UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934

Filed by the Registrant \boxtimes Filed by a Party other than the Registrant \Box

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
- ☑ Definitive Proxy Statement
- Definitive Additional Materials
- □ Soliciting Material Pursuant to Rule 14a-12

ONCOGENEX PHARMACEUTICALS, INC.

(Name of Registrant as Specified in its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- ☑ No fee required
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
 - (1) Title of each class of securities to which transaction applies:
 - (2) Aggregate number of securities to which transaction applies:
 - (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):
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- □ Fee paid previously with preliminary materials.
- Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

- (2) Form, Schedule or Registration Statement No.:
- (3) Filing Party:

(4) Date Filed:

ONCOGENEX PHARMACEUTICALS, INC. 1522—217th Place S.E., Suite 100 Bothell, Washington 98021 April 26, 2012

Dear Stockholder:

You are cordially invited to attend the Annual Meeting of stockholders of OncoGenex Pharmaceuticals, Inc. on May 31, 2012, at 9:00 a.m. local time. The Annual Meeting will be held at the offices of Fenwick & West LLP, 1191 Second Avenue, 10th Floor, Seattle, Washington 98101.

The matters to be acted upon are described in the accompanying Notice of Annual Meeting and Proxy Statement.

Your vote is very important. Whether or not you plan to attend the Annual Meeting, we urge you to vote and submit your proxy by telephone, via the Internet or by mail in order to ensure the presence of a quorum. If you attend the Annual Meeting, you may, of course, revoke your proxy and vote your shares in person. If you hold your shares through an account with a brokerage firm, bank or other nominee, please follow the instructions you receive from them to vote your shares.

We look forward to seeing you at the Annual Meeting.

Sincerely, /s/ SCOTT CORMACK Scott Cormack

President and Chief Executive Officer

ONCOGENEX PHARMACEUTICALS, INC. 1522 — 217th Place S.E., Suite 100 Bothell, Washington 98021

NOTICE IS HEREBY GIVEN that the Annual Meeting of Stockholders of OncoGenex Pharmaceuticals, Inc., a Delaware corporation, will be held on May 31, 2012, at 9:00 a.m. local time. The Annual Meeting will be held at the offices of Fenwick & West LLP, 1191 Second Avenue, 10th Floor, Seattle, Washington 98101, for the following purposes:

- 1. To elect six directors to serve until our next annual meeting of stockholders or until their successors are duly elected and qualified;
- 2. To ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2012; and
- 3. To transact such other business as may properly come before the Annual Meeting.

Only stockholders of record at the close of business on April 2, 2012 are entitled to notice of, and to vote at, the Annual Meeting. For 10 days prior to the Annual Meeting, a complete list of stockholders entitled to vote at the Annual Meeting will be available for examination by any stockholder, for any purpose relating to the Annual Meeting, during ordinary business hours at our headquarters at the above address.

By Order of the Board of Directors,

/s/ MICHELLE BURRIS Michelle Burris Secretary

Bothell, Washington April 26, 2012

YOUR VOTE IS IMPORTANT

WHETHER OR NOT YOU PLAN TO ATTEND THE ANNUAL MEETING, WE ENCOURAGE YOU TO VOTE AND SUBMIT YOUR PROXY BY TELEPHONE, VIA THE INTERNET OR BY MAIL. FOR ADDITIONAL INSTRUCTIONS ON VOTING BY TELEPHONE OR VIA THE INTERNET, PLEASE REFER TO YOUR PROXY CARD. TO VOTE AND SUBMIT YOUR PROXY BY MAIL, PLEASE COMPLETE, SIGN AND DATE THE ENCLOSED PROXY CARD AND RETURN IT IN THE ENCLOSED ENVELOPE. IF YOU ATTEND THE ANNUAL MEETING, YOU MAY REVOKE YOUR PROXY AND VOTE IN PERSON. IF YOU HOLD YOUR SHARES THROUGH AN ACCOUNT WITH A BROKERAGE FIRM, BANK OR OTHER NOMINEE, PLEASE FOLLOW THE INSTRUCTIONS YOU RECEIVE FROM THEM TO VOTE YOUR SHARES.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON MAY 31, 2012

The Company's Proxy Statement and Annual Report on Form 10-K for the year ended December 31, 2011 are available at <u>http://www.oncogenex.com</u>.

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ONCOGENEX PHARMACEUTICALS, INC. 1522—217th Place S.E., Suite 100 Bothell, Washington 98021 PROXY STATEMENT FOR 2012 ANNUAL MEETING OF STOCKHOLDERS

This Proxy Statement is furnished in connection with the solicitation of proxies on behalf of the Board of Directors of OncoGenex Pharmaceuticals, Inc., a Delaware corporation, for use at the Annual Meeting of Stockholders, or the Annual Meeting, to be held on May 31, 2012, at 9:00 a.m. local time, or at any adjournment or postponement of the Annual Meeting, for the purposes set forth in this proxy statement and in the accompanying Notice of Annual Meeting.

The Annual Meeting will be held on May 31, 2012 at the offices of Fenwick & West LLP, 1191 Second Avenue, 10 Floor, Seattle, Washington 98101. This Proxy Statement and accompanying proxy card will first be mailed on or about April 26, 2012 to all stockholders entitled to vote at the Annual Meeting.

Voting Rights

Only stockholders of record at the close of business on April 2, 2012, the record date, are entitled to notice of and to vote at the Annual Meeting and any adjournment or postponement of the Annual Meeting. At the close of business on April 2, 2012, we had 14,539,869 shares of common stock outstanding.

Each stockholder of record is entitled to one vote for each share of common stock held on the record date on all matters. Dissenters' rights are not applicable to any of the matters being voted on.

All stockholders entitled to vote at the Annual Meeting may cumulate votes in the election of directors. With cumulative voting, each stockholder is entitled to as many votes as shall be equal to the number of votes that the stockholder would be entitled to cast for the election of directors multiplied by the number of directors to be elected by the stockholders, and each stockholder may cast all of his, her or its votes for a single director or may distribute them among the number to be voted for or for any two or more of them. No stockholder, however, will be entitled to cumulate votes unless the name of the candidate or candidates for whom the votes would be cast has been placed in nomination prior to voting, and such stockholder has given notice, at the Annual Meeting and prior to commencement of voting, of the stockholder's intention to cumulate votes. Otherwise, the proxies solicited by the Board of Directors confer discretionary authority in the proxy holders to cumulate votes so as to elect the maximum number of nominees.

How to Vote Your Shares

YOUR VOTE IS IMPORTANT. Your shares can be voted at the Annual Meeting only if you are present in person or represented by proxy. Whether or not you expect to attend the Annual Meeting, please take the time to vote your proxy.

1

Stockholders of record, or "registered stockholders," can vote by proxy in the following three ways:

| By Telephone: | Call the toll-free number indicated on the enclosed proxy card and follow the recorded instructions. |
|-------------------|--|
| Via the Internet: | Go to the website indicated on the enclosed proxy card and follow the instructions provided. |
| By Mail: | Mark your vote, date, sign and return the enclosed proxy card in the postage-paid return envelope provided |

If your shares are held beneficially in "street" name through a nominee such as a financial institution, brokerage firm, or other holder of record, your vote is controlled by that institution, firm or holder. Your vote by proxy may also be cast by telephone or via the Internet, as well as by mail, if your financial institution or brokerage firm offers such voting alternatives. Please follow the specific instructions provided by your nominee on your voting instruction card.

Even if you have given your proxy, you still may vote in person if you attend the Annual Meeting. Please note, however, that if your shares are held beneficially through a bank, broker or other nominee and you wish to vote at the Annual Meeting, you must obtain a proxy issued in your name from the record holder. Should you wish to attend the Annual Meeting, directions to Fenwick & West LLP at 1191 Second Avenue, 10th Floor, Seattle, Washington 98101 can be found on its website at http://www.fenwick.com/fenwickfocus/1.5.4.asp.

Voting of Proxies

All shares represented by a valid proxy received prior to the Annual Meeting will be voted, and, if you provide specific instructions, your shares will be voted as you instruct. If you sign your proxy card with no further instructions and do not hold your shares beneficially through a broker, bank or other nominee, your shares will be voted:

- FOR each of the nominees for the Board of Directors;
- FOR the ratification of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2012; and
- in the discretion of the proxy holders with respect to any other matters that properly come before the Annual Meeting or any adjournment or postponement of the Annual Meeting.

Revocability of Proxies

You may revoke or change any previously delivered proxy that does not state that it is irrevocable at any time before the Annual Meeting by delivering a written notice of revocation or another proxy with a later date to our Secretary at our headquarters at 1522—217th Place S.E., Suite 100, Bothell, Washington 98021. You may also revoke your proxy by attending the Annual Meeting and voting in person, although attendance at the Annual Meeting will not, by itself, revoke a proxy. If you hold shares in street name through a broker, bank or other nominee, you must contact that bank, broker or other nominee to revoke any prior voting instructions.

Quorum

The presence, in person or by proxy, of at least a majority of the shares of common stock outstanding on the record date will constitute a quorum. Both abstentions and broker non-votes are counted for the purpose of determining the presence of a quorum.

Votes Required to Approve Matters Presented at the Annual Meeting

Our directors are elected by a plurality of the votes of shares of common stock present in person or represented by proxy and entitled to vote at the Annual Meeting. Ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm requires the affirmative vote of a majority of the shares of common stock present in person or represented by proxy and entitled to vote at the Annual Meeting.

Broker Non-Votes

Banks, brokers or other nominees are entitled to vote shares held for a beneficial owner on "routine" matters, such as the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm, without instructions from the beneficial owner of those shares. Absent instructions from the beneficial owner of such shares, a bank, broker or other nominee is not, however, entitled to vote shares held for a beneficial owner on certain "non-routine" matters. The election of our directors will be treated as a non-routine matter.

If you hold your shares in street name, it is critical that you cast your vote if you want it to count on all matters to be decided at the Annual Meeting. If you hold your shares in street name and you do not instruct your bank, broker or other nominee how to vote in the election of directors, no votes will be cast on your behalf.

As noted above, broker non-votes are counted for purposes of determining whether or not a quorum exists for the transaction of business at the Annual Meeting. Broker non-votes, as well as abstentions from voting, will not, however, be treated as votes cast and,



therefore, will have no effect on the election of directors or the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm.

Solicitation of Proxies

We will bear the cost of soliciting proxies, including preparing, assembling, printing and mailing this Proxy Statement, the proxy card and any additional information furnished to stockholders. Copies of solicitation materials will be furnished to banks, brokerage houses, fiduciaries and custodians holding in their names shares of common stock beneficially owned by others to forward to such beneficial owners. We may reimburse persons representing beneficial owners of common stock for their costs of forwarding solicitation materials to such beneficial owners. Original solicitation of proxies by mail may be supplemented by telephone, telegram, via the Internet or by personal solicitation by our directors, officers or other regular employees. No additional compensation will be paid to these individuals for such services.

Availability of Proxy Statement and Annual Report on Form 10-K

Our Proxy Statement and Annual Report on Form 10-K for the fiscal year ended December 31, 2011 are available at www.sec.gov and on our website at http://ir.oncogenex.com/financials.cfm. We have provided to each stockholder of record as of April 2, 2012, a copy of our consolidated financial statements and related information, which are included in our Annual Report on Form 10-K for fiscal year 2011. We will mail without charge, upon written request, a copy of our Annual Report on Form 10-K for fiscal year 2011, including the consolidated financial statements, schedules and list of exhibits, and any particular exhibit specifically requested. Requests should be sent to: OncoGenex Pharmaceuticals, Inc., 1522—217th Place S.E., Suite 100, Bothell, Washington 98021, Attention: Secretary.

BOARD OF DIRECTORS

General

Directors are elected at each annual stockholders meeting to hold office until the next annual meeting or until their successors are elected and have qualified. Currently, there are six members of the Board of Directors. The following table sets forth information with respect to our current directors. The ages of such persons are shown as of December 31, 2011.

| Name and Municipality of Residence | Age | Position | Director Since |
|---|-----------|--|----------------|
| Scott Cormack Vancouver, Canada | Age 46 | Director, President and Chief Executive Officer | 2008 |
| Neil Clendeninn Hanalei, Hawaii | 62 | Director, Chairperson of the Compensation Committee and Member of the Nominating and Governance Committee | 2008 |
| Jack Goldstein Kamuela, Hawaii | 64 | Chairperson of the Board of Directors, Member of the Compensation Committee, Member of the Nominating and Governance Committee and Member of the Audit Committee | 2010 |
| Martin Mattingly San Diego, California | 54 | Director, Member of the Compensation Committee and Member of the Audit Committee | 2010 |
| Stewart Parker Seattle, Washington | 56 | Director, Chairperson of the Nominating and Governance Committee and Member of the Audit Committee | 2010 |
| David Smith Alamo, California | 52 | Director, Chairperson of the Audit Committee and Member of the Nominating and Governance Committee | 2010 |

The Board of Directors held a total of six meetings during fiscal year 2011. During fiscal year 2011, each of our incumbent directors attended at least 75% of the aggregate of (i) the total number of meetings of the Board of Directors held during the period he or she was a director and (ii) the total number of meetings held by all committees on which the director served during the period he or she was a member.

Although we do not have a formal policy regarding attendance by directors at annual meetings of stockholders, we encourage directors to attend and, historically, most have done so. All directors that had been nominated for election at our 2011 annual meeting were in attendance at the 2011 annual meeting, except for Stewart Parker, who was absent.

Pursuant to our Corporate Governance Guidelines, the Board of Directors is required to hold at least four regularly scheduled meetings each year. At least one of these meetings must include budgeting and long-term strategic planning. Each director is expected to attend no fewer than 75% of the total of all meetings of the Board of Directors and meetings of the committees on which he or she serves.

Set forth below are the names of, and information concerning, our current directors.

Scott Cormack, 46, has been our President, Chief Executive Officer and a director since August 2008. He was a co-founder of OncoGenex Technologies Inc., which is our wholly owned subsidiary, and has been its President since May 2000, its Chief Executive Officer since February 2002 and a member of its Board of Directors since May 2000. Mr. Cormack served as interim President, Chief Executive Officer and Chairman of the Board of Directors of Salpep Biotechnology Inc., an asthma and inflammation biotechnology company, from 2000 to 2001. From 1998 to 2001, Mr. Cormack served as Vice President of Milestone Medica Corporation, a seed venture capital firm investing in life sciences opportunities. Mr. Cormack holds a B.S. degree from the University of Alberta. The determination was made that Mr. Cormack should serve on our Board of Directors due to our belief that it is of importance that the Board of Directors have the benefit of management's perspective and, in particular, that of the Chief Executive Officer.

Neil Clendeninn, M.D., Ph.D., 62, has served as a director since August 2008. Additionally, he has served as a member of OncoGenex Technologies Inc.'s Board of Directors since September 2004. Dr. Clendeninn served as Corporate Vice President, Head of Clinical Affairs of Agouron Pharmaceuticals, Inc., a biopharmaceutical company and a subsidiary of Pfizer Inc., a pharmaceutical company, from 1993 until his retirement in 2001. Dr. Clendeninn holds a B.A. degree in biology/chemistry from Wesleyan University, and a Ph.D. degree in microbiology/pharmacology and an M.D. degree from New York University. The determination

was made that Dr. Clendeninn should serve on our Board of Directors due to his training and experience as a medical oncologist and his executive-level experience in public development-stage oncology-focused companies.

