inc. 1522 217th Place SE, Suite 100 Bothell, Washington 98021 (Name and address of agent for service)

(425) 686-1500 (Telephone number, including area code, of agent for service)

Copies to:

Alan C. Smith James D. Evans Fenwick & West LLP 1191 2nd Avenue, 10th Floor Seattle, Washington, 98101 (206) 389-4510

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.

Large accelerated filer

Non-accelerated filer \Box (Do not check if a smaller reporting company)

CALCULATION OF REGISTRATION FEE

		Proposed	Proposed	
	Amount	maximum	maximum	
Title of securities	to be	offering price	aggregate	Amount of
to be registered	registered(1)	per share	offering price	registration fee
Common stock, \$0.001 par value per share	1,600,000(2)	\$9.80(3)	\$15,680,000(3)	\$2,139(3)

(1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended, this Registration Statement shall also cover any additional shares of the Registrant's common stock that become issuable in respect of the securities identified in the above table by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the Registrant's receipt of consideration that results in an increase in the number of the outstanding shares of the Registrant's common stock.

(2) Represents an additional 1,600,000 shares of common stock reserved for issuance under the Registrant's 2010 Performance Incentive Plan.

(3) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(c) and (h) under the Securities Act of 1933, as amended, based on the average of the high and low prices of the Registrant's common stock as reported by The NASDAQ Capital Market on August 5, 2013.

REGISTRATION OF ADDITIONAL SHARES PURSUANT TO GENERAL INSTRUCTION E

Pursuant to General Instruction E of Form S-8, OncoGenex Pharmaceuticals, Inc. (the "Registrant") is filing this Registration Statement with the Securities and Exchange Commission (the "Commission") to register an additional 1,600,000 shares of common stock under the Registrant's 2010 Performance Incentive Plan. This Registration Statement hereby incorporates by reference the contents of the Registrant's registration statement on Form S-8 filed with the Commission on August 13, 2010 (Registration No. 333-168820).

PART II. INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Exhibit Number	Exhibit
4.1	Second Amended and Restated Certificate of Incorporation of OncoGenex Pharmaceuticals, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Commission on May 29, 2013)
4.2	Fifth Amended and Restated Bylaws of OncoGenex Pharmaceuticals, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 2, 2012)
5.1	Opinion of Fenwick & West LLP
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm
23.2	Consent of Fenwick & West LLP (included in Exhibit 5.1)
24.1	Power of Attorney (included on the signature page of this Form S-8)
99.1	OncoGenex Pharmaceuticals, Inc. 2010 Performance Incentive Plan (incorporated by reference to Appendix A to the Registrant's Definitive Proxy Statement on Schedule 14A as filed with the Commission on April 22, 2013)

Item 9. Undertakings.

Item 8. Exhibits.

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;

(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 a 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 paragraphs (A)(1)(i) and (A)(1)(i) 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 Exchange Act that are incorporated by reference in the Registration Statement.

2. That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered herein, 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.

B. The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

C. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling percedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

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-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Vancouver, Province of British Columbia, on August 8, 2013.

ONCOGENEX PHARMACEUTICALS, INC.

By: /s/ Scott Cormack

Scott Cormack President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Scott Cormack and Susan Wyrick, and each of them, as his or her true and lawful attorney-in-fact and agent with full power of substitution, for him or her in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the date indicated.

Signature	Title	Date
/s/ Scott Cormack Scott Cormack	Director, President and Chief Executive Officer (Principal Executive Officer and Principal Financial Officer)	August 8, 2013
/s/ Susan Wyrick Susan Wyrick	Senior Director, Finance (Principal Accounting Officer)	August 8, 2013
/s/ Neil Clendeninn Neil Clendeninn	Director	August 8, 2013
/s/ Jack Goldstein Jack Goldstein	Director	August 8, 2013
/s/ Martin Mattingly Martin Mattingly	Director	August 8, 2013
/s/ Stewart Parker Stewart Parker	Director	August 8, 2013
/s/ David Smith David Smith	Director	August 8, 2013

EXHIBIT INDEX

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1191 SECOND AVENUE, 10TH FLOOR SEATTLE, WA 98101 TEL: 206.389.4510 FAX: 206.389.4511 WWW.FENWICK.COM

August 8, 2013

OncoGenex Pharmaceuticals, Inc. 1522 217th Place SE, Suite 100 Bothell, Washington 98021

Ladies and Gentlemen:

At your request, we have examined the Registration Statement on Form S-8 (the "*Registration Statement*") to be filed by OncoGenex Pharmaceuticals, Inc., a Delaware corporation (the "*Company*"), with the Securities and Exchange Commission (the "*Commission*") on or about August 8, 2013 in connection with the registration under the Securities Act of 1933, as amended (the "*Securities Act*"), of an aggregate of 1,600,000 shares of the Company's Common Stock (the "*Stock*") that are subject to issuance by the Company upon the exercise or settlement of awards granted or to be granted under the Company's 2010 Performance Incentive Plan (the "*Plan*").

