

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

**SCHEDULE 14A  
(Rule 14a-101)**

**SCHEDULE 14A INFORMATION**

**Proxy Statement Pursuant to Section 14(a) of the  
Securities Exchange Act of 1934  
(Amendment No. )**

Filed by the Registrant

Filed by a Party other than the Registrant

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 §240.14a-12

**ADVENTRX 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)(4) 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):  
\_\_\_\_\_
  - 4) Proposed maximum aggregate value of transaction:  
\_\_\_\_\_
  - 5) Total fee paid:  
\_\_\_\_\_
- 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:  
\_\_\_\_\_

**ADVENTRX PHARMACEUTICALS, INC.**

12390 El Camino Real, Suite 150  
San Diego, CA 92130

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS  
To Be Held June 20, 2012**

The 2012 Annual Meeting of Stockholders of ADVENTRX Pharmaceuticals, Inc. will be held on June 20, 2012 at 9:00 a.m. Pacific time at the offices of Sheppard, Mullin, Richter & Hampton, LLP, 12275 El Camino Real, Suite 200, San Diego, California 92130. The meeting is being held for the following purposes, as more fully described in the accompanying proxy statement:

1. To elect four directors to hold office until the next annual meeting of stockholders and until their successors are elected and qualified or until their earlier resignation or removal;
2. To ratify the appointment of PricewaterhouseCoopers 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 meeting and any adjournment or postponement thereof.

Only stockholders of record at the close of business on April 23, 2012 will be entitled to notice of, and to vote at, the meeting and any adjournment or postponement thereof. A list of stockholders entitled to vote at the meeting will be available for inspection by any stockholder for any purpose relating to the meeting during ordinary business hours at our corporate offices located at 12390 El Camino Real, Suite 150, San Diego, California 92130 for ten days prior to the meeting, and will also be available for inspection at the meeting. To obtain directions to the location of the meeting, please contact us at (858) 552-0866.

*Your vote is important.* Whether or not you plan to attend the meeting, and no matter how many shares you own, please vote as promptly as possible. This will help to ensure the presence of a quorum at the meeting and save us additional proxy solicitation costs. You may vote by proxy via a toll-free telephone number or the Internet by following the instructions on your proxy card, or you may sign, date and return your proxy card in the enclosed envelope, which does not require postage if mailed in the United States. Even if you have voted by proxy, you may still vote in person if you attend the meeting. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

All stockholders are cordially invited to attend the meeting.

By Order of the Board of Directors,



Brian M. Culley  
*Chief Executive Officer*

San Diego, California  
April 27, 2012

**Important Notice Regarding the Availability of Proxy Materials for the Stockholders' Meeting To Be Held on June 20, 2012.** This notice of meeting, the proxy statement for the meeting and our annual report for the fiscal year ended December 31, 2011 are available at <https://materials.proxyvote.com/00764X>

**TABLE OF CONTENTS**

	<u>Page</u>
<a href="#">GENERAL INFORMATION ABOUT THE MEETING</a>	1
<a href="#">BOARD OF DIRECTORS</a>	6
<a href="#">NOMINEES FOR ELECTION TO THE BOARD</a>	6
<a href="#">CORPORATE GOVERNANCE</a>	8
<a href="#">DIRECTOR NOMINATIONS</a>	13
<a href="#">COMMUNICATIONS WITH DIRECTORS</a>	15
<a href="#">EXECUTIVE OFFICERS</a>	16
<a href="#">SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT</a>	18
<a href="#">CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS</a>	21
<a href="#">SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE</a>	21
<a href="#">EQUITY COMPENSATION PLAN INFORMATION</a>	22
<a href="#">EXECUTIVE OFFICER COMPENSATION</a>	23
<a href="#">DIRECTOR COMPENSATION</a>	32
<a href="#">AUDIT COMMITTEE REPORT</a>	36
<a href="#">PRINCIPAL ACCOUNTANT FEES AND SERVICES</a>	37
<a href="#">PROPOSAL 1 — ELECTION OF DIRECTORS</a>	39
<a href="#">PROPOSAL 2 — RATIFICATION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM</a>	39
<a href="#">OTHER MATTERS</a>	40
<a href="#">STOCKHOLDER PROPOSALS FOR 2013 ANNUAL MEETING</a>	40