Jack Goldstein, Ph.D., 64, has served as our Chairman of the Board of Directors since March 2010. Dr. Goldstein was President and Chief Operating Officer of Chiron Corporation, a biotechnology company, from November 2004 until its acquisition by Novartis AG in April 2006, prior to which he served as Vice President and President, Chiron Blood Testing Division beginning in 2002. From 2000 to 2002, Dr. Goldstein was General Partner at Windamere Venture Partners, L.L.C., a venture capital fund. From 1997 to 2001, he served as President and Chief Executive Officer of Applied Imaging Corporation, a supplier of instrument systems for prenatal and cancer genetics, where he also served as Chairman of the Board of Directors from 1999 to 2002. Dr. Goldstein currently serves on the Board of Directors of Accuray Incorporated and has served as a director of Orasure Technologies Inc. from May 2006 to May 2011, Illumina, Inc. from June 2006 to May 2010, and Immucor, Inc. from December 2007 to February 2009. Dr. Goldstein holds a B.A. degree in biology from Rider University, and a M.S. degree in immunology and a Ph.D. degree in microbiology from St. John's University. The determination was made that Dr. Goldstein should serve on our Board of Directors as a result of his extensive experience as a senior executive and as a chair of the board of directors of both publicly held and privately held biotechnology or pharmaceutical companies.

Martin Mattingly, Pharm.D., 54, has served as a director since June 2010. Dr. Mattingly served as the Chief Executive Officer of Trimeris, Inc., a biopharmaceutical company, from November 2007 until its merger with Synageva in November 2011. He also served on the Board of Directors of Trimeris, Inc. from November 2007 until November 2011. From 2005 to 2007, Dr. Mattingly was employed at Ambrx, Inc., a biopharmaceutical company, where he served as President and Chief Executive Officer. From 2003 to 2005, Dr. Mattingly served as Executive Vice President and Chief Operating Officer of CancerVax Corporation, a biotechnology company. From 1996 to 2003, he provided senior leadership in various management positions at Agouron Pharmaceuticals, Inc. and Pfizer, Inc., including serving as General Manager of the Agouron HIV division, Vice President, Product Development Group at Pfizer and Vice President, Global Marketing Planning at Pfizer. Dr. Mattingly holds a Pharm.D. degree from the University of Kentucky. The determination was made that Dr. Mattingly should serve on the Board of Directors as a result of his executive leadership experience in late-stage clinical development, public company expertise, and commercialization and business development experience with pharmaceuticals and biologies.

Stewart Parker, 56, has served as a director since March 2010. Ms. Parker has served as the Chief Executive Officer of the Infectious Disease Research Institute, or IDRI, a nonprofit research organization focused on the development of products for the diagnosis, prevention, and treatment of neglected diseases since March 2011. Prior to IDRI, Ms. Parker managed the formation of Targeted Genetics Corporation, a biotechnology company, as a wholly owned subsidiary of Immunex Corporation, a biotechnology company, and served as its President and Chief Executive Officer and as a director from its spinout from Immunex Corporation in 1992 to November 2008. She served in various capacities at Immunex Corporation from August 1981 through December 1991, most recently as Vice President, Corporate Development. She serves on the Board of Directors and the executive committee of BIO, the primary trade organization for the biotechnology industry. Ms. Parker has also served as a director of Targeted Genetics Corporation from 1992 to November 2008 and Neose Technologies, Inc. from May 2005 to January 2009. Ms. Parker received her B.A. and M.B.A. degrees from the University of Washington. The determination was made that Ms. Parker should serve on our Board of Directors due to her executive leadership experience in development-stage clinical development, public company expertise, and business development experience for pharmaceuticals and biologics.

David Smith, 52, has served as a director since August 2010. From December 2006 to July 2011, Mr. Smith was the Executive Vice President and Chief Financial Officer of Thoratec Corporation, a medical device company. Mr. Smith served as the Vice President and Chief Financial Officer of Chiron Corporation from April 2003 to April 2006, as its Vice President, Finance from February 2002 to April 2003 and as its Vice President and Principal Accounting Officer from February 1999 to February 2002. Mr. Smith earned a B.A degree in economics and history from Willamette University and a M.B.A degree in finance from Golden Gate University. In the past five years, he served as a director and chair of the audit committee of Perlegen Sciences, Inc. from May 2006 to November 2009. The determination was made that Mr. Smith should serve on our Board of Directors due to his financial expertise and extensive experience as a senior executive at publicly held biotechnology companies.

Director Independence

Our Board of Directors has determined that each of our nominees for director, other than Mr. Cormack, is "independent" under the applicable Securities and Exchange Commission, or the SEC, rules and the criteria established by The Nasdaq Stock Market, Inc., or NASDAQ.

Relationships Among Directors, Executive Officers and Director Nominees

There are no family relationships among any of our directors, executive officers or director nominees.

Stockholder Communication With the Board of Directors

Stockholders who are interested in communicating directly with members of the Board of Directors, or the Board of Directors as a group, may do so by writing directly to the member(s) c/o Secretary, OncoGenex Pharmaceuticals, Inc., 1522—217th Place S.E., Suite 100, Bothell, Washington 98021. The Secretary will promptly forward to the Board of Directors or the individually named directors all written communications received at the above address that the Secretary considers appropriate.

Related-Party Transactions Policy and Procedure

Our Audit Committee is responsible for reviewing and approving all related-party transactions and conflict of interest situations involving a principal stockholder, a member of the Board of Directors or senior management. Our Code of Conduct and Business Ethics requires our executive officers and directors to report any conflicts of interest with our interests to our Audit Committee, and generally prohibits our executive officers and directors from conflicts of interest with our interests. Waivers of our Code of Conduct and Business Ethics requires our of Directors or, if permitted by NASDAQ and any other applicable stock exchange's rules, our Nominating and Governance Committee. We do not have a specific policy concerning approval of transactions with stockholders who own more than five percent of our outstanding shares.

We have determined that there were no reportable related-party transactions in fiscal year 2011.

Board of Directors' Committees

The Board of Directors has established separately designated Audit, Compensation and Nominating and Governance Committees to assist it in performing its responsibilities. The Board of Directors designates the members of these committees and the committee chairs annually, based on the recommendations of the Nominating and Governance Committee in consultation with the Chief Executive Officer and the Chairperson of the Board of Directors. The Nominating and Governance Committee reviews committee assignments from time to time and considers the rotation of committee chairpersons and members with a view towards balancing the benefits derived from the diversity of experience and viewpoints of the directors. The Board of Directors has adopted written charters for each of these committees, which are available on our website at http://ir.oncogenex.com under "Corporate Governance." The chairperson of each committee develops the agenda for that committee and determines the frequency and length of committee meetings.

Audit Committee and Audit Committee Financial Expert

The Audit Committee has been established in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and is currently comprised of David Smith (Chairperson), Jack Goldstein, Martin Mattingly and Stewart Parker, each of whom the Board of Directors has determined satisfies the applicable SEC and NASDAQ independence requirements for audit committee members. The Board of Directors has also determined that Mr. Smith is an "audit committee financial expert," as defined by the applicable rules of the SEC. The Audit Committee held seven meetings during fiscal year 2011.

Audit Committee Responsibilities

The Audit Committee is responsible for, among other things:

- · reviewing the independence, qualifications, services, fees and performance of our independent registered public accounting firm;
- appointing, replacing and discharging our independent registered public accounting firm;
- pre-approving the professional services provided by our independent registered public accounting firm;
- · reviewing the scope of the annual audit and reports and recommendations submitted by our independent registered public accounting firm; and
- reviewing our financial reporting and accounting policies, including any significant changes, with our management and our independent registered public accounting firm.

Please see the sections entitled "Report of the Audit Committee" and "Proposal Two: Ratification of Appointment of Independent Registered Public Accounting Firm" for further matters related to the Audit Committee.

Compensation Committee

The Compensation Committee currently consists of Neil Clendeninn (Chairperson), Jack Goldstein and Martin Mattingly, each of whom the Board of Directors has determined satisfies the applicable SEC and NASDAQ independence requirements. In addition, each member of the Compensation Committee has been determined to be an outside director under Section 162(m), of the Internal Revenue Code of 1986, as amended, or the Code. The Compensation Committee reviews and recommends to the Board of Directors the compensation for our executive officers and our non-employee directors for their services as members of the Board of Directors. The Compensation Committee held six meetings during fiscal year 2011.

In 2009, the Compensation Committee retained Radford, an Aon Consulting company, to provide a report summarizing relevant benchmark data relating to industry-appropriate peers and make recommendations regarding base salary, target total cash (base salary plus target cash incentives) and the amounts and terms of long-term equity incentive awards for our executives as well as market practices for executive agreements with the intention that Radford's report would be utilized for a two-year period. With respect to director and committee compensation, in early 2010 Radford was instructed to benchmark and make recommendations regarding the initial and annual cash retainer amounts for directors and chairpersons of the Board of Directors and the various committees, as well as the amounts and terms of initial and annual long-term equity incentive awards for directors. The Chief Executive Officer then made recommendations for each. The Compensation Committee regarding compensation levels for the directors, committee members and executive officers, excluding himself, based on Radford's recommendations for each. The Compensation Committee, in turn, made recommendations to the Board of Directors. A further detailed evaluation by Radford for the directors, committee members and executive officers occurred in 2011 and the same process was followed for recommendations regarding compensation levels for the directors, committee members and executive officers effective January 1, 2012.

Please see the sections entitled "Compensation Discussion and Analysis" and "Director Compensation" for further matters related to the Compensation Committee and director and executive officer compensation matters.

Nominating and Governance Committee

The Nominating and Governance Committee currently consists of Stewart Parker (Chairperson), Neil Clendeninn, Jack Goldstein and David Smith, each of whom the Board of Directors has determined satisfies the applicable SEC and NASDAQ independence requirements.

The Nominating and Governance Committee reviews, evaluates and proposes candidates for election to our Board of Directors, and considers any nominees properly recommended by stockholders. The Nominating and Governance Committee promotes the proper constitution of our Board of Directors in order to meet its fiduciary obligations to our stockholders, and oversees the establishment of, and compliance with, appropriate governance standards. The Nominating and Governance Committee held three meetings during fiscal year 2011.

Board of Directors Leadership Structure

Jack Goldstein, a non-employee independent director, has served as the Chairperson of the Board of Directors since March 2010. We do not currently have a policy mandating the separation of the roles of Chairperson and Chief Executive Officer. This allows the Board of Directors flexibility to determine whether the two roles should be combined or separated based on our needs and the Board of Directors' assessment of its leadership from time to time. The Board of Directors, however, believes such separation is currently appropriate, as it enhances the accountability of the Chief Executive Officer to the Board of Directors and strengthens the independence of the Board of Directors from management. In addition, by separating these roles, Mr. Cormack can focus his efforts on running our business and managing the day-to-day challenges that we are faced with, while allowing the Board of Directors to benefit from Dr. Goldstein's extensive experience as a director of various public companies. The Board of Directors believes Dr. Goldstein is best suited to be Chairperson of the Board of Directors because of his extensive experience as a senior executive and as a chair of biotechnology and pharmaceutical company Boards of Directors.

The Chairperson of the Board of Directors is responsible for managing the Board of Directors' business, including setting the agenda (with the input of directors and management), facilitating communication among directors, presiding at meetings of the Board of Directors and stockholders, serving as chairperson at each regularly scheduled Board of Directors meeting and providing support and counsel to the Chief Executive Officer. Pursuant to our Corporate Governance Guidelines, the Board of Directors is free to choose the Chairperson of the Board of Directors in any manner that is in our best interests at the time. The Corporate Governance Guidelines identify a number of non-exclusive factors for the Board of Directors to consider in the selection process, including the current size of

our business, the composition of the Board of Directors, the current candidates for the position, applicable regulations and our succession planning goals.

Board of Directors' Role in Risk Oversight

While our management is charged with the day-to-day management of risks that we face or may face and provides our Board of Directors with quarterly risk assessment and mitigation strategy updates, the Board of Directors and its committees are responsible for oversight of risk management. The Audit Committee has responsibility for oversight of financial reporting related risks, including those related to our accounting, auditing and financial reporting practices. In addition, the Audit Committee annually reviews and assesses the adequacy of our risk management policies and procedures with regard to identifying our management of financial risks, reviews the quarterly updates on these risks that are received from management, and assesses the adequacy of management's implementation of appropriate systems to mitigate and manage financial risks. In addition, under our Code of Business Conduct and Ethics, the Audit Committee is responsible for considering reports of conflicts of interest involving officers and directors. The Nominating and Governance Committee oversees corporate governance risks, including implementing procedures to ensure that the Board of Directors operates independently of management and without conflicts of interest. In addition, the Nominating and Governance Committee oversees risks associated with our compensation policies, plans and practices. The Audit Committee, the Nominating and Governance Committee each report to the Board of Directors approves any changes in corporate policies, including those pertaining to risk management of Directors regarding the foregoing matters, and the Board of Directors approves any changes in corporate policies, including those pertaining to risk management.

The Board of Directors has also adopted a Whistle Blowing Policy, which provides a means by which concerns about actual and suspected violations of our Code of Business Conduct and Ethics and other public interest matters are to be reported. We recognize that individuals may not feel comfortable reporting a matter directly to the appropriate persons at the company and therefore the Whistle Blowing Policy provides a mechanism by which a person may report a matter to NASDAQ OMX Group Corporate Services, Inc., a third party retained by us. Under the policy, the Chairperson of the Audit Committee determines whether and, if so, how an investigation is to be conducted and, together with the full Audit Committee in certain instances, resolves reported violations. In all cases, a report of the outcome is to be made to the Board of Directors.

Risk Assessment of Compensation Programs

We have determined that our compensation policies, plans and practices are appropriately balanced and do not create risks that are reasonably likely to have a material adverse effect on our company. To make this determination, our management reviewed the compensation policies, plans and practices for our executive officers, as well as for all other employees. We assessed the following features of our compensation, plans and practices: design, payment methodology, potential payment volatility, relationship to our financial results, length of performance period, risk-mitigating features, performance measures and goals, oversight and controls, and plan features and values compared to market practices. Based on this review, we believe that our compensation policies, plans and practices do not create risks that are reasonably likely to have a material adverse effect on our company.

Director Nomination Process

Director Qualifications

Members of our Board of Directors must have broad experience and business acumen, a record of professional accomplishment in his or her field, and demonstrated honesty and integrity consistent with our values. In evaluating director nominees, the Nominating and Governance Committee considers a variety of factors, including, without limitation, the director nominee's skills, expertise and experience, wisdom, integrity, the ability to make independent analytical inquiries, the ability to understand our business environment, the willingness to devote adequate time to Board of Directors duties, the interplay of the director nominee's experience and skills with those of other directors, and the extent to which the director nominee would be a desirable addition to the Board of Directors and any committees of the Board of Directors. The Nominating and Governance Committee may also consider such other factors as it may deem are in the best interests of us and our stockholders. Additionally, in accordance with the applicable securities laws and NASDAQ requirements, a majority of the members of the Board of Directors must be "independent". We do not have a policy regarding diversity, but the Nominating and Governance committee does and will continue to consider each candidate's experiences and qualities as described above and how these experiences and qualities complement the diversity of the Board of Directors.

Identification of Nominees by the Board of Directors

The Nominating and Governance Committee identifies nominees by first determining the desired skills and experience of a new nominee based on the qualifications discussed above. The Nominating and Governance Committee will solicit names for possible candidates from other directors, our senior level executives and individuals personally known to the directors, as well as third-party

search firms. The Nominating and Governance Committee evaluates all possible candidates, including individuals recommended by stockholders, using the same criteria.

Stockholder Nominations

Our bylaws contain provisions that address the process by which a stockholder may nominate an individual to stand for election to the Board of Directors. The Nominating and Governance Committee will consider nominees properly recommended by stockholders. Stockholders wishing to submit nominations must provide timely written notice to our Corporate Secretary containing the following information:

- the name and address of the stockholder proposing such business, which we refer to as a Nominating Person;
- the class and number of our shares that are owned beneficially by the Nominating Person;
- with respect to each director nominee proposed by the Nominating Person, such nominee's written consent to being named in our proxy statement as a nominee
 and to serving as a director, if elected;
- as to each person, if any, whom the Nominating Person proposes to nominate for election as a director, the name, age, business address and residence address of
 such person, the principal occupation or employment of such person and the class and number of our shares that are beneficially owned by such person; and
- such other information regarding the Nominating Person and each nominee proposed by the Nominating Person as would be required to be disclosed in a proxy
 statement or other filings required to be made in connection with the solicitations or proxies for election of directors, or would be otherwise required, in each case
 pursuant to Regulation 14A under the Exchange Act and the rules and regulations promulgated under the Exchange Act.