In rendering this opinion, we have examined such matters of fact as we have deemed necessary in order to render the opinion set forth herein, which included examination of the following:

- (1) the Company's Second Amended and Restated Certificate of Incorporation, as amended, certified by the Secretary of State of the State of Delaware on May 28, 2013 (the "*Restated Certificate*");
- (2) the Company's Fifth Amended and Restated Bylaws, certified by the Company's Secretary on June 18, 2013 (the 'Bylaws');
- (3) the Registration Statement, together with the Exhibits filed as a part thereof or incorporated therein by reference;
- (4) The prospectus prepared in connection with the Registration Statement (the "*Prospectus*");
- (5) Copies of minutes of meetings of, and actions by the written consent of, the Board of Directors, the Company's incorporator and the Company's stockholders provided to us by the Company relating to the adoption, approval, authorization and/or ratification of (i) the Restated Certificate, (ii) the Bylaws, (iii) the Registration Statement and the issuance of Stock by the Company pursuant to the Registration Statement, and (iv) the adoption and amendment of the Plan;
- (6) The stock records for the Company that the Company has provided to us (consisting of a list of the stockholders, optionholders and warrantholders of the Company that was prepared by the Company and provided to us as of August 7, 2013 and a list of any outstanding options, warrants or other rights to purchase the Company's capital stock, and verifying the number of such issued and outstanding securities and a certificate of Computershare Trust Company, N.A., the Company's transfer agent, dated August 7, 2013 regarding the Company's outstanding shares of Common Stock as of August 6, 2013);
- (7) A Certificate of Good Standing issued by the Secretary of State of the State of Delaware dated August 7, 2013, stating that the Company is in good standing and has a legal corporate existence under the laws of the State of Delaware (the "*Certificate of Good Standing*"); and
- (8) A management certificate addressed to us and dated of even date herewith executed by the Company containing certain factual representations (the *Management Certificate*").

In our examination of documents for purposes of this opinion, we have assumed, and express no opinion as to, the genuineness of all signatures on original documents, the authenticity and completeness of all documents submitted to us as originals, the conformity to originals and completeness of all documents submitted to us as

OncoGenex Pharmaceuticals, Inc. August 8, 2013 Page 2

copies, the legal capacity of all persons or entities executing the same, the lack of any undisclosed termination, modification, waiver or amendment to any document reviewed by us and the due authorization, execution and delivery of all documents where due authorization, execution and delivery are prerequisites to the effectiveness thereof.

The Company's capital stock is uncertificated. We assume that the Company will properly register the transfer of the Stock to the purchasers of such Stock on the Company's record of uncertificated securities.

As to matters of fact relevant to this opinion, we have relied solely upon our examination of the documents referred to above and have assumed the current accuracy and completeness of the information obtained from the documents referred to above and the representations and warranties made by representatives of the Company to us, including but not limited to those set forth in the Management Certificate. We have made no independent investigation or other attempt to verify the accuracy of any of such information or to determine the existence or non-existence of any other factual matters.

We render this opinion only with respect to, and express no opinion herein concerning the application or effect of the laws of any jurisdiction other than, the existing laws of the United States of America and of the Delaware General Corporation Law and reported judicial decisions relating thereto.

With respect to our opinion expressed in paragraph (1) below as to the valid existence and good standing of the Company under the laws of the State of Delaware, we have relied upon the Certificate of Good Standing and representations made to us by the Company.

In accordance with Section 95 of the American Law Institute's Restatement (Third) of the Law Governing Lawyers (2000), this opinion letter is to be interpreted in accordance with customary practices of lawyers rendering opinions to third parties in connection with the filing of a registration statement with the Commission of the type described herein.

Based upon the foregoing, it is our opinion that:

- 1. the Company is a corporation validly existing, in good standing, under the laws of the State of Delaware; and
- 2. the 1,600,000 shares of Stock that may be issued and sold by the Company upon the exercise or settlement of awards granted or to be granted under the Plan, when issued, sold and delivered in accordance with the Plan and Plan agreements entered into thereunder and in the manner and for the consideration stated in the Registration Statement and Prospectus, will be validly issued, nonassessable and, to our knowledge, fully paid.

We consent to the use of this opinion as an exhibit to the Registration Statement and further consent to all references to us, if any, in the Registration Statement, the Prospectus constituting a part thereof and any amendments thereto. This opinion is rendered as of the date first written above and based solely on our understanding of facts in existence as of such date after the aforementioned examination. This opinion is intended solely for use in connection with issuance and sale of shares subject to the Registration Statement and is not to be relied upon for any other purpose. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention whether or not such occurrence would affect or modify any of the opinions expressed herein.

Very truly yours,

FENWICK & WEST LLP

/s/ Fenwick & West LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 2010 Performance Incentive Plan of OncoGenex Pharmaceuticals, Inc. of our reports dated March 7, 2013, with respect to the consolidated financial statements of OncoGenex Pharmaceuticals, Inc., and the effectiveness of internal control over financial reporting of OncoGenex Pharmaceuticals Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2012, filed with the Securities and Exchange Commission.

Vancouver, Canada August 8, 2013 /s/ Ernst & Young LLP Chartered Accountants