**ADVENTRX Pharmaceuticals, Inc.**  
12390 El Camino Real, Suite 150  
San Diego, CA 92130  
(858) 552-0866

**PROXY STATEMENT**

**2012 ANNUAL MEETING OF STOCKHOLDERS  
To Be Held On June 20, 2012**

**GENERAL INFORMATION ABOUT THE MEETING**

ADVENTRX Pharmaceuticals, Inc., a Delaware corporation (“ADVENTRX,” “we,” or “our company”), is furnishing proxy materials, including this proxy statement, to you or making them available via the Internet in connection with the solicitation of proxies by our board of directors for use at our 2012 Annual Meeting of Stockholders to be held on June 20, 2012, at 9:00 a.m. Pacific time at the offices of Sheppard, Mullin, Richter & Hampton, LLP, 12275 El Camino Real, Suite 200, San Diego, California 92130 (the “Annual Meeting”), and at any adjournment or postponement thereof.

This proxy statement, the attached notice of the Annual Meeting, a proxy card and our annual report on Form 10-K for the fiscal year ended December 31, 2011 (collectively, the “proxy materials”) are first being mailed to stockholders, or made available on the Internet, on or about April 27, 2012.

**Notice of Internet Availability of Proxy Materials**

All stockholders have the ability to access the proxy materials on the website referred to in the attached notice of the Annual Meeting. Pursuant to rules adopted by the U.S. Securities and Exchange Commission (the “SEC”), we have elected to send a Notice of Internet Availability of Proxy Materials (the “Notice”) to those stockholders whose shares are held in the name of a broker, bank or other nominee, instead of sending them printed copies of the proxy materials. The Notice provides instructions on how to access the proxy materials via the Internet and how to request a printed set of the proxy materials at no charge. In addition, stockholders can elect to receive future proxy materials electronically by email or in printed form by mail, and any such election will remain in effect until terminated by the stockholder. We encourage all stockholders to take advantage of the availability of the proxy materials on the Internet to help reduce the cost and environmental impact of our annual meetings.

**Purpose of the Annual Meeting**

The Annual Meeting is being held for the following purposes:

1. To elect four directors to hold office until the next annual meeting of stockholders and until their successors are elected and qualified or until their earlier resignation or removal;
2. To ratify the appointment of PricewaterhouseCoopers 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 meeting and any adjournment or postponement thereof.

**Record Date; Shares Outstanding and Entitled to Vote**

Our board of directors has fixed April 23, 2012 as the record date for the determination of holders of our common stock entitled to notice of, and to vote at, the Annual Meeting and any adjournment or postponement

---

[Table of Contents](#)

thereof. At the close of business on the record date, we had 47,715,709 shares of common stock issued and outstanding. Each stockholder of record as of the record date is entitled to one vote at the Annual Meeting for each share of common stock held by such stockholder on the record date. Stockholders do not have cumulative voting rights. No other shares of our capital stock are entitled to notice of, or to vote at, the Annual Meeting.

**How to Vote Your Shares**

**If you hold your shares in your own name**, there are four ways to vote:

- *By Mail.* You may vote by proxy by marking the enclosed proxy card, dating and signing it, and returning it in the postage-paid envelope provided.
- *Via the Internet.* You may vote by proxy via the Internet by following the instructions provided in the proxy card.
- *By Telephone.* You may vote by proxy by calling the toll-free number found on the proxy card.
- *In Person.* You may vote in person at the Annual Meeting. We will give you a ballot when you arrive.

By casting your vote by proxy, you are authorizing the holders of the proxies solicited by this proxy statement to vote your shares in accordance with your instructions.