To be timely, a Nominating Person's notice in respect of a director nomination must be delivered to or mailed and received by our Corporate Secretary at our principal executive offices, OncoGenex Pharmaceuticals, Inc., 1522—217th Place S.E., Suite 100, Bothell, Washington 98021, not less than 45 nor more than 90 calendar days prior to the relevant annual meeting. In the event, however, that less than 55 calendar days' notice or prior public disclosure of the date of the annual meeting is given or made to stockholders, notice by the stockholder to be timely must be received not later than the close of business on the tenth day following the date on which such notice of the date of the annual meeting was mailed or such public disclosure was made.

Code of Ethics

We believe that sound corporate governance policies are essential to earning and retaining the trust of investors. We are committed to maintaining the highest standards of integrity. We have adopted a Code of Business Conduct and Ethics that is applicable to our principal executive officer and our principal financial and accounting officer, as well as to all of our other employees, and have posted such code on our website at http://ir.oncogenex.com/governance.cfm.

PROPOSAL ONE: ELECTION OF DIRECTORS

Nominees

The following persons are our 2012 director nominees, each of whom was recommended by the Nominating and Governance Committee and approved by the Board of Directors for nomination at the Annual Meeting:

- Neil Clendeninn
- Scott Cormack
- Jack Goldstein
- Martin Mattingly
- Stewart Parker
- David Smith

Unless otherwise instructed, the proxy holders will vote the proxies received by them for the nominees named above. If a nominee is unable or declines to serve as a director at the time of the Annual Meeting, the proxies will be voted for any nominee who is designated by the present Board of Directors to fill the vacancy. Each nominee has consented to being named in this Proxy Statement and to serve if elected. We do not expect that any nominee will be unable or decline to serve as a director. Each director is elected annually to serve until the next annual meeting of stockholders or until a successor has been duly elected and has qualified.

Our current directors are Neil Clendeninn, Scott Cormack, Jack Goldstein, Martin Mattingly, Stewart Parker and David Smith, all of whom served on the Board of Directors throughout 2011.

Biographies of our 2012 director nominees are located above under the heading "Board of Directors - General".

Director Compensation Overview

The charter of the Compensation Committee provides that the Compensation Committee is to recommend to the Board of Directors matters related to director compensation. The director compensation package for non-employee directors consists of annual cash compensation and an award of stock options exercisable to purchase shares of our common stock. None of our employees is entitled to receive compensation for service as a director. The compensation paid during 2011 is set forth in the table below under the heading "Director Compensation Paid for 2011." Our current director compensation policy was adopted in 2010, went into effect as of the date of our 2010 annual meeting, and is set forth below under the heading "Director Compensation Policy – 2011 Director Compensation." In 2011, we adopted a modified director compensation policy for 2012, which is further described below under the heading "Director Compensation Policy – 2012 Director Compensation".

Peer Group Used for Benchmarking 2012 Compensation

At least every two years or at the direction of the Compensation Committee, our management reviews peer group data to determine whether total direct compensation and each component of the compensation package are approximately equal to the targeted 50th percentile for director compensation of our peer company list. Based on this review, management makes recommendations to the Compensation Committee that they deem necessary to align director compensation with the foregoing peer group target. The peer group companies are amended from time to time at the discretion of the Board of Directors.

Our most recent evaluation of peer group companies for purposes of establishing director compensation occurred in 2011, when we were establishing our director compensation policy for 2012. At that time, in consideration of our market capitalization and number of employees, the Compensation Committee recommended, and the Board of Directors approved, a peer group based on the following characteristics:

- · Pre-commercial life sciences companies in late stages of product development;
- · Companies located in biotechnology hub markets (Seattle, San Francisco, San Diego and Boston) to reflect the recruiting market for executive talent;
- Companies with market values between \$100 million and \$500 million; and

Companies with generally less than 100 employees.

Research and development spending, available cash and enterprise value were also examined as additional metrics to help determine appropriate peer companies.

Based on the foregoing criteria, and the recommendations of Radford, the Compensation Committee recommended, and the Board of Directors approved, the following peer group for purposes of establishing our current director compensation policy:

| Alnylam Pharmaceuticals, Inc. | Keryx Biopharmaceuticals, Inc. |
|--------------------------------|---------------------------------|
| Amicus Therapeutics, Inc. | Medivation, Inc. |
| Ardea Biosciences, Inc. | Micromet, Inc. |
| Arqule Inc | Omeros Corporation |
| Aveo Pharmaceuticals, Inc. | Oncothyreon Inc. |
| Cell Therapeutics, Inc. | Peregrine Pharmaceuticals, Inc. |
| Celldex Therapeutics, Inc. | Rigel Pharmaceuticals, Inc. |
| Cytokinetics, Incorporated | Sangamo Biosciences, Inc. |
| CytRx Corporation | Synta Pharmaceuticals Corp. |
| Geron Corporation | Vical Incorporated |
| Infinity Pharmaceuticals, Inc. | |

Director Compensation Policy

2011 Director Compensation

In February 2010, the Board of Directors established the compensation for non-employee directors in connection with their service on the Board of Directors and its committees, as follows:

- An annual retainer of \$56,000 to be paid to the Chairperson of the Board of Directors or the lead director and \$35,000 to be paid to all other non-employee
 directors. These retainers are to be paid in four quarterly installments. Each quarterly payment is conditioned on the director remaining a director on the date of
 actual payment, which is typically within 10 days following the completion of the respective calendar quarter.
- Additional annual cash compensation for the chairpersons and members of each committee as set forth in the following table, which compensation is paid on the
 same schedule and on the same terms as the non-employee director compensation described above:

| | Chairperson | Other Memb | pers |
|-------------------------------------|-------------|------------|------|
| Audit Committee | \$ 15,000 | \$ 8,0 | 000 |
| Compensation Committee | \$ 10,000 | \$ 5,0 | 000 |
| Nominating and Governance Committee | \$ 6,000 | \$ 3,0 | 000 |

- New directors receive a one-time initial grant of stock options to acquire 5,500 shares of our common stock upon becoming a director, which initial grant vests over three years, with 1/3 vesting at each of the first, second and third anniversaries of the date of grant.
- Each director that is re-elected by our stockholders at an annual meeting receives a grant of stock options to acquire 3,500 shares of common stock promptly following reelection. Any director who was appointed or elected to the Board of Directors for the first time subsequent to December 31, 2009, and who received an initial stock option grant, receives a first annual stock option grant amount equal to the product of the number of shares of common stock that would otherwise be subject to such annual stock option grant multiplied by the fraction of a year during which the director served on the Board of Directors immediately preceding the date of the annual meeting. Each annual stock option grant vests in full on the first anniversary of the date of grant.

Director Compensation Paid for 2011

The following table summarizes all compensation paid to or earned by our non-employee directors for fulfilling their duties as directors during the 2011 fiscal year.

| Name | Fees Earned or Paid in Cash (\$) | Option Awards (\$) (1) (2) | Total (\$) |
|------------------|---|----------------------------------|---------------|
| Neil Clendeninn | 47,474 | 40,320 | 87,794 |
| Jack Goldstein | 71,211 | 40,320 | 111,531 |
| Martin Mattingly | 47,480 | 40,320 | 87,800 |
| Stewart Parker | 48,463 | 40,320 | 88,783 |
| David Smith | 52,419 | 40,320 | 92,739 |

- (1) The dollar amounts reflect the aggregate grant date fair value of equity awards granted within the fiscal year in accordance with the Financial Accounting Standards Board, or FASB, Accounting Standards Codification Topic 718 for stock-based compensation. These amounts do not correspond to the actual cash value that will be recognized by the directors when received. Assumptions used in the calculation of the amounts in this column are included in note 11 to our audited consolidated financial statements included in our 2011 Annual Report on Form 10-K. As of December 31, 2011, the following directors had the following number of options outstanding:
 - Neil Clendeninn: 39,523 options, of which 36,023 were vested as of December 31, 2011. In addition, 3,500 options vest on May 26, 2012.
 - Jack Goldstein: 8,961 options, of which 3,493 were vested as of December 31, 2011. In addition, 394 options vest on each of March 23, 2012, June 23, 2012, September 23, 2012, December 23, 2012 and March 23, 2013, and 3,500 options vest on May 26, 2012.
 - Martin Mattingly: 9,000 options, of which 1,833 were vested as of December 31, 2011. In addition, 1,833, 3,500 and 1,834 options vest, respectively, on each of June 8, 2012, May 26, 2012 and June 8, 2013.
 - Stewart Parker: 8,961 options, of which 3,493 were vested as of December 31, 2011. In addition, 394 options vest on each of, March 23, 2012, June 23, 2012, September 23, 2012, December 23, 2012 and March 23, 2013, and 3,500 options vest on May 26, 2012.
 - David Smith: 9,000 options, of which 1,833 were vested as of December 31, 2011. In addition, 1,833 options vest August 9, 2012, 1,834 options vest August 9, 2013 and 3,500 options vest May 26, 2012.
- (2) These options were granted on May 26, 2011 under our 2010 Performance Incentive Plan and vest 100% on the one-year anniversary of the date of grant.

2012 Director Compensation

As part of its evaluation of compensation levels for the 2012 fiscal year, the Compensation Committee recommended and the Board of Directors approved the retention of Radford to review compensation levels of our independent directors and committee members. Radford is a provider of compensation market intelligence to the technology and life sciences industries. Radford was instructed to benchmark and make recommendations regarding the initial and annual retainer amounts for directors and chairpersons of the Board of Directors and the various committees, as well as the amounts and terms of initial and annual long-term equity incentive awards for directors. The Chief Executive Officer then made recommendations to the Compensation Committee regarding compensation levels for the directors, excluding himself, and committee members based on Radford's recommendations for each. The Compensation Committee, in turn, made recommendations to the Board of Directors. In November 2011, the Board of Directors approved changes to the compensation for non-employee directors in connection with their service on the Board of Directors and its committees consistent with Radford's recommendations, as follows:

- An annual retainer of \$65,000 will be paid to the Chairperson of the Board of Directors or the lead director and \$40,000 will be paid to all other non-employee directors, together with an excess meeting fee of \$2,000 for each meeting held over 10 annual meetings. These retainers will be paid in four quarterly installments. Each quarterly payment is conditioned on the director remaining a director on the date of actual payment, which is typically within 10 days following the completion of the respective calendar quarter.
- Additional annual cash compensation for the chairpersons and members of each committee as set forth in the following table and paid on the same schedule and on the same terms as the non-employee director compensation described above:

| | Chairperson | Other Members |
|-------------------------------------|-------------|---------------|
| Audit Committee | \$ 20,000 | \$ 8,000 |
| Compensation Committee | \$ 10,000 | \$ 5,000 |
| Nominating and Governance Committee | \$ 6,000 | \$ 3,000 |

- New directors will receive a one-time initial grant of stock options to acquire 8,000 shares of our common stock upon becoming a director, which initial grant shall vest over three years, with 1/3 vesting at each of the first, second and third anniversaries of the date of grant. In addition, new directors will also receive an initial grant of restricted stock units, or RSUs, to acquire 4,000 shares of our common stock, or the cash settlement equivalent, which RSUs will vest upon achievement of specified performance goals outlined in an award agreement based on performance criteria set out in the 2010 Performance Incentive Plan.
- Each director that is re-elected by our stockholders at an annual meeting will receive a grant of stock options to acquire 4,000 shares of common stock, or the cash settlement equivalent, promptly following reelection. Any director who was appointed or elected to the Board of Directors for the first time subsequent to December 31, 2011, and who received an initial stock option and RSU grant, will receive a first annual stock option and RSU grant in an amount equal to the product of the number of shares of common stock that would otherwise be subject to such annual stock option and RSU grant multiplied by the fraction of a year during which the director served on the Board of Directors immediately preceding the date of the annual meeting. Each annual stock option grant will vest in full on the first anniversary of the date of grant. RSUs will vest in accordance with achievement of specified performance goals as set out in an award agreement based on performance criteria set out in the 2010 Performance Incentive Plan.

These cash compensation changes to our director compensation policy became effective as of January 1, 2012 and the equity compensation changes will become effective as of the date of the 2012 Annual Meeting.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT STOCKHOLDERS VOTE "FOR" THE ELECTION OF ALL OF THE NOMINEES.

REPORT OF THE AUDIT COMMITTEE

In connection with the consolidated financial statements for the fiscal year ended December 31, 2011, the Audit Committee has:

- reviewed and discussed the audited consolidated financial statements with management;
- discussed with Ernst & Young LLP, our independent registered public accounting firm, the matters required to be discussed by the statement on Auditing Standards No. 61, Communication with Audit Committees, as amended; and
- received the written disclosures and letter from Ernst & Young LLP required by applicable requirements of the Public Company Accounting Oversight Board
 regarding the independent registered public accounting firm's communications with the audit committee concerning independence, and has discussed with Ernst &
 Young LLP its independence from us.

Based on the Audit Committee's review of the audited consolidated financial statements and its discussions with management and Ernst & Young LLP, the Audit Committee recommended to the Board of Directors at the March 6, 2012 meeting of the Board of Directors that the audited consolidated financial statements for the 2011 fiscal year be included in our Annual Report on Form 10-K filed with the SEC.

AUDIT COMMITTEE OF THE BOARD OF DIRECTORS

David Smith, Chairperson Jack Goldstein Martin Mattingly Stewart Parker

The information contained in the report above shall not be deemed to be "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933, as amended, except to the extent specifically incorporated by reference in such filing.



PROPOSAL TWO:

RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee has appointed Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2012. A representative of Ernst & Young LLP will be present at the Annual Meeting, will be given the opportunity to make a statement, if he or she desires, and will be available to respond to appropriate questions.

The Audit Committee has conditioned its appointment of Ernst & Young LLP as our independent registered public accounting firm upon the receipt of an affirmative vote of a majority of the shares of common stock present in person or represented by proxy and entitled to vote on the proposal at the Annual Meeting. Proxies solicited by management for which no specific direction is included will be voted "FOR" the ratification of the appointment of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2012. In the event that the stockholders do not ratify the appointment of Ernst & Young LLP, the Audit Committee will reconsider its selection.

Fees Billed by Independent Registered Public Accounting Firm

The following is a summary of the fees billed by our independent registered public accounting firm for the fiscal years ended December 31, 2011 and December 31, 2010 for professional services rendered to us:

| Fee Category | Fiscal 2011 Fees ⁽¹⁾ | Fiscal 2010 Fees ⁽¹⁾ |
|---------------------------|------------------------------------|---|
| Audit Fees | \$212,000 | \$204,000 |
| Audit-Related Fees | _ | _ |
| Tax Fees | — | |
| All Other Fees Total Fees | 12,000 ⁽²⁾ \$224,000 | 79,000 ⁽³⁾ \$283,000 |
| 10(4) PCC5 | \$ 22 4,000 | \$203,000 |

 Accountant fees and services charged by Ernst & Young LLP are paid in Canadian dollars, and thus the amounts shown in the columns above have been translated into U.S. dollars based on average exchange rates.

(2) Accountant fees and services charged by Ernst & Young LLP in relation to our filing of a Form S-3 registration statement in 2011.

(3) Accountant fees and services charged by Ernst & Young LLP in relation to our filing of a Form S-8 registration statement in 2010, and procedures with respect to our public offering completed in October 2010.

Audit Fees. Consists of fees billed for professional services rendered for the audit of our consolidated financial statements and review of the interim consolidated financial statements included in quarterly reports on Form 10-Q that are filed with the SEC.

Audit-Related Fees. Consists of fees billed for assurance and related services that are reasonably related to the performance of the audit or review of our consolidated financial statements, including accounting consultations and fees related to registration of securities.

Tax Fees. Consists of fees billed for professional services for tax compliance, tax advice and tax planning. These services include assistance related to state tax incentives.

All Other Fees. Consists of fees billed for all other non-audit services.

Policy on Audit Committee Pre-Approval of Audit Services and Permissible Non-Audit Services

The Audit Committee's policy is to pre-approve all audit and permissible non-audit services performed by our independent registered public accounting firm. These services may include audit services, audit-related services, tax services and other services. For audit services, our independent registered public accounting firm typically provides audit service detail in advance of the first quarter meeting of the Audit Committee, which outlines the scope of the audit and related audit fees. If agreed to by the Audit Committee, an engagement letter is formally accepted by the Audit Committee.

For non-audit services, our senior management will submit from time to time to the Audit Committee for approval non-audit services that it recommends the Audit Committee engage our independent registered public accounting firm to provide for the fiscal year. Our senior management and our independent registered public accounting firm will each confirm to the Audit Committee that each non-audit service is permissible under all applicable legal requirements. A budget, estimating non-audit service spending for the fiscal year, will be provided to the Audit Committee along with the request. The Audit Committee must approve both permissible non-audit services and the budget for such services. The Audit Committee will be informed routinely as to the non-audit services actually provided by our independent registered public accounting firm pursuant to this pre-approval process.

For the 2010 and 2011 fiscal years, the Audit Committee approved all of the services provided by Ernst & Young LLP described above.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT STOCKHOLDERS VOTE "FOR" THE RATIFICATION OF THE APPOINTMENT OF ERNST & YOUNG LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR FISCAL YEAR 2012.



Cameron Lawrence(14)

Stewart Parker(15)

Jack Goldstein(16)

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information with respect to the beneficial ownership of our common stock by the following persons as of April 2, 2012, except as otherwise noted in the footnotes to the table:

- each person, entity or group who we know to beneficially own five percent or more of our voting securities, as well as certain persons, entities or groups who
 have reported beneficial ownership of more than five percent of our common stock as of December 31, 2011, but whose percentage ownership may have fallen
 below five percent as a result of a public offering of 4,789,750 shares of our common stock that we completed during March 2012;
- each director and director nominee;
- · each of our Named Executive Officers identified in the Summary Compensation Table below; and
- all of our directors and officers as a group.

Unless otherwise indicated below, the address of each beneficial owner listed in the table is c/o OncoGenex Pharmaceuticals, Inc., 1522—217th Place S.E., Suite 100, Bothell, Washington 98021. The percentages in the table below are based on 14,539,869 shares of our common stock outstanding as of April 2, 2012. Our common stock is our sole voting security entitled to be voted at the Annual Meeting and each share of common stock is entitled to one vote. Except as indicated in the footnotes to the table and pursuant to applicable community property laws, to our knowledge, each stockholder named in the table has sole voting and investment power with respect to the shares set forth opposite such stockholder's name. The information provided in the table is based on our records and information filed with the SEC, unless otherwise noted.

| Name of Beneficial Owner | Business Address of Beneficial Owner | Amount and Nature of Beneficial Ownership(1) | Percent of Class(%)(1) |
|---|---|---|------------------------|
| Great Point Partners, LLC ⁽²⁾⁽³⁾ | 165 Mason Street, 3 rd Floor Greenwich, CT 06830 | 894,114 | 6.1 |
| Tang Capital Partners, LP ⁽²⁾⁽⁴⁾ | 4747 Executive Drive, Suite 510, San Diego, CA 92121 | 807,100 | 5.6 |
| R.A Capital Management, LLC ⁽²⁾⁽⁵⁾ | 20 Park Plaza, Suite 905 Boston, MA 02116 | 659,051 | 4.5 |
| Abingworth LLP(2)(6) | Princes House, 38 Jermyn Street, London, England SW1Y 6DN | 603,740 | 4.2 |
| BlackRock, Inc. ⁽²⁾⁽⁷⁾ | 40 East 52nd Street New York, NY10022 | 563,192 | 3.9 |
| Boxer Capital, LLC ⁽²⁾⁽⁸⁾ | Suite 411, 991-C Lomas Sante Fe Drive Solana Beach, California 92075 | 543,963 | 3.7 |
| H.I.G. Oncogenex, LLC (formerly H.I.G. Oncogenex, Inc.) ⁽²⁾⁽⁹⁾ | c/o 1001 Brickell Bay Drive, 27th Floor Miami, Florida 33131 | 541,712 | 3.7 |
| Named Executive Officers and Directors: | | | |
| Scott Cormack ⁽¹⁰⁾ | | 215,936 | 2.2 |
| Cindy Jacobs(11) | | 88,043 | * |
| Michelle Burris ⁽¹²⁾ | | 40,426 | * |
| Neil Clendeninn ⁽¹³⁾ | | 42,870 | * |

17

10,201

10,385

7,385

| Name of Beneficial Owner | Business Address of Beneficial Owner | Amount and Nature of Beneficial Ownership(1) | Percent of Class(%) ⁽¹⁾ |
|---|--------------------------------------|---|------------------------------------|
| Martin Mattingly ⁽¹⁷⁾ | | 5,333 | * |
| David Smith(18) | | 5,333 | * |
| All current officers and directors as a group (9 persons) ⁽¹⁹⁾ | | 425,912 | 4.3 |

Less than 1%

(1) Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Shares of common stock subject to options and warrants currently exercisable, or exercisable within 60 days of April 2, 2012, are deemed outstanding for computing the percentage of the person holding such options or warrants but are not deemed outstanding for computing the percentage of any other person.

- (2) For purposes of reporting the beneficial ownership and percentage of stock owned of such person, entity or group, we have not included any shares of stock such person, entity or group may have acquired in our March 2012 public offering, unless such person, entity or group has publicly reported beneficial ownership of five percent or more of our voting securities subsequent to the completion of our March 2012 public offering.
- (3) The Schedule 13G filed on February 14, 2012 by Great Point Partners, LLC ("Great Point"), Jeffrey R. Jay, M.D. and David Kroin reported that as of December 31, 2011, Great Point, Dr. Jay and Mr. Kroin beneficially owned 894,114 shares of our common stock and warrants to purchase common stock, consisting of 183,519 shares owned by Biomedical Value Fund, LP ("BVF"), 117,730 shares owned by Biomedical Offshore Value Fund, Ltd.("BOVF"), 45,014 shares owned by Biomedical Institutional Value Fund, LP ("BIVF"), 51,291 shares owned by Lyrical Multi-Manager Fund, LP ("Lyrical"), 22,287 shares owned by Lyrical Multi-Manager Offshore Fund Ltd. ("Lyrical Offshore"), 122,635 shares owned by Class D Series of GEF-PS, LP ("GEF-PS"), 4,906 shares owned by David J. Morrison ("Morrison"), 29,431 shares owned by WS Investments III, LLC ("WS"), and an aggregate of 317,301 shares of common stock underlying warrants collectively held by BVF, BOVF, BIVF, Lyrical, Lyrical Offshore, GEF-PS, Morrison and WS. Each of BVF, BOVF, BIVF, Lyrical, Clyrical Offshore, GEF-PS, Morrison and WS. Each of BVF, BOVF, BIVF, Lyrical, Clyrical Offshore, GEF-PS, Morrison and WS, and by virtue of such shares, respectively. Great Point is the investment manager of BVF, BOVF, BIVF, Lyrical, Clyrical Offshore, GEF-PS, Morrison and WS, and by virtue of such status may be deemed to be the beneficial owner of such shares. Each of Dr. Jay, as senior managing member of Great Point, as special managing member of Great Point, has voting and investment power with respect to such shares, and therefore may be deemed to be the beneficial owner of such shares. Great Point, Pr. Jay and Mr. Kroin disclaim beneficial ownership of the shares and the shares underlying the warrants described above, except to the extent of their respective pecuniary interests.
- (4) The Schedule 13G filed on March 22, 2012 by Tang Capital Partners, LP ("Tang Capital Partners"), Tang Capital Management, LLC ("Tang Capital Management") and Kevin C. Tang reported that Tang Capital Partners beneficially owned 807,100 shares of our common stock and shared voting and dispositive power over such shares with Tang Capital Management and Mr. Tang. Tang Capital Management, as the general partner of Tang Capital Partners, may be deemed to beneficially own the shares of our common stock owned by Tang Capital Partners. Mr. Tang, as the manager of Tang Capital Management, may be deemed to beneficially own the shares of our common stock beneficially owned by Tang Capital Partners. Mr. Tang disclaims beneficial ownership of the shares described above except to the extent of his pecuniary interest therein.
- (5) The Schedule 13G filed on February 14, 2012 by RA Capital Management, LLC reported that as of December 31, 2011, 346,463 shares of common stock were held directly by RA Capital Healthcare Fund, L.P. ("RA Fund"). In addition, RA Capital Management, LLC ("RA Capital"), which is the investment advisor and sole general partner of RA Fund and also an investment advisor to an account owned by a separate investment vehicle that holds shares of common stock, and Peter Kolshinsky, who is the manager of RA Capital, are each reported to beneficially own 659,051 shares of Common Stock. RA Fund has the power to vote and dispose of the 346,463 shares that it holds directly, and each of RA Capital and Mr. Kolshinksky, by virtue of their respective positions, also has the sole authority to vote and dispose of the 659,051 shares reported on the Schedule 13G.
- (6) The Schedule 13G filed on February 7, 2012 by Abingworth LLP reported that as of December 31, 2011, Abingworth Bioventures V L.P. ("ABV V") is the owner of record of 396,104 shares of common stock and Abingworth Bioequities Master Fund Limited ("ABE") is the owner of record of 207,636 shares of common stock. Abingworth LLP is the investment manager to a number of investment funds that include ABV V and ABE and, as the investment manager to ABV V and ABE, may be deemed to beneficially own the 603,740 shares of common stock held by ABV V and ABE. Abingworth LLP, ABV V and ABE do not admit beneficial ownership of the securities for purposes of Section 13 of the Exchange Act, as amended, or for any other purpose.
- (7) The Schedule 13G filed on February 9, 2012 by BlackRock, Inc. reported that as of December 31, 2011, BlackRock Institutional Trust Company, N.A., BlackRock Fund Advisors, BlackRock Asset Management Canada Limited, and BlackRock Advisors, LLC acquired shares of common stock.
- (8) The Schedule 13G/A filed on February 14, 2012 by Boxer Capital LLC ("Boxer Capital"), Boxer Asset Management Inc. ("Boxer Management"), MVA Investors, LLC ("MVA"), Neil Reisman, Ivan Lieberburg and Joseph Lewis reported that as of December 31, 2011, Boxer Capital, Boxer Management and Joseph Lewis may be deemed to beneficially own 644,801 shares of common stock. As of December 31, 2011, MVA beneficially owned 15,000 shares of common stock, Neil Reisman beneficially owned 4,000 shares of common stock, and Ivan Lieberburg beneficially owned 100 shares of common stock. Messrs. Reisman and Lieberburg each hold the shares of common stock directly owned by each of them in their respective personal accounts and each has sole voting and dispositive power over the shares of common stock owned by each of them directly. None of Boxer Capital, Boxer Management, MVA or Mr. Lewis have any voting or dispositive power with regard to the shares of common stock held by Messrs. Reisman and Lieberburg and Lieberburg and Lieberburg and Lewis may be deemed to beneficially own 543,963 shares of common stock. Boxer Management is the managing member and majority owner of Boxer Capital. Joseph Lewis is the sole indirect owner and controls Boxer Management. Messrs. Reisman and Lieberburg are employed by Tavistock Life Sciences Company, which is a Delaware corporation and an affiliate of Boxer Capital. MVA is the independent, personal investment vehicle of certain employees of Boxer Capital and Tavistock Life Sciences Company. As such, MVA is not controlled by Boxer Capital, Boxer Management or Joseph Lewis.
- (9) The Schedule 13G filed on February 14, 2012 by H.I.G. Oncogenex, LLC ("H.I.G. Oncogenex") reported that as of December 31 2011, 541,712 shares of common stock were owned directly by H.I.G. Oncogenex. Before December 2011, these shares were owned directly by H.I.G. Horizon Corporation ("Horizon"), which was a wholly owned subsidiary of H.I.G. Key Corporation ("Key"), which was a wholly owned subsidiary of H.I.G. Oncogenex. In December 2011, Horizon and Key were voluntarily dissolved and, in connection with the dissolution, these shares were distributed to H.I.G. Oncogenex. As a result, H.I.G. Oncogenex became the direct owner of these shares. Sami W. Mnaymneh and Anthony Tamer are the shareholders of H.I.G.-GP II, Inc., the general partner and managing member, respectively, of the two entities which are indirectly the majority shareholders of H.I.G. Oncogenex. Messrs.

Mnaymneh and Tamer may be deemed to be indirect beneficial owners of the reported securities, but disclaim beneficial ownership in the securities, except to the extent of any pecuniary interest in the shares.

- (10) Represents 13,067 shares owned directly, 49,340 shares owned indirectly through Trycor Investment Trust, 8,092 shares owned indirectly through Mr. Cormack's spouse, and 145,437 shares representing options exercisable within 60 days of April 2, 2012.
- (11) Represents 21,210 shares owned directly and 66,833 representing options exercisable within 60 days of April 2, 2012. In August 2011 beneficial ownership of 6,011 options held by Ms. Jacobs was assigned to her former spouse pursuant to a domestic relations order.
- (12) Represents 40,426 options exercisable within 60 days of April 2, 2012.
- (13) Represents 3,347 shares owned directly and 39,523 representing options exercisable within 60 days of April 2, 2012.
- (14) Represents 4,450 shares owned indirectly through Mr. Lawrence's Registered Retirement Savings Plan, 950 shares owned indirectly through his spouse's Registered Retirement Savings Plan, and 4,801 shares representing options exercisable within 60 days of April 2, 2012.
- (15) Represents 3,000 shares owned directly and 7,385 shares representing options exercisable within 60 days of April 2, 2012.
- (16) Represents 7,385 options exercisable within 60 days of April 2, 2012.
- (17) Represents 5,333 options exercisable within 60 days of April 2, 2012.
- (18) Represents 5,333 options exercisable within 60 days of April 2, 2012.
- (19) Represents for the current officers and directors as a group, 103,456 shares owned directly or indirectly as indicated above, and 322,456 options exercisable within 60 days of April 2, 2012.

COMPENSATION DISCUSSION AND ANALYSIS

Compensation Objectives and Philosophy

Our executive compensation program is designed to:

- attract and retain the most talented and dedicated executives possible;
- align our executive officers' incentives with stockholder value creation;
- · correlate annual and long-term cash and stock incentives to achievement of measurable strategic performance objectives; and
- increase the percentage of executive compensation that is performance-based, and therefore at-risk, as an executive's experience, unique expertise and criticality
 of role increases.

To achieve these objectives we have established compensation programs that tie a substantial portion of each executive's overall compensation to key strategic operational and financial goals such as the development of our product candidates, the establishment and maintenance of key strategic relationships, and the identification and advancement of additional product candidates. The Compensation Committee's approach emphasizes the setting of compensation at levels the committee believes are competitive with executives in other companies of similar size and stage of development operating in the biotechnology industry while taking into account our relative performance and our own strategic goals. Our annual cash incentives and a portion of our longer term incentives, such as our performance-based equity awards, are tied to our achievement of corporate operating goals. We believe that successful execution against goals is the best way to enhance long-term stockholder value. Overall, our pay programs attempt to balance cash and equity to reward both short- and long-term performance.

Compensation Determination Process and the Role of Executive Officers in Compensation Decisions

Historically, the compensation review process conducted each fiscal year generally takes place during the fourth quarter with a presentation regarding our current compensation philosophies and programs by the Chief Executive Officer to the Compensation Committee with the remaining members of the Board of Directors invited to attend. For the current year, we elected to initiate this review process subsequent to the end of the 2011 fiscal year in order to facilitate the comparison of corporate objectives against our full year performance. Typically, the Chief Executive Officer produces an executive compensation review for each Named Executive Officer, excluding the Chief Executive Officer, which includes recommendations for:

- base salary for the upcoming year;
- year-end cash incentive award, if any, under the terms of our discretionary short-term incentive awards program, or STIP, based on the achievement of corporate objectives; and
- annual equity awards of stock options and restricted stock units, or RSUs.