**If your shares are held in the name of a broker, bank or other nominee**, you will receive instructions from the holder of record that you must follow for your shares to be voted. The availability of telephonic or Internet voting will depend on the broker's, bank's or other nominee's voting process. Please check with your broker, bank or other nominee and follow the voting procedure your broker, bank or other nominee provides to vote your shares. Also, please note that if the holder of record of your shares is a broker, bank or other nominee and you wish to vote in person at the Annual Meeting, you must request a legal proxy from your broker, bank or other nominee that holds your shares and present that proxy and proof of identification at the Annual Meeting.

YOUR VOTE IS VERY IMPORTANT. You should submit your vote by proxy even if you plan to attend the Annual Meeting and vote in person.

**How to Change Your Vote**

**If you hold your shares in your own name**, you may revoke your proxy and change your vote at any time before your proxy is exercised by:

- Delivering to our corporate secretary a written notice of revocation, dated later than the proxy you wish to revoke, before voting begins at the Annual Meeting;
- Delivering to our corporate secretary a duly executed proxy bearing a date later than the proxy you wish to revoke, before voting begins at the Annual Meeting;
- Voting again on a later date via the Internet or by telephone before 11:59 p.m. Eastern time on June 19, 2012 (in which case only your latest Internet or telephone proxy submitted will be counted); or
- Attending the Annual Meeting and voting in person (your attendance at the Annual Meeting, in and of itself, will not revoke your proxy).

Any written notice of revocation or later dated proxy should be delivered by the close of business on June 19, 2012 to:

ADVENTRX Pharmaceuticals, Inc.  
12390 El Camino Real, Suite 150  
San Diego, CA 92130  
Attention: Corporate Secretary

Alternatively, you may hand deliver a written revocation notice or a later dated proxy to our corporate secretary at the Annual Meeting before voting begins.

---

## [Table of Contents](#)

**If your shares are held in the name of a broker, bank or other nominee**, you must follow the instructions provided by the broker, bank or other nominee if you wish to change your vote.

### **Proxies**

If you provide specific voting instructions on your proxy card or when voting via the Internet or by telephone, your shares will be voted at the Annual Meeting in accordance with your instructions. If you hold shares in your name and either (a) indicate when voting via the Internet or by telephone that you wish to vote as recommended by our board of directors or (b) sign and return a proxy card without marking specific voting instructions, your shares will be voted:

- “For” each of the nominees to our board of directors listed on the enclosed proxy card and in this proxy statement, and
- “For” the ratification of the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2012.

At this time, we are unaware of any matters, other than those set forth above, that may properly come before the Annual Meeting. If any other matters properly come before the Annual Meeting or any adjournment or postponement thereof, the holders of proxies solicited by this proxy statement, or their duly constituted substitutes acting at the Annual Meeting and any adjournment or postponement thereof, will be deemed authorized to vote or otherwise act on such matters in accordance with their judgment.

The holders of proxies solicited by this proxy statement, or their duly constituted substitutes acting at the Annual Meeting and any adjournment or postponement thereof, may propose and vote for one or more adjournments or postponements of the Annual Meeting, including adjournments or postponements, to permit further solicitations of proxies. Proxies solicited may be voted only at the Annual Meeting and any adjournment or postponement thereof and will not be used for any other meeting of our stockholders.

### **Broker Non-Votes**

A “broker non-vote” occurs when a nominee (typically a broker or bank) holding shares for a beneficial owner (typically referred to as shares being held in “street name”) submits a proxy for the Annual Meeting, but does not vote on a particular proposal because the nominee has not received voting instructions from the beneficial owner and does not have discretionary authority to vote the shares with respect to that proposal. Shares that constitute broker non-votes will be counted as present at the Annual Meeting for the purpose of establishing a quorum, but will not be counted as having voting power to vote on the proposal in question. Brokers generally have discretionary authority to vote on routine matters. The ratification of the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm is considered a routine matter. The election of directors is considered a non-routine matter and brokers do not have discretionary authority to vote on this proposal.