The Chief Executive Officer may also recommend other changes to an executive's compensation package, such as changes in the executive's eligibility for cash incentives. The Compensation Committee evaluates and, if determined appropriate or advisable, revises the Chief Executive Officer's recommendations and forwards its own recommendations to the Board of Directors, which may in turn suggest further revisions.

The Compensation Committee also meets in executive sessions without the Chief Executive Officer present to discuss the Chief Executive Officer's compensation, including base salary, year-end cash incentive award and annual stock option grant, and to make recommendations regarding such compensation to the Board of Directors. The Board of Directors considers the Compensation Committee's recommendations with respect to the Chief Executive Officer in executive session and provides feedback to the Compensation Committee. With the exception of executive sessions of the Compensation Committee and the Board of Directors to review, recommend and approve the Chief Executive Officer's compensation, the Chief Executive Officer is generally present at all deliberations of the Compensation Committee and the Board of Directors related to executive compensation.

In conjunction with the foregoing review, or as soon as practicable after the fiscal year-end, the Chief Executive Officer recommends to the Compensation Committee the corporate objectives to be adopted under the terms of the STIP for the upcoming year. The Compensation Committee evaluates and may revise the Chief Executive Officer's recommendations and forwards its own recommendations to the Board of Directors, which may in turn suggest further revisions.

The Compensation Committee makes final determinations with respect to the award of cash incentives under the STIP and all annual equity awards. The Board of Directors, after reviewing the recommendations of the Compensation Committee, makes final

determinations with respect to the cash incentives to the executive officers and the Chief Executive Officer, as well as the corporate objectives under the STIP. From time to time at the request of the Compensation Committee, members of our executive management team, including representatives from finance, legal and human resources, may provide information to the Compensation Committee and attend all or a portion of certain of the committee's meetings.

Benchmarking of Executive Compensation

At least every two years or at the direction of the Compensation Committee, our management reviews peer group data to determine whether total direct compensation and each component of the compensation package are approximately equal to the targeted 50th percentile for executive officer compensation of our peer group. The peer group companies are amended from time to time at the discretion of the Board of Directors and based on Radford recommendations. In 2009, The Compensation Committee recommended, and the Board of Directors approved, the retention of Radford to review compensation levels and executive agreements of our executive officers and to provide a report summarizing relevant benchmark data and making recommendations as to executive compensation levels. Consistent with our compensation guidelines, the benchmarking data resulting from Radford's 2009 review was used by the Compensation Committee and the Board of Directors to evaluate executive compensation levels for the 2010 and 2011 fiscal years. For 2011, the Compensation Committee and the Board of Directors obtained from Radford, the estimated annual compensation adjustment for the life sciences industry. This adjustment to the 2009 survey results were considered for the evaluation of executive compensation levels for 2011. Radford's 2009 review with respect to executive compensation levels of our executives of our executives of our executives with industry-appropriate peers based on the following characteristics:

- · Pre-commercial life sciences companies in late stages of product development;
- · Companies located in biotechnology hub markets (Seattle, San Francisco, San Diego and Boston) to reflect the recruiting market for executive talent;
- Companies with market values between \$100 million and \$500 million; and
- · Companies with generally less than 100 employees.

In addition, Radford also examined research and development spending, cash on-hand and enterprise value as additional metrics to help determine appropriate peer companies.

The peer group recommended by Radford in 2009 and approved by the Compensation Committee and the Board of Directors for the evaluation of compensation levels for each of the 2010 and 2011 fiscal years, after a comprehensive review, analysis and discussion regarding Radford's recommendations, is comprised of the companies set forth below.

| Amicus Therapeutics, Inc. | Molecular Insight Pharmaceuticals, Inc. |
|------------------------------|---|
| Anadys Pharmaceuticals, Inc. | NeurogesX, Inc. |
| Arqule Inc. | Optimer Pharmceuticals, Inc. |
| ARYx Therapeutics, Inc. | Orexigen Therapeutics, Inc. |
| Cell Therapeutics, Inc. | OXiGENE, Inc. |
| Celldex Therapeutics, Inc. | Pain Therapeutics, Inc. |
| Cytokinetics, Incorporated | Peregrine Pharmaceuticals, Inc. |
| CytRx Corporation | Poniard Pharmaceuticals, Inc. |
| Depomed, Inc. | SuperGen, Inc. |
| Maxygen, Inc. | Trubion Pharmaceuticals, Inc. |
| Medivation, Inc. | |

Benchmarking in the Context of Our Other Executive Compensation Principles

In establishing executive compensation, the Compensation Committee focuses on a range around the 50th percentile of peer group benchmarking for each of base salary, target total cash (base salary plus target cash incentives) and long-term incentives for each similarly situated executive, which the Compensation Committee believes provides the tools to allow a company of our size to attract, compete for and retain the type of executives necessary for us to our achieve our goals but conserve our cash and equity as much as possible.

The Compensation Committee realizes, however, that using a peer benchmark is neither the only means for gathering and validating market data nor the only criteria for establishing executive pay. In instances where an executive officer is uniquely critical to our success, the Compensation Committee may provide compensation in excess of the benchmark. Upward or downward variations for



base salary and long-term incentives may also occur as a result of the individual's experience level, the balance of the individual's different elements of compensation, market factors and other strategic considerations, which we refer to below as compensation factors. Additional market surveys, such as the Radford Global Life Sciences Survey, which reports compensation practices of a broad range of life science companies, are also utilized in determining market competitive compensation. The Compensation Committee believes that, given the competitiveness of our industry and our company culture, our base compensation, cash incentives and equity programs are flexible, reward the achievement of clearly defined corporate goals and are generally sufficient to retain our existing executive officers and to hire new executive officers when necessary.

Elements of Executive Compensation

We have designed and implemented compensation policies that have historically allowed us to recruit both in our geographic areas of operation (i.e., Seattle, Washington and Vancouver, British Columbia) and other areas. We seek to implement and utilize compensation policies that balance fixed and variable pay costs for a long-term, sustainable approach to talent acquisition and retention. Our executive compensation consists of base salary, cash incentives and stock option and RSU grants, each of which is discussed in detail below.

Base Salary

We provide an annual salary based on comparable market data for level of responsibility, expertise, skills, knowledge, experience, our unique organizational requirements and desire to maintain internal equity. When establishing executive compensation for 2011, the Compensation Committee focused on the respective peer group market survey as well as the Radford Global Life Sciences Survey for base salaries and incentive compensation. The executive base salary program targets a range around the 50th percentile of salaries for executives with the requisite skills in similar positions with similar responsibilities at comparable companies. In reviewing base salaries annually the Compensation Committee also considers the role, overall value and contribution each executive makes to the achievement of our objectives. Executives may be compensated below or above that range based on the compensation factors described above. The Compensation Committee reviews base salaries in the fourth quarter of each year and may make adjustments from time to realign salaries with market levels after taking into account the compensation factors.

Cash Incentives

The STIP provides an annual opportunity for our Named Executive Officers to receive a discretionary cash bonus (stated as a percentage of each officer's salary) based on performance related to corporate objectives established by the Board of Directors. The STIP, when combined with each executive's base salary, is designed to provide total target cash compensation within a range around the 50th percentile of our peer group, subject to adjustment for the compensation factors described above. For any given year, these objectives may relate to operational, strategic or financial factors such as developing our product candidates, establishing and maintaining of key strategic relationships, raising or maintaining certain levels of capital, improving our results of operations or increasing the price per share of our common stock. The Compensation Committee alone determines achievement level of corporate objectives as it relates to incentive compensation for executive officers. If corporate objectives are not achieved at a 100% level, the Compensation Committee may determine that the corporate objectives were not achieved or, in its sole discretion, may determine that such objectives were partially achieved. The Compensation Committee may award bonuses based on the foregoing determinations or, after considering market conditions, our financial position or other factors, the Compensation Committee may, in its sole discretion, determine not to award any bonuses or to award bonuses at less than maximum eligibility. Cash bonuses paid do not exceed the maximum eligibility amount.

Equity Awards

Our 2010 Performance Incentive Plan, provides alternative forms of long-term incentives for our executive officers, including, stock options with time-based vesting, which require the market value of our common stock to increase before they are valuable; performance-based RSUs, the right to which depends on successful completion of corporate performance goals; or RSUs with time-based vesting. We do not use a targeted split of cash and equity when setting compensation for our executive officers.

The number of stock options granted is discretionary and the value earned on any grant varies with the stock price over the option term. In large part due to the length of product development cycles, it is critical for our business to align the interests of executive officers and stockholders, and to retain executive officers by means of what we hope will be long-term wealth creation in the value of their stock options and RSUs, which have vesting provisions that encourage continued employment. We have historically elected to use stock options as the primary long-term equity incentive vehicle. Stock option grants are made at the commencement of employment, may be made annually and, occasionally, may be made following a significant change in job responsibilities or to meet other special objectives, including strategic goals and retention. Historically, annual stock option grants have generally occurred at or near the end of the year, as part of our annual evaluation of executive compensation, and are targeted around the 50th percentile of our peer group (in terms of market value), subject to adjustment for the compensation factors described above and the availability of equity under our equity-based compensation plans. Commencing in 2012, annual stock option grants will occur subsequent to the

filing of our annual report on Form 10-K for the most recently completed year. We expect to continue to use stock options as a long-term incentive vehicle because:

- Stock options align the interests of executives with those of the stockholders, support a pay-for-performance culture, foster employee stock ownership and focus
 the management team on increasing value for our stockholders.
- Stock options help to provide a balance to the overall executive compensation program as base salary and our cash incentive compensation program focus on
 nearer-term achievements, while the grant and vesting of stock options is intended to focus executive efforts towards increasing stockholder value over the longer
 term.
- The vesting period of stock options encourages executive retention as long as the options remain in the money.
- · We believe the use of stock options assists us in making our compensation package attractive to current and potential executive candidates, while conserving cash.

Beginning in 2012, we plan to award RSUs, including performance-based RSUs pursuant to the terms of our 2010 Performance Incentive Plan. Our decision to use RSUs for annual replenishment equity awards was based on a desire to reduce short-term dilution and stock plan share usage. RSUs provide the right to receive a specified number of shares of our common stock at no cost to the employee if the employee remains employed by us on the date the RSUs vest. The compensation value of RSUs does not depend solely on future stock price increases. While unvested, the RSU value is highly retentive and it also maintains alignment between the interests of stockholders and of management. Although its value may increase or decrease with changes in the stock price during the period before vesting, an RSU will have value in the long term, while the entire compensation value of a stock option depends on future stock price appreciation. Accordingly, RSUs can deliver significantly greater share-for-share compensation value at grant than stock options and we can offer comparable compensation value with fewer shares and less dilution for our stockholders.

Stock Ownership Guidelines

Although stock option grants encourage equity ownership, we currently do not require our directors or executive officers to own a particular number of shares of our common stock. The Compensation Committee believes that stock and option holdings among our directors and executive officers are sufficient at this time to align this group's interests with those of our stockholders.

Perquisites

Our executive officers located in Canada participate in the same group insurance and employee benefit plans as our other salaried employees in Canada and our executive officers located in the United States participate in the same group insurance and employee benefit plans as our other salaried employees in the United States. Tax preparation services are paid for executive officers who owe additional tax liabilities incurred by working in non-resident countries. At this time, we do not provide other special benefits or other perquisites to our executive officers.

2011 Officer Compensation

Salary

Scott Cormack became our Chief Executive Officer and President in 2008. Since 2008, the Board of Directors has successively increased his salary based on performance, which has brought his compensation more in line with the 50th percentile of peer public company chief executive officers. His leadership has driven our performance, leading our predecessor from its early start-up phase through development to proof of scientific concept in humans, the merger in 2008 that resulted in a public entity and the licensing of our lead product candidate. With respect to the 2011 fiscal year, based on Mr. Cormack's instrumental role as our Chief Executive Officer in achieving our 2010 objectives, as well as a comprehensive review, analysis and discussion of the salaries of executives as reported by Radford Executive Compensation Report in 2009 and adjusted by the Radford suggested annual adjustment rate of 3% from 2010 to 2011, Mr. Cormack's base salary for 2011 was increased to approximately CDN\$505,000, which was, at the time of determination, also consistent with the 50th percentile of the peer company survey from 2009 as adjusted by 3% and as converted to Canadian dollars, and warranted based on his performance and contribution to the achievement of company objectives.

Michelle Burris was one of our directors from May 2004 until she resigned from that position effective January 2011. Ms. Burris has been our Executive Vice President Operations and Chief Financial Officer since January 2011. In determining her base salary for 2011, the Compensation Committee considered Ms. Burris' extensive financial and operations management expertise as a public biotechnology company executive. Based on a comprehensive review, analysis and discussion of the salaries of executives in similar roles reported in the Radford Global Life Sciences Survey report, Ms. Burris' base salary for 2011 was set at \$365,000, which is approximately equal to 104% of the 50th percentile of the survey based on a combination of the survey data for the CFO/COO job descriptions.

Dr. Cindy Jacobs is our Executive Vice President and Chief Medical Officer. In determining her base salary for 2011, the Compensation Committee considered Dr. Jacobs' important role in furthering the development of our clinical assets and extensive experience in obtaining U.S. Food and Drug Administration approval for product candidates, as well as her instrumental role in partnering, alliance management and strategic discussions. Based on a comprehensive review, analysis and discussion of the salaries of executives as reported by Radford in 2009 and adjusted by the Radford suggested annual adjustment rate of 3% from 2010 to 2011, Dr. Jacobs' base salary for 2011 was set at \$380,000, which is approximately equal to 108% of the 50th percentile of the peer company survey from 2009 as adjusted by 3%.

Cameron Lawrence has served as our Principal Accounting Officer since February 2010. In determining Mr. Lawrence's base salary for 2011, the Compensation Committee took into account his finance and accounting background and his previous contributions to us as Director of Financial Reporting. Based on a comprehensive review, analysis and discussion of the salaries reported in the 2010 Radford Global Benchmark Life Sciences Survey and consistent with our compensation policies that allow us to recruit both in our geographic areas of operation (i.e., Seattle, Washington and Vancouver, British Columbia) and other areas, Mr. Lawrence's base salary for 2011 was set at CDN\$139,500, which is approximately equal to 87% of the 50th percentile of the 2010 Radford Global Benchmark Life Sciences Survey. In light of Mr. Lawrence's position against the market salary data, we provided a larger than average salary increase to more closely align with the 50th percentile.

| | | | Percentage increase from |
|--|------------------|------------------|-----------------------------|
| Executive Officer | 2011 Base Salary | 2010 Base Salary | 2010 (%) |
| Scott Cormack, | CDN\$505,000 | CDN\$490,000 | 3.0% |
| Chief Executive Officer and President | | | |
| Cindy Jacobs, | \$380,000 | \$369,000 | 3.0% |
| Chief Medical Officer and Executive Vice President | | | |
| Michelle Burris, | \$365,000 | _ | N/A |
| Executive Vice President, Operations, Chief | | | |
| Financial Officer and Secretary | | | |
| Cameron Lawrence, | CDN\$139,500 | CDN\$119,000 | 17.2% |
| Principal Accounting Officer | | | |

Cash Incentives

Based on a comprehensive review, analysis and discussion of the recommendations set forth in the Radford report, and to ensure that an appropriate amount of total compensation is performance based, and the Compensation Committee's goal to target compensation around the 50th percentile of our peer group as described further in the section entitled "Benchmarking of Executive Compensation", the Compensation Committee recommended, and the Board of Directors approved, an increase in each Named Executive Officer's bonus potential for 2011, as follows:

| Executive Officer | Short-term Incentive Award Eligibility |
|---|---|
| Scott Cormack, | 50% of salary |
| Chief Executive Officer and President | |
| Cindy Jacobs, | 35% of salary |
| Chief Medical Officer and Executive Vice President | |
| Michelle Burris, | 35% of salary |
| Executive Vice President, Operations, Chief Financial | |
| Officer and Secretary | |
| Cameron Lawrence, | 15% of salary |
| Principal Accounting Officer | |

As a result, each Named Executive Officer's bonus potential for 2011 was approximately equal to the 50th percentile of our peer group.