### **Quorum and Required Votes**

A majority of the aggregate number of shares of our common stock issued and outstanding and entitled to vote at the Annual Meeting must be present in person or by proxy in order for there to be a quorum at the Annual Meeting and for any action to be taken at the Annual Meeting. If you submit a properly executed proxy by mail, by telephone or via the Internet, regardless of whether you abstain from voting on one or more matters, your shares will be counted as present at the Annual Meeting for the purpose of determining a quorum.

*Proposal 1:* If a quorum exists at the Annual Meeting, the affirmative vote of the holders of a majority of the shares of common stock having voting power present in person or represented by proxy at the Annual Meeting is required for the election of each director nominee. This majority voting standard means that a director nominee will be elected if the number of shares voted “For” that director nominee exceeds the number of shares

---

## [Table of Contents](#)

voted “Against” and that “Abstain” from voting with respect to that director nominee. Accordingly, an abstention will have the same effect as a negative vote. Broker non-votes will not be counted and will have no effect on the outcome of this proposal. Pursuant to our current corporate governance guidelines, each of our incumbent directors tendered his resignation in advance of being nominated for election at the Annual Meeting, with the effectiveness of such resignation subject to and contingent upon (a) the director’s failure to receive a sufficient number of votes for re-election at the Annual Meeting and (b) our board of directors’ acceptance of the resignation. Accordingly, the continued service on our board of directors by any incumbent director who is not elected because he does not receive the requisite affirmative votes at the Annual Meeting will be subject to our board of directors’ determination as to whether to accept or reject his resignation.

*Proposal 2:* If a quorum exists at the Annual Meeting, the affirmative vote of the holders of a majority of the shares of common stock having voting power present in person or represented by proxy at the Annual Meeting is required to ratify the appointment of PricewaterhouseCoopers LLP. An abstention will have the same effect as a negative vote. A broker or other nominee will generally have discretionary authority to vote on this proposal because it is considered a routine matter, and therefore we do not expect broker non-votes with respect to this proposal.

### **Voting Agreement**

In connection with our acquisition of SynthRx, Inc., we and each of the former principal stockholders of SynthRx entered into a stockholders’ voting and transfer restriction agreement (the “Voting Agreement”), pursuant to which each stockholder party agreed, with respect to every action or approval by written consent of our stockholders, to vote all shares of our common stock then beneficially owned by that stockholder that were issued pursuant to the merger agreement with SynthRx (the “Subject Shares”) in such manner as we direct. In addition, each stockholder party granted an irrevocable proxy to us for the term of the Voting Agreement, which authorizes our executive officers to vote, or instruct nominees or record holders to vote, as applicable, all Subject Shares in such manner as we direct. Notwithstanding the foregoing, until the earlier of: (i) U.S. Food and Drug Administration (“FDA”) approval of a new drug application covering the use of purified poloxamer 188 for the treatment of sickle cell crisis in children, which is the third milestone under our merger agreement with SynthRx, and (ii) April 8, 2015, which is the four year anniversary of the closing of our acquisition of SynthRx, each stockholder party is permitted to vote the Subject Shares in such stockholder’s sole discretion solely with respect to a change of control that involves the transfer of SynthRx’s assets to a third party and in which at least 80% of the consideration received by our company (or our stockholders) is non-contingent and paid in cash. The Voting Agreement terminates upon the transfer, in accordance with that agreement, of all the Subject Shares by the stockholder parties and their affiliates to non-affiliates.

As of the record date for the Annual Meeting, 2,509,764 outstanding shares of our common stock, which is approximately 5.3% of the shares entitled to vote at the Annual Meeting, are Subject Shares. While the Voting Agreement is in effect, it provides our board of directors with effective voting control over the Subject Shares. Because our board of directors has recommended a vote “For” each of the proposals described in this proxy statement, pursuant to the Voting Agreement, all 2,509,764 of the Subject Shares will be voted “For” each of the proposals described in this proxy statement.