In the first quarter of 2011, the Board of Directors adopted the following 2011 corporate objectives under the STIP:

| Corporate Objectives | Weighting |
|---|-----------|
| Ensure that the Company has sufficient working capital at the end of 2011 to complete its | 10% |
| publicly announced clinical development activities and strive to achieve our corporate | |
| objectives ahead of schedule or achieve additional advancements within budgetary | |
| constraints. | |



| Corporate Objectives | Weighting |
|---|-----------|
| Advance, and in some instances influence the advancement, of our partnered program (custirsen) | 50% |
| through clinical development and increase awareness of the product candidate through data presentation and publication. | |
| Advance our proprietary programs, including OGX-427, through clinical development and increase awareness of our product candidates through partnering discussions, data | 40% |
| presentation and publication. | |

The Board of Directors selected these particular corporate objectives based on its judgment that they represented areas over which the Named Executive Officers have significant operational control and on which the Board of Directors believed they should focus to move our strategic plan forward and enhance stockholder value during 2011.

Performance Against 2011 Corporate Objectives

The Compensation Committee determined that the corporate objectives for 2011 were achieved at the 75th percentile. This represented the Committee's assessment that the first and third objectives were fully met but that the second was only partially met given that the initiation of the planned phase 3 clinical trial for custirsen in non-small cell lung cancer has been delayed until 2012 and the SATURN trial did not enroll as planned, and that all persons eligible for a bonus under the STIP for 2011 would be paid 75% of their 2011 bonus eligibility attributable to corporate objectives, subject to rounding the awards to be made to the following persons, with the final awards being as set forth below:

| as a et (%) |
|----------------|
| |
| 75(1) |
| |
| 75(1) |
| |
| |
| 75(1) |
| |
| 84(2) |
| |

(1) For Mr. Cormack, Ms. Burris and Dr. Jacobs, 100% of STIP eligibility was attributable to the achievement of corporate objectives.

(2) For Mr. Lawrence, 50% of STIP eligibility was attributable to the achievement of corporate objectives and 50% of STIP eligibility was attributable to the achievement of team and individual objectives for 2011. The Chief Financial Officer determined, and the Compensation Committee confirmed, that Mr. Lawrence achieved his team and individual objectives at the 95th and 92nd percentile levels, respectively.

Long-Term Incentive Awards

Stock option grants are discretionary based on the Compensation Committee's analysis of employee achievement of company-wide and individual objectives. The Compensation Committee determined to award each Named Executive Officer non-qualified stock options to acquire shares of our common stock pursuant to the terms and conditions of the 2010 Performance Incentive Plan. In each case, the Compensation Committee considered and evaluated the Radford report, the compensation factors described above and the amount of equity available for grant under our various equity compensation plans. The number of stock options granted was calculated using an option grant dollar value (based on a Black-Scholes model) benchmarked to the 50th percentile based upon the comprehensive review conducted by Radford in 2009. Each option was granted with a 10-year term and an exercise price equal to the closing price of our common stock on NASDAQ on the date of grant. Consistent with the recommendations in the Radford report, vesting stock option awards annually over four years.

Advisory Vote on Executive Compensation

The Compensation Committee considered the results of the 2011 advisory vote to approve the compensation of our executive officers. In light of the support by our stockholders of the executive compensation program described in our proxy statement for the Annual Meeting of Stockholders held on May 26, 2011, with approximately 98% of the votes cast in favor of our executive compensation, the Compensation Committee has not made significant changes to our executive compensation program as a result of last year's advisory vote.

In addition, because a majority of the stockholders voted in favor of an advisory vote on executive compensation every three years, our Board of Directors determined that we will hold an advisory vote on executive compensation at our annual meeting of stockholders every three years. We expect to hold the next vote on executive compensation at the 2014 annual meeting of stockholders.

Other Policies and Considerations

Internal Pay Equity

The Compensation Committee reviewed the Radford report for 2011 compensation and concluded that total compensation for a company's chief executive officer is generally higher than the total compensation of the chief financial officer or chief medical officer, and that the total compensation of the chief medical officer is generally higher than the total compensation of the chief financial officer. The relative total compensation for our executive officers for 2011 followed the same pattern observed in the Radford report, with our Chief Executive Officer receiving the highest total compensation, followed by our Chief Medical Officer and our Chief Financial Officer. Our ordinal pay ranking is consistent with comparable companies, and as each component of compensation for each executive officer is determined in relation to the 50th percentile of officers is appropriate and consistent with maintaining internal pay equity.

Relationship Between Compensation Elements

Each element of executive officer compensation was determined with reference to the 50th percentile of the same element paid to executive officers holding the similar position at comparable companies. Therefore, no objective formula was utilized when determining the relative proportion of salary, cash incentive or equity awards relative to each other or to total compensation.

Employment Agreements and Termination Benefits

The employment agreement for each executive officer contains provisions related to termination and change of control. When establishing the termination and change of control provisions of the employment agreements, the Compensation Committee and the Board of Directors considered the Radford report, which provided recommendations to the Compensation Committee regarding the termination and change of control provisions for each executive officer based on publicly available information regarding the practices of our peer group, policy statements made by significant investor groups and an analysis of current market trends. We provide change in control protections to our officers to alleviate concerns regarding the possible occurrence of such a transaction, allowing them to focus their attention on our business. In addition, these protections encourage executives to remain with the Company during the threat or negotiation of a change of control arrangements, as well as an estimate of the compensation that would have been payable had they been triggered as of the end of 2011, are described in detail in the section below entitled "Executive Compensation – Potential Payments Upon Termination/Change of Control."

Compensation Committee Interlocks and Insider Participation

No member of the Compensation Committee during fiscal year 2011 served as one of our officers, former officers or employees. During fiscal year 2011, none of our executive officers served as a member of the compensation committee of any other entity, one of whose executive officers served as a member of our Board of Directors or Compensation Committee, and none of our executive officers served as a member of the board of directors of any other entity, one of whose executive officers served as a member of our Compensation Committee.

Report of the Compensation Committee on Executive Compensation

The Compensation Committee of the Board of Directors has reviewed and discussed "Compensation Discussion and Analysis" required by Item 402(b) of Regulation S-K with management and, based on such review and discussions, the Compensation Committee recommended to the Board of Directors that the "Compensation Discussion and Analysis" be included in the our 2011 Annual Report on Form 10-K and this Proxy Statement.

COMPENSATION COMMITTEE OF THE BOARD OF DIRECTORS

Neil Clendeninn, Chairperson Jack Goldstein Martin Mattingly

EXECUTIVE COMPENSATION

During the 2011 fiscal year, our Named Executive Officers and their respective positions were as follows: Scott Cormack, Chief Executive Officer and President; Michelle Burris, Executive Vice President Operations, Chief Financial Officer and Secretary; Cindy Jacobs, Ph.D., M.D., Executive Vice President and Chief Medical Officer; and Cameron Lawrence, Senior Director, Finance, Principal Accounting Officer and Treasurer.

Mr. Cormack, Ms. Burris, Dr. Jacobs and Mr. Lawrence are referred to as our Named Executive Officers for purposes of this Proxy Statement.

The following table provides information regarding our current executive officers as of April 26, 2012.

| Name and Municipality of Residence | Age | Position With the Company |
|---|-----|--|
| Executive Officers | | |
| Scott Cormack, Vancouver, Canada | 47 | President, Chief Executive Officer and Director |
| Cindy Jacobs, Fall City, Washington | 54 | Executive Vice President and Chief Medical Officer |
| Michelle Burris, Sammamish, Washington | 46 | Executive Vice President Operations, Chief Financial Officer and Secretary |
| Cameron Lawrence, Vancouver, Canada | 32 | Principal Accounting Officer, Treasurer and Senior Director, Finance |

Following are the biographies of the foregoing persons, except the biography of Mr. Cormack, which is located above under the heading "Board of Directors - General".

Michelle Burris, 46, has been our Executive Vice President Operations and Chief Financial Officer since January 2011. Ms. Burris was one of our directors from May 2004 until she resigned from such position effective January 2011. From February 2006 until its acquisition in October 2010 by Emergent BioSolutions, Inc., Ms. Burris was employed by Trubion Pharmaceuticals, Inc., a biopharmaceutical company, where she most recently served as Senior Vice President and Chief Operating Officer. Ms. Burris served as Senior Vice President and Chief Financial Officer of Dendreon Corporation, a biotechnology company, from August 2005 to January 2006. From March 1995 to July 2005, she was employed by Corixa Corporation, a biotechnology company. She served as its Chief Financial Officer from 1997 until 2005, when the company was acquired by GlaxoSmithKline. Prior to Corixa, Ms. Burris held several finance and strategic planning positions at The Boeing Company, an aerospace company. She received a Post Graduate Certificate in accounting and an M.B.A. degree from Seattle University, and a B.S. degree from George Mason University.

Cindy Jacobs, Ph.D., M.D., 54, has served as our Executive Vice President and Chief Medical Officer since August 2008, and had been Executive Vice President and Chief Medical Officer of OncoGenex Technologies Inc. from September 2005 to August 2008. From 1999 to July 2005, Dr. Jacobs served as Chief Medical Officer and Senior Vice President, Clinical Development of Corixa Corporation. Prior to 1999, Dr. Jacobs held Vice President, Clinical Research positions at two other biopharmaceutical companies. Dr. Jacobs received her Ph.D. degree in Veterinary Pathology/Microbiology from Washington State University and an M.D. degree from the University of Washington Medical School.

Cameron Lawrence, 32, has served as our Principal Accounting Officer since February 2010, and as Senior Director, Finance since January 2012. Mr. Lawrence had previously served as Director of Financial Reporting from October 2008 to February 2011 and Director of Finance from February 2011 to January 2012. From 2003 to 2008, Mr. Lawrence served in various positions at PricewaterhouseCoopers LLP, including Manager in the Audit and Assurance Group. Mr. Lawrence holds a B.B.A. degree from Simon Fraser University and M.P.Acc. degree from the University of Saskatchewan. He is a Chartered Accountant.

Summary Compensation Table

The following table sets forth information regarding the compensation of our Named Executive Officers for each of the fiscal years ended December 31, 2011, 2010 and 2009. The components of the compensation reported in the Summary Compensation Table are described below. Additional information on the components of the total compensation package, including a discussion of the proportion of each element to total compensation, is discussed in "Compensation Discussion and Analysis."

| Name and Principal Position | Year | Salary (\$) | Bonus (\$) | Option Awards (\$)(2) | Non-Equity Incentive Plan Compensation (\$) | All Other Compensation (\$) | Total (\$) |
|--|----------------------|-------------------------------|---------------|-----------------------------|---|--------------------------------------|-------------------------------|
| Scott Cormack, President and Chief | 2011 2010 | 499,480 475,825 | _ | 453,600 | 183,859 214,078 | _ | 683,339 1,143,503 |
| Executive Officer (1) (3) | 2010 | 302,632 | _ | 392,320 | 121,053 | _ | 816,005 |
| Cindy Jacobs, Executive Vice President and Chief Medical Officer ⁽¹⁾ | 2011 2010 2009 | 380,000 369,000 360,000 | | 226,800 188,314 | 99,750 116,500 108,000 | | 497,750 712,300 656,314 |
| Michelle Burris, Executive Vice President Operations and Chief Financial Officer ⁽¹⁾ | 2011 | 365,000 | — | 417,550 | 95,813 | _ | 878,363 |
| Cameron Lawrence, Principal Accounting | 2011 2010 | 137,975 98,069 | 17,476 | 45,360 | 17,146 16,505 | — | 155,121 177,410 |

Officer (1)(3)

(1) Includes amounts earned but deferred at the election of our Named Executive Officer, such as salary deferrals under our 401(k) Plan established under Section 401(k) of the Code. During 2009, Mr. Cormack and Dr. Jacobs and, during 2010, Ms. Burris entered into employment agreements with us, which provided for base salaries of not less than CDN\$345,000, \$360,000 and \$365,000, respectively. Additionally, the agreements provide that such officers are eligible to receive a discretionary annual incentive bonus and the opportunity to participate in our equity compensation plans. The termination benefits under each of these agreements are described below under the heading "Potential Payments Upon Termination/Change of Control."

(2) The dollar amounts in this column reflect the aggregate grant date fair value of equity awards granted during the fiscal year in accordance with FASB Accounting Standards Codification Topic 718 for stock-based compensation. These amounts do not correspond to the actual cash value that will be recognized by each of the Named Executive Officers when received. For a discussion of the assumptions and methodologies used to value the awards reported in this column, see note 10 to our audited consolidated financial statements, which are included in our 2011 Annual Report on Form 10-K. During 2010 and 2009, no option awards were forfeited by our Named Executive Officers.

(3) Amounts payable to Mr. Cormack and Mr. Lawrence are denominated in Canadian dollars and have been translated into U.S. dollars based on the December 31, 2011 exchange rate of US\$1.00 = CDN\$1.0170.

Fiscal 2011 Grants of Plan-Based Awards

The following table provides information related to grants of plan-based awards to our Named Executive Officers during the 2011 fiscal year.

| Estimated Payouts Under Non-Equity | | | | | | | |
|---------------------------------------|---------------|-------------------|--------------------|-----------------|--|---|---|
| | | Inc | entive Plan Awa | rds | | | |
| Name | Grant Date | Threshold (\$) | Target (\$) (1) | Maximum (\$) | All Other Option Awards: # of Securities Underlying Options (2)(3) | Exercise or Base Price of Option Awards (\$/Sh) | Grant Date Fair Value of Stock Option Awards (3)(\$) |
| Scott Cormack | _ | | 249,740 | 249,740 | | _ | |
| Cindy Jacobs | _ | _ | 133,000 | 133,000 | _ | — | _ |
| Michelle Burris | 1/3/2011 | _ | 127,750 | 127,750 | 35,000 | 16.83 | 417,550 |
| Cameron Lawrence | _ | _ | 20,696 | 20,696 | _ | _ | _ |

Fetimated Payouts

(1) This column represents the non-equity incentive plan awards granted to our Named Executive Officers during the 2011 fiscal year, which were earned based our

performance during the year. For a description of the performance-based vesting criteria associated with these awards, see "Compensation Discussion and Analysis."

(2) The stock options vest monthly over four years and were granted under the 2010 Performance Incentive Plan.

(3) Amounts represent the grant date fair value of stock option awards measured in accordance with the guidance in FASB ASC Topic 718. For a discussion of the assumptions and methodologies used to value the awards reported in this column, see note 10 to our audited consolidated financial statements, which are included in our 2011 Annual Report on Form 10-K.