### **Solicitation of Proxies**

We are soliciting proxies from our stockholders on behalf of our board of directors and will pay for all costs incurred in connection with the solicitation. In addition to solicitation by mail, our directors, officers and employees may solicit proxies from our stockholders in person or by telephone, facsimile, e-mail or other electronic methods without additional compensation other than reimbursement for their actual expenses.

We may retain a proxy solicitation firm to assist us in the solicitation of proxies for the Annual Meeting. We would pay such firm, if any, customary fees expected to be no more than \$15,000 and would reimburse the firm for its reasonable out-of-pocket expenses.

---

[Table of Contents](#)

Arrangements also will be made with brokerage firms and other custodians, nominees and fiduciaries for the forwarding of solicitation material to the beneficial owners of stock held of record by such persons, and we will reimburse such custodians, nominees and fiduciaries for their reasonable out-of-pocket expenses in connection therewith.

**If You Receive More Than One Proxy Card**

If you receive more than one proxy card, it means you hold shares that are registered in more than one account. To ensure that all of your shares are voted, please mark your votes and date, sign and return each proxy card, or vote your proxy via Internet or by telephone as instructed on each proxy card.

**Householding Information**

The SEC has adopted rules that permit brokers, banks and other nominees to satisfy the delivery requirements for proxy statements and annual reports with respect to two or more stockholders sharing the same address by delivering a single copy of such document addressed to those stockholders. This process, which is commonly referred to as “householding,” potentially means extra convenience for stockholders and cost savings for companies.

This year, a number of brokers, banks and other nominees with account holders who are our stockholders may be “householding” the proxy materials. This means that only one copy of this proxy statement may have been sent to multiple stockholders in a household. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate proxy statement and annual report from the other stockholder(s) sharing your address, please (i) notify your broker, bank or other nominee, (ii) direct your written request to ADVENTRX Pharmaceuticals, Inc., 12390 El Camino Real, Suite 150, San Diego, California 92130, Attn: Corporate Secretary or (iii) contact us by phone at (858) 552-0866. We undertake to deliver promptly, upon any such oral or written request, a separate copy of the proxy materials to a stockholder at a shared address to which a single copy of these documents was delivered. Stockholders who currently receive multiple copies of the proxy materials at their address and would like to request householding of their communications should notify their broker, bank or other nominee, or contact our corporate secretary at the above address or phone number.

If you have any questions about voting your shares, please contact us at (858) 552-0866.



## BOARD OF DIRECTORS

The current members of our board of directors, their ages as of April 13, 2012, the positions they hold and the year in which they commenced service on our board, are as follows:

<u>Name</u>	<u>Age</u>	<u>Position/Committee Membership*</u>	<u>Director Since</u>
Brian M. Culley	40	Chief Executive Officer and Director	2011
Jack Lief	66	Chair of the Board, Audit Committee, Compensation Committee (chair), and Nominating & Governance Committee	2006
David A. Ramsay	47	Audit Committee (chair), Compensation Committee, and Nominating & Governance Committee	2011
Lewis J. Shuster	56	Audit Committee, Compensation Committee, and Nominating & Governance Committee (chair)	2011

\* Mr. Culley, Mr. Ramsay and Mr. Shuster were appointed to our board of directors in December 2011, June 2011 and April 2011, respectively. Neither Mr. Ramsay nor Mr. Shuster served on any board committees until June 2011.

Our certificate of incorporation and bylaws provide that each director elected or appointed to our board of directors shall hold office until the next annual meeting of stockholders following such election or appointment and until the director's successor is elected and qualified, or until the director's earlier resignation or removal. Our bylaws provide that vacancies on our board of directors, including those resulting from an increase in the authorized number of directors, may be filled by a majority of the remaining directors, even if less than a quorum, or by a sole remaining director. Any director appointed as a result of a vacancy holds office until the next annual meeting of stockholders and until a successor is elected and qualified. Pursuant to our bylaws, the authorized number of directors may be not less than three nor more than nine, with the exact number to be fixed by resolutions adopted from time to time by our board of directors. Our board of directors has set the current number of authorized directors at four. Accordingly, four directors have been nominated by our board of directors for election at the Annual Meeting.