Outstanding Equity Awards at Fiscal Year-End

The following table provides information regarding the outstanding equity awards held by the Named Executive Officers as of December 31, 2011.

| | | OPTION AWARDS | | | | | | |
|---|--|--|--|---|--|--|--|--|
| Name | Number of Securities Underlying Unexercised Options (#) Exercisable | Number of Securities Underlying Unexercised Options (#) Unexercisable | Option Exercise Price (\$) | Option Expiration Date | | | | |
| Scott Cormack, President and Chief Executive Officer | 41,167 75,000 12,500 10,000 | 25,000 12,500 30,000 | 4.11 3.00 22.28 15.97 | 8/8/12 ⁽¹⁾ 12/31/15 ⁽²⁾ 12/31/19 ⁽³⁾ 12/14/20 ⁽⁴⁾ | | | | |
| Cindy Jacobs, Executive Vice President and Chief Medical Officer | 52,500 6,000 — 5,000 6,011 | 17,500 6,000 15,000 — | 3.00 22.28 15.97 | $\begin{array}{c} 12/31/15^{(2)}\\ 12/31/19^{(3)}\\\\ 12/14/20^{(4)}\\ 09/12/12^{(11)} \end{array}$ | | | | |
| Michelle Burris, Executive Vice President Operations and Chief Financial Officer | 5,359 11,641 8,260 3,500 8,020 | | 2.69 2.69 7.25 14.20 16.83 | 10/28/15 ⁽⁶⁾ 10/28/15 ⁽⁷⁾ 5/12/16 ⁽⁸⁾ 6/8/20 ⁽⁹⁾ 1/3/21 ⁽¹⁰⁾ | | | | |
| Cameron Lawrence, Principal Accounting Officer | 1,875 1,250 1,000 | 1,875 1,250 3,000 | 3.00 22.28 15.97 | 12/31/15 ⁽⁵⁾ 12/31/19 ⁽³⁾ 12/14/20 ⁽⁴⁾ | | | | |

(1) These stock options were granted prior to our acquisition of OncoGenex Technologies Inc. pursuant to the OncoGenex Technologies Inc. Amended and Restated Stock Option Plan and were assumed by us in connection with the acquisition.

(2) These stock options were granted under the 2000 Stock Incentive Plan and vest annually over a four-year period beginning December 31, 2009.

(3) These stock options were granted under the 2007 Performance Incentive Plan and vest monthly over a 48-month period beginning January 31, 2010.

(4) These stock options were granted under the 2010 Performance Incentive Plan and vest monthly over a 48-month period beginning January 14, 2011.

(5) These stock options were granted under the OncoGenex Technologies Inc. Amended and Restated Stock Option Plan and vest annually over a four-year period beginning December 31, 2009.

(6) These stock options were granted under the 1999 Stock Incentive Plan and were fully vested on October 28, 2009.

(7) These stock options were granted under the 2000 Stock Incentive Plan and were fully vested on October 28, 2009.

(8) These stock options were granted under the 2007 Performance Incentive Plan and were fully vested on May 12, 2009.

(9) These stock options were granted under the 2010 Performance Incentive Plan and were fully vested on June 8, 2011.

(10) These stock options were granted under the 2010 Performance Incentive Plan and vest monthly over a 48-month period beginning February 3, 2011.

(11) Dr. Jacobs transferred 6,011 stock options granted under the OncoGenex Pharmaceuticals, Inc. Amended and Restated Stock Option Plan pursuant to a domestic relations order in August 2011

Option Exercises and Stock Vested

The following table provides information related to options exercised by the Named Executive Officers during the 2011 fiscal year.

| | Optio | n Awards |
|--|---|---------------------------------------|
| Name | Number of Shares Acquired on Exercise (#) | Value Realized on Exercise (\$) |
| Scott Cormack, President and Chief Executive Officer | 23,660 (1) | 269,258 |
| Cindy Jacobs, Executive Vice President and Chief Medical Officer | 21,210 (2) | 247,406 |
| Michelle Burris, Executive Vice President Operations and Chief Financial Officer | — | — |
| Cameron Lawrence, Principal Accounting Officer | 1,875 | 24,019 |

(1) Of these stock options, 3,392 were owned indirectly though Mr. Cormack's spouse and 13,660 shares are held by Trycor Investment Trust No. 1, of which Mr. Cormack and his spouse are the trustees and beneficiaries.

(2) Dr. Jacobs transferred 6,011 stock options granted under the OncoGenex Pharmaceuticals, Inc. Amended and Restated Stock Option Plan pursuant to a domestic relations order in August 2011

Pension Benefits/Nonqualified Deferred Compensation

We do not have any plan that provides for payments or other benefits at, following, or in connection with retirement. We also do not have a plan that provides for the deferral of compensation for any employee.

Potential Payments Upon Termination/Change of Control

Change of Control Under Our Equity Compensation Plans

The following discussion sets forth the change of control provisions provided for in our various equity compensation plans.

1999 Nonqualified Stock Incentive Plan and 2000 Stock Incentive Plan

Under our 1999 Nonqualified Stock Incentive Plan, or the 1999 Plan, the vesting period for all outstanding awards will automatically accelerate in connection with a change of control. Under our 2000 Stock Incentive Plan, or the 2000 Plan, the vesting period for all outstanding awards will automatically accelerate in connection with a change of control unless the administrator of the 2000 Plan causes such awards to be assumed or new rights substituted for such rights. In addition, under both plans, the administrator of such plans may take one of the following actions in connection with a change of control, as applicable:

- provide for the purchase of each outstanding award, or, in the case of the 1999 Plan only, the exchange of each such award;
- adjust the terms of such awards in a manner to be determined by the administrator to reflect the change of control;
- · cause such awards to be assumed, or new rights substituted for such awards, by another entity; or
- make such changes to the applicable plan as the administrator considers equitable.

If the administrator does not take any of the foregoing actions, all awards will terminate upon the consummation of the change of control.

As used in the 1999 Plan and the 2000 Plan, the term "change of control" means the occurrence of any of the following events, as applicable:

- acquisitions of our securities representing 50% or more of our outstanding securities;
- a merger or consolidation in which we are not the surviving entity, except for a transaction, the principal purpose of which is to change the state of our incorporation;



- under the 1999 Plan, sales, transfers or other dispositions of 50% or more of the value of our assets, or, under the 2000 Plan, sales transfers or other disposition of all or substantially all of our assets;
- any reverse merger in which we are a surviving entity but in which securities possessing more than 50% of the total combined voting power of our outstanding securities are transferred to a person or persons different from the persons holding those securities immediately prior to such reverse merger;
- our dissolution;
- under the 1999 Plan, a liquidation of more than 50% of our value, or, under of the 2000 Plan, our complete liquidation; or
- under the 1999 Plan only, at least a majority of our directors constitute persons who were not, at the time of their first election to the Board of Directors, candidates proposed by a majority of the Board of Directors in office prior to the time of such first election.

2007 Performance Incentive Plan

Under the 2007 Performance Incentive Plan, or the 2007 Plan, the administrator has the discretion to provide in each award agreement the terms and conditions with respect to a change of control that relate to (1) the vesting of an award and (2) the assumption of an award or issuance of comparable securities under an incentive program. If the terms of an option agreement provide for accelerated vesting in the event of a change of control, or to the extent that an option is vested and not yet exercised, the administrator may provide for the purchase or exchange of each option for an amount of cash or other property. Outstanding options shall terminate and cease to be exercisable upon a change of control except to the extent that the options are assumed by the successor entity, or parent of the successor entity, pursuant to the terms of the change of control transaction.

As used in the 2007 Plan, the term "change of control" means the occurrence of any of the following:

- acquisitions of our securities possessing more than 50% of the total combined voting power of all of our outstanding securities;
- a merger or consolidation with any other entity, whether or not we are the surviving entity in such transaction, except for a transaction in which the holders of our
 outstanding voting securities immediately prior to such merger or consolidation hold, as a result of holding our securities prior to such transaction, in the
 aggregate, securities possessing more than 50% of the total combined voting power of all of our outstanding voting securities or the voting securities of the
 surviving entity, or the parent of the surviving entity, immediately after such merger or consolidation;
- the sale, transfer or other disposition, in one transaction or a series of related transactions, of all or substantially all of our assets; or
- the approval by our stockholders of a plan or proposal for our liquidation or dissolution.

OncoGenex Technologies Inc. Amended and Restated Stock Option Plan

Under the OncoGenex Technologies Inc. Amended and Restated Stock Option Plan, or the OTI Plan, if a change of control occurs, then 50%, or such larger percentage as may be determined by the Board of Directors, of all shares subject to each outstanding stock option that have not yet vested shall vest and become exercisable. Additionally, if an optionee, our stockholders generally or a class of our stockholders that includes the optionee receives an offer for shares that, if accepted, would result in a change of control, all shares subject to options held by officers and directors will become vested and exercisable so as to permit the optionee to tender such shares pursuant to the offer. If the offer is not completed or all of the options tendered by the optionee pursuant to the offer are not taken up or paid for by the offeror, the optionee may be able to return the shares received upon such exercise and reinstate the option and refund the exercise price to the optionee. The Board of Directors may also accelerate an option's expiration date so that all options will either be exercised or will expire prior to the date on which shares must be tendered pursuant to an offer that would result in a change of control.

As used in the OTI Plan, a change of control means the acquisition of our voting securities by a person, or a person and a joint actor, that, when added to all of our other voting securities at the time held by such person, or persons and a joint actor, total not less than 50% of our outstanding voting securities or the votes attached to those securities are sufficient, if exercised, to elect a majority of our Board of Directors.

2010 Performance Incentive Plan

Under the 2010 Plan, the administrator has the discretion to provide in each award agreement the terms and conditions with respect to a change of control that relate to the vesting of an award and the assumption of an award or issuance of comparable securities under an incentive program. If the terms of an option agreement provide for accelerated vesting in the event of a change of control, or to the extent that an option is vested and not yet exercised, the administrator may provide for the purchase or exchange of each option for an amount of cash or other property. Outstanding options shall terminate and cease to be exercisable upon a change of control except to the extent that the options are assumed by the successor entity (or parent of the successor entity) pursuant to the terms of the change of control transaction. As used in the 2010 Plan, the term "change of control" means the occurrence of any of the following:

- acquisitions of our securities possessing more than 50% of the total combined voting power of all of our outstanding securities;
- a merger or consolidation with any other entity, whether or not we are the surviving entity in such transaction, except for a transaction in which the holders of our
 outstanding voting securities immediately prior to such merger or consolidation hold, as a result of holding our securities prior to such transaction, in the
 aggregate, securities possessing more than 50% of the total combined voting power of all of our outstanding voting securities or the voting securities of the
 surviving entity, or the parent of the surviving entity, immediately after such merger or consolidation;
- the sale, transfer or other disposition, in one transaction or a series of related transactions, of all or substantially all of our assets; or
- the approval by the stockholders of a plan or proposal for our liquidation or dissolution.

Termination and Change of Control Provisions Under Employment Agreements

As of December 31, 2011, we have employment agreements in place with each of our Named Executive Officers that provide for compensation upon the termination of their employment under certain circumstances, as described below.

Cormack Agreement

The agreement between us, OncoGenex Technologies Inc. and Mr. Cormack, which is referred to as the Cormack Agreement, provides Mr. Cormack with termination benefits in the event Mr. Cormack is terminated without cause or for disability, or if Mr. Cormack resigns for good reason, or Good Reason, which means due to (i) the relocation of the officer's primary work location by more than 40 miles from the current office location; (ii) a material reduction of the officer's base salary or employee benefits; (iii) any material reduction or diminution of the officer's duties, authority or responsibilities; (iv) a fundamental breach by us of the Cormack Agreement; or (v) the failure of any successor to assume expressly in writing our obligations under the Cormack Agreement, in each case, provided that Mr. Cormack has provided us with two months' advance written notice and an opportunity to cure such breach during such two-month period. Any termination that occurs without cause, due to disability or for Good Reason is referred to as an Involuntary Termination.

The Cormack Agreement provides that if an Involuntary Termination occurs, we will be obligated to pay Mr. Cormack a lump sum equal to 18 months of his then-current base salary. In addition, Mr. Cormack will receive continued entitlement under group medical, dental and insurance plans, excluding short- and long-term disability plans and pension plans, to which Mr. Cormack and his family are entitled at Mr. Cormack's termination date, to the extent such benefit plans permit for 18 months or until Mr. Cormack becomes employed elsewhere where comparable benefits are provided, whichever date comes first (this period is referred to as the Cormack Benefit Plan Severance Period). To the extent continuance of a benefit plan, excluding short- and long-term disability plans and pension plans, is not permitted, OncoGenex Technologies Inc. will be obligated to pay Mr. Cormack an amount equal to the sum Mr. Cormack would be required to pay to receive comparable benefits for the Cormack Benefit Plan Severance Period. Notwithstanding the terms of any of our equity compensation plans or any agreement in connection with such plans, if there is an Involuntary Termination, then the time-based vesting restrictions, if any, will immediately lapse on an additional number of shares under all of Mr. Cormack's outstanding compensatory equity awards, which includes any outstanding stock options granted to Mr. Cormack under our equity compensation plans, that would have time-vested if Mr. Cormack had continued his employment for 18 months following his Involuntary Termination.

The Cormack Agreement provides for additional termination benefits if an Involuntary Termination occurs during the period beginning three months before and ending 12 months after a change in control or if such Involuntary Termination is required by the merger agreement, purchase agreement or other instrument relating to such change in control or such Involuntary Termination is made at the express request of the other party or parties to the transaction constituting such change in control, each of which events is referred to as a Change in Control Termination. Upon a Change in Control Termination, we will be obligated to pay Mr. Cormack 24 months of his then-current base salary, plus a sum equal to 12 months of his average monthly bonus earnings, where such average is calculated over the 24-month period immediately preceding Mr. Cormack's termination date and based on Mr. Cormack's bonuses

paid in such 24-month period. In addition, Mr. Cormack will receive continued entitlement under our benefit plans as described above, or an amount equal to the sum Mr. Cormack would be required to pay to receive comparable benefits if such continued entitlement is not permitted as described above, except that the Cormack Benefit Plan Severance Period will be 24 months instead of 18 months. Notwithstanding the terms of any of our equity compensation plans or any agreement in connection with such plans, upon a Change in Control Termination, all vesting restrictions, if any, will immediately lapse on all of Mr. Cormack's compensatory equity awards effective as of his termination date.

All termination benefits in the event of an Involuntary Termination or Change in Control Termination are subject to Mr. Cormack's execution, delivery and non-revocation of a general release of all litigation and other claims against us and our affiliates.

Burris Agreement

Our agreement with Michelle Burris, referred to as the Burris Agreement, provides Ms. Burris with termination benefits in the event of an Involuntary Termination, provided that, in the case of termination for good reason, Ms. Burris has provided us with 30 days' advance written notice and an opportunity to cure such breach during such 30-day period.

The Burris Agreement provides that if an Involuntary Termination occurs, we will be obligated to pay Ms. Burris a lump sum payment equal to 12 months of her then-current base salary. In addition, if Ms. Burris elects to continue her and her dependents' health insurance coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985, or COBRA, we must pay up to 12 months of Ms. Burris' monthly premium under COBRA, provided that our obligation to pay the monthly premium will cease when Ms. Burris becomes eligible to receive substantially equivalent health coverage in connection with new employment. Notwithstanding the terms of any of our equity compensation plans or any agreement in connection with such plans, if there is an Involuntary Termination, then the time-based vesting restrictions, if any, will immediately lapse on an additional number of shares under all of Ms. Burris' not plans, if there is an Involuntary equity awards, which includes outstanding stock options granted to Ms. Burris under our equity compensation plans, that would have time-vested if Ms. Burris had continued in employment for 12 months following her Involuntary Termination.

The Burris Agreement provides for additional termination benefits if an Involuntary Termination occurs during the period beginning three months before and ending 12 months after a change in control or if such Involuntary Termination is required by the merger agreement, purchase agreement or other instrument relating to such change in control, or such Involuntary Termination is made at the express request of the other party or parties to the transaction constituting such change in control, each of which events is referred to as a Change in Control Termination. Upon such a Change in Control Termination, we will be obligated to pay Ms. Burris 15 months of her then-current base salary, plus a sum equal to 12 months of her average monthly bonus earnings, where such average is calculated over the 24-month period immediately preceding Ms. Burris separation from services and based on Ms. Burris bonuses paid in such 24-month period. In addition, our payment of monthly COBRA premiums as described above will be for up to 15 months instead of up to 12 months. Notwithstanding the terms of any of our equity compensation plans or any agreement in connection with such plans, upon a Change in Control Termination, all vesting restrictions, if any, will immediately lapse on all of Ms. Burris compensatory equity effective as of her separation from service.

All termination benefits in the event of an Involuntary Termination or Change in Control Termination are subject to Ms. Burris execution, delivery and non-revocation of a general release of all litigation and other claims against us and our affiliates.

Jacobs Agreement

Our agreement with Cindy Jacobs, referred to as the Jacobs Agreement, provides Dr. Jacobs with termination benefits in the event of an Involuntary Termination, provided that, in the case of termination for good reason, Dr. Jacobs has provided us with 30 days' advance written notice and an opportunity to cure such breach during such 30-day period.

The Jacobs Agreement provides that if an Involuntary Termination occurs, we will be obligated to pay Dr. Jacobs a lump sum payment equal to 12 months of her then-current base salary. In addition, if Dr. Jacobs elects to continue her and her dependents' health insurance coverage under COBRA, we must pay up to 12 months of Dr. Jacobs' monthly premium under COBRA, provided that our obligation to pay the monthly premium will cease when Dr. Jacobs becomes eligible to receive substantially equivalent health coverage in connection with new employment. Notwithstanding the terms of any of our equity compensation plans or any agreement in connection with such plans, if there is an Involuntary Termination, then the time-based vesting restrictions, if any, will immediately lapse on an additional number of shares under all of Dr. Jacobs' outstanding to Dr. Jacobs had continued in employment for 12 months following her Involuntary Termination.

The Jacobs Agreement provides for additional termination benefits if an Involuntary Termination occurs during the period beginning three months before and ending 12 months after a change in control or if such Involuntary Termination is required by the merger agreement, purchase agreement or other instrument relating to such change in control, or such Involuntary Termination is made at the

express request of the other party or parties to the transaction constituting such change in control, each of which events is referred to as a Change in Control Termination. Upon such a Change in Control Termination, we will be obligated to pay Dr. Jacobs 15 months of her then-current base salary, plus a sum equal to 12 months of her average monthly bonus earnings, where such average is calculated over the 24-month period immediately preceding Dr. Jacobs' separation from services and based on Dr. Jacobs' bonuses paid in such 24-month period. In addition, our payment of monthly COBRA premiums as described above will be for up to 15 months instead of up to 12 months. Notwithstanding the terms of any of our equity compensation plans or any agreement in connection with such plans, upon a Change in Control Termination, all vesting restrictions, if any, will immediately lapse on all of Dr. Jacobs' compensatory equity effective as of her separation from service.

All termination benefits in the event of an Involuntary Termination or Change in Control Termination are subject to Dr. Jacobs' execution, delivery and non-revocation of a general release of all litigation and other claims against us and our affiliates.

Lawrence Agreement

The agreement between OncoGenex Technologies Inc. and Mr. Lawrence, or the Lawrence Agreement, provides Mr. Lawrence with termination benefits in the event Mr. Lawrence is terminated without cause, or if Mr. Lawrence resigns for Good Reason. The Lawrence Agreement provides that if an Involuntary Termination occurs, or Mr. Lawrence resigns as a result of a material adverse change, without his consent, in his title, position, job function or compensation, we will be obligated to provide Mr. Lawrence four weeks' notice plus an additional two weeks' notice for each full year of Mr. Lawrence's employment at the date such termination notice is given, which is referred to as the Severance Period, to a maximum of 26 weeks, or pay in lieu of notice in an amount determined by multiplying Mr. Lawrence's average weekly earnings (inclusive of his base salary and bonus) where such average is calculated over the 104-week period immediately preceding the Severance Period) by the number of weeks in the Severance Period. Such severance may be paid to Mr. Lawrence either in a lump sum or by equal weekly, bi-weekly or monthly installments for the duration of the Severance Period, at our sole discretion.

Any payment to Mr. Lawrence shall be deemed to include all required termination and/or severance payments pursuant to the provisions of th*Employment Standards Act* (British Columbia), as amended from time to time, and, to the extent that such insurance plans permit, continued entitlement under all group medical, dental and insurance plans, excluding short- and long-term disability plans and pension plan, to which Mr. Lawrence is entitled at the time of termination of employment. Such continuation of benefit entitlement shall be for a period equal to the Severance Period or until the date Mr. Lawrence is employed where comparable benefits are provided, whichever date comes first. To the extent the continuance of certain benefit plans, excluding short- and long-term disability, is not permitted, we shall pay to Mr. Lawrence, no later than 30 days after his date of termination, an amount equal to ten percent of his weekly base salary in effect immediately prior to the such termination date, which equals his base salary divided by 52, multiplied by the number of weeks in the Severance Period.

The Lawrence Agreement will terminate when Mr. Lawrence retires. Mr. Lawrence may, by providing us with one month's notice, terminate the Lawrence Agreement and his employment with us. In such circumstance, we may request that Mr. Lawrence cease his duties prior to the expiration of such one-month notice period, in which event we will pay Mr. Lawrence an amount equal to the difference between what he would have received had his employment continued for such one-month and the amount actually paid during such one-month. In the event Mr. Lawrence provides such notice to us, his termination date shall mean the last day on which he works for us.

Potential Cost of Termination Payments

In the table below, we have estimated the potential cost to us of the compensation to which each Named Executive Officer would have been entitled if he or she experienced an Involuntary Termination or a Change in Control Termination effective as of December 31, 2011.

| In | voluntary Termination | | | | Involuntary Termination in Connection with a Change in Control | | | |
|-------------------------------|------------------------------|------------------|------------------------------------|------------|---|--------------|--------------------------------|------------|
| Named Executive Officer | Cash Payments (\$) (1) | Benefits (\$) | Equity Compensation (\$) (2) | Total (\$) | Cash Payments (\$) | Benefits (S) | Equity Compensation (\$) | Total (\$) |
| Scott Cormack | 770,365 | 11,612 | 365,875(3) | 1,147,852 | 1,195,313 | 15,482 | 585,001(3) | 1,795,796 |
| Cindy Jacobs | 380,000 | 12,608 | 189,728(4) | 582,336 | 583,125 | 15,760 | 298,311(4) | 897,196 |
| Michelle Burris | 365,000 | 25,643 | 156,581(5) | 547,224 | 456,250 | 32,054 | 321,861(5) | 810,165 |
| Cameron Lawrence | 27,283 | 1,161 | _ | 28,444 | 27,283 | 1,161 | — | 28,444 |

(1) Amounts payable to Mr. Cormack and Mr. Lawrence are denominated in Canadian dollars and have been translated into U.S. dollars based on the December 31, 2011 exchange rate of US\$1.00 = CDN\$1.0170.

(2) The employment agreements for each of Mr. Cormack, Dr. Jacobs, Ms. Burris and Mr. Lawrence state that the time-based vesting restrictions associated with unvested options immediately lapse on any shares of common stock that would have time-vested if they had had continued in employment throughout their respective severance period as defined in their employment agreements. The amounts above represent the stock option expense that would be incurred by us in accordance with the guidance of FASB ASC Topic 718 in relation to options vested immediately upon termination in accordance with the terms of the individual's employment agreement.

(3) Represents stock option expense associated with the accelerated vesting of 25,000 options at an exercise price of \$3.00 per share, 12,500 options with an exercise price of \$22.28 per share, and 30,000 options with and exercise price of \$15.97 per share.

(4) Represents stock option expense associated with the accelerated vesting of 17,500 options at an exercise price of \$3.00 per share, 6,000 options at an exercise price of \$22.28 per share, and 15,000 options with an exercise price of \$15.97 per share.

(5) Represents stock option expense associated with the accelerated vesting of 26,979 options at an exercise price of \$16.83 per share.

OTHER MATTERS

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires that our executive officers and directors, and persons who own more than 10% of a registered class of our equity securities, file reports of ownership and changes in ownership with the SEC. Executive officers, directors and greater than 10% stockholders are required by SEC rules to furnish us with copies of all forms they file. Based solely on our review of the copies of such forms we received and written representations from certain reporting persons, we believe that all Section 16(a) filing requirements applicable to our executive officers, directors and 10% stockholders were complied with during fiscal year 2011, except Messrs. Mattingly, Clendeninn, Smith and Goldstein and Ms. Parker were late in filing Forms 4 during fiscal year 2011 for stock options received in May 2011 as described above under the heading "Director Compensation Paid for 2011."

Delivery of Documents to Stockholders Sharing an Address

We have adopted a process for delivering documents to stockholders that has been approved by the SEC called "householding." Under this process, stockholders of record who have the same address and last name will receive only one copy of our Annual Report and this Proxy Statement, unless we or one of our mailing agents has received contrary instructions from any stockholder at that address. We will continue to mail a proxy card to each stockholder of record.

If you prefer to receive multiple copies of the Annual Report and this Proxy Statement at the same address, additional copies will be provided to you promptly upon either written or oral request. If you are a stockholder of record, you may contact us by writing to OncoGenex Pharmaceuticals, Inc., Attention: Secretary, 1522—217th Place S.E., Bothell, Washington 98021 or calling (425) 686-1500. Eligible stockholders of record receiving multiple copies of our Annual Report and this Proxy Statement who wish to only receive one copy in the future, can request householding by contacting us in the same manner.

If you are a beneficial owner holding shares through your broker, bank or other nominee, you may request additional copies of the Annual Report or this Proxy Statement, or you may request householding, by notifying your broker, bank or other nominee.

Stockholder Proposals to Be Presented at 2013 Annual Meeting

Proposals of stockholders that are intended for inclusion in our proxy statement relating to the 2013 annual meeting of stockholders must be received by us at our offices at 1522—217th Place S.E., Bothell, Washington 98021, no later than December 27, 2012. If the date of our 2013 annual meeting is changed by more than 30 calendar days from the anniversary date of the 2012 Annual Meeting, then the deadline for submitting proposals is a reasonable time before we begin to print and mail proxy materials. Such proposals must satisfy the conditions established by the SEC, including, but not limited to, Rule 14a-8 promulgated under the Exchange Act, in order to be included in our proxy statement for the 2013 meeting.

Stockholder proposals, other than those in respect of nominations for the Board of Directors, that are not intended to be included in our proxy materials for our 2013 annual meeting of stockholders but that are intended to be presented by the stockholder from the floor must be received at our offices at 1522—217th Place S.E., Bothell, Washington 98021 no later than March 12, 2013 in order to be considered to be timely submitted. If the date of our 2013 annual meeting of stockholders is changed by more than 30 calendar days from the anniversary date of our 2012 Annual Meeting, then the deadline is a reasonable time before we send our proxy materials for the 2013 meeting.

If a stockholder wishes to nominate a person for election to the Board of Directors, such stockholder must follow the procedures set forth under the section entitled "Board of Directors – Director Nomination Process – Stockholder Nominations."

Transaction of Other Business

At the date of this Proxy Statement, the only business that the Board of Directors intends to present or knows that others will present at the Annual Meeting is as set forth above. If any other matter or matters are properly brought before the Annual Meeting, or any adjournment or postponement of the Annual Meeting, it is the intention of the persons named in the accompanying form of proxy to vote the proxy on such matters in accordance with their best judgment.

By Order of the Board of Directors, Michelle Burris Secretary Bothell, Washington

April 26, 2012

ONCOGENEX PHARMACEUTICALS, INC. 1522-217TH PLACE SE, SUITE 100 BOTHELL, WA 98021

VOTE BY INTERNET - www.proxyvote.com Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11-59 PM. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS

ELECTRONIC DELVERY OF FUTURE PROXY MATERIALS If you would like to reduce the costs incurred by our company in maling proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

VOTE BY PHONE - 1-800-690-6903 Use any touch-tome telephone to transmit your voting instructions up until 11:59 P.M. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

VOIE of MARL Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, ob Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

| _ | | | | | | | | S PORTION | | |
|------|--|------------|---|-------------|-------------|-----------|---|--|---|-----------------------------|
| | | | THIS PRO | OXY CA | RD IS VA | LID ON | LY WHEN SIGNED AND DATED. | ND RETURN | THIS PO | RTION ONI |
| NCO | GENEX PHARMACEUTICA | LS, INC. | 2 | | Withhold | | To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the | | | |
| The | Board of Directors rec R the following: | ommend | is you vote | All | All | Except | number(s) of the nominee(s) on the line below. | | _ | |
| 1. | Election of Directors | | | 0 | 0 | O | | | | |
| | Nominees: | | | | | | | | | |
| | 01) Scott Cormack 02) Neil Clendeninn 03) Jack Goldstein | | Martin Mattingly Stewart Parker David Smith | | | | | | | |
| The | Board of Directors reco | mmends | you vote FOR the fo | llowing | proposal | | | For | Against | Abstain |
| 2. | To ratify the appointment | t of Ernst | t & Young LLP as our in | depende | nt register | ed public | accounting firm for the fiscal year ending December 31, 2012. | O | Ο | D |
| | | | | | | | | | | |
| che | cumulate votes as to a partice of box to the right then ind an to such nominee(s) on th cunless you want to exercis | icate the | name(s) and the numb side of this card. Plea | er of vote: | s to be | 0 | NOTE: Please sign exactly as your name or names appear on the held jointly, each holder should sign. Volten signing as execut trustee or guardian, please give full title as such. If the sign sign full corporate name by duly authorized officer, giving ful partnership, please sign in partnership name by authorized p | or, adminis er is a corp I title as su | trator, att poration, ch. If sign | orney, please er is a |
| Plea | ase indicate if you plan to | attend th | nis meeting. | 0 | Ο | | PLEASE COMPLETE, SIGN, DATE AND RETURN THE PROXY CA | RD PROM | TLY USIN | G THE |
| | | | | Yes | No | | NOTE: In their discretion, the proxies may transact such other before the meeting or any adjournment thereof. | business as | properly | comes |
| | | | | | | | |] | | |
| Sice | nature [PLEASE SIGN WITH | N BOX1 | Date | | | | Signature (Joint Owners) Date | - | | |

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting: The Notice and Proxy Statement and Form 10-K are available at www.proxyvote.com.

| | NCOGENEX PHARM Annual Meeting o May 31, roxy is solicited by | f Stockholders | |
|---|--|---|--|
| individually, the attorney, agent of ONCOGENEX PHARMACEUT Annual Meeting of Stockholders t Seattle, Washington, on May 31, 2 | and proxy of the undersig ICALS, INC. which the u o be held at the offices of F 2012 at 9:00 a.m. local tin | t Cormack and Michelle Burris, a ined, with full power of substitution ndersigned is entitled to represen enwick & West LLP at 1191 Second A e, and at any and all adjournments bting on the matters listed on the r | n, to vote all stock t and vote at the Avenue, 10th Floor, or postponements |
| This proxy, when properly ex | ecuted, will be voted in occordance wit | the manner directed herein. If r h the Board of Directors' recom # OF | no such direction |
| This proxy, when properly ex is made, this proxy will be ve Cumulative voting | ecuted, will be voted in oted in accordance wit NAME OF CANDIDATE | the manner directed herein. If r h the Board of Directors' recom # OF <u>VOTES CAST</u> | no such direction |
| This proxy, when properly exis made, this proxy will be vo Cumulative voting | ecuted, will be voted in oted in accordance wit NAME OF CANDIDATE | the manner directed herein. If r h the Board of Directors' recom # OF <u>VOTES CAST</u> | no such direction |
| This proxy, when properly exis made, this proxy will be vo Cumulative voting | ecuted, will be voted in oted in accordance wit NAME OF CANDIDATE | the manner directed herein. If r h the Board of Directors' recom # OF <u>VOTES CAST</u> | no such direction |
| This proxy, when properly ex is made, this proxy will be vo Cumulative voting | ecuted, will be voted in oted in accordance wit NAME OF CANDIDATE | the manner directed herein. If r h the Board of Directors' recom # OF <u>VOTES CAST</u> | no such direction |
| This proxy, when properly ex is made, this proxy will be vo Cumulative voting | ecuted, will be voted in oted in accordance wit NAME OF CANDIDATE | the manner directed herein. If r h the Board of Directors' recom # OF <u>VOTES CAST</u> | no such direction |