## NOMINEES FOR ELECTION TO THE BOARD

Each of our current directors has been nominated for re-election to our board of directors. The paragraphs below provide information about each director that includes each director's principal occupation and business experience during at least the past five years, the names of other publicly held companies at which he currently serves as a director or has served as a director during the past five years, information regarding involvement in certain legal or administrative proceedings during the past ten years, if applicable, and the experience, qualifications, attributes or skills that led the nominating and governance committee and our board of directors to determine that the person should serve on our board of directors. There are no family relationships among any of our directors and executive officers.

*Brian M. Culley, M.A., M.B.A.* Mr. Culley joined our company in December 2004 and currently serves as our chief executive officer, a position he has held since February 2010, and, since December 2011, also serves as a director. He has served as our principal executive officer since February 2009. From January 2007 to February 2010, he served as our chief business officer and senior vice president. From February 2006 to January 2007, Mr. Culley served as our senior vice president, business development, and, from December 2004 to February 2006, he served as our vice president, business development. From 2002 until 2004, Mr. Culley managed all

---

## [Table of Contents](#)

strategic collaborations and licensing agreements for iTherx, Inc. (formerly, Immusol, Inc.) in San Diego, where his most recent title was director of business development and marketing. From 1999 until 2000, he was a licensing and marketing associate at the University of California, San Diego, department of technology transfer & intellectual property services and from 1996 to 1999, he was a research associate for Neurocrine Biosciences, Inc., where he performed drug discovery research. Mr. Culley has over 18 years of experience in the life science industry, including deal structure and negotiation, licensing, due diligence, market and competitive research, and venture funding. He received a B.S. in biology from Boston College, a masters in biochemistry from the University of California, Santa Barbara and an M.B.A. from The Johnson School of Business at Cornell University with an emphasis on private equity and entrepreneurship. Mr. Culley's extensive experience with our company and our board of directors' belief that our chief executive officer should serve on the board of directors, as well as Mr. Culley's substantial business development experience, leadership skills and scientific background, led our board of directors to conclude that Mr. Culley should serve as a member of our board of directors.

*Jack Lief.* Mr. Lief has served as a director since September 2006 and as chair of our board of directors since May 2007. Mr. Lief is a co-founder and, since April 1997, has served as president, chief executive officer and a director of Arena Pharmaceuticals, Inc., a publicly held clinical-stage biopharmaceutical company focused on discovering, developing and commercializing oral drugs that target G protein-coupled receptors in four major therapeutic areas: cardiovascular, central nervous system, inflammatory and metabolic diseases. He also has served as Arena's chairman of the board since October 2007. From 1995 to April 1997, Mr. Lief served as an advisor and consultant to numerous biopharmaceutical organizations. From 1989 to 1994, Mr. Lief served as senior vice president, corporate development and secretary of Cephalon, Inc., a biopharmaceutical company. From 1983 to 1989, Mr. Lief served as director of business development and strategic planning for Alpha Therapeutic Corporation, a manufacturer of biological products. Mr. Lief joined Abbott Laboratories, a pharmaceutical company, in 1972, where he served until 1983, most recently as the head of international marketing research. Mr. Lief is an executive board member of BIOCOM, a life science industry association representing approximately 550 member companies in Southern California, and he was the chairman of the board of directors of BIOCOM from March 2005 to March 2006. Mr. Lief holds a B.A. from Rutgers University and an M.S. in psychology (experimental and neurobiology) from Lehigh University. Mr. Lief's extensive and current executive leadership and management experience in biopharmaceutical companies brings to our board of directors the perspective of a leader managing similar drug development, regulatory, commercialization and financing issues as our company. In addition, his over 40 years of experience in the life science industry provides unique insight to our board.

*David A. Ramsay.* Mr. Ramsay has served as a director since June 2011. He was recommended to our nominating and governance committee by one of our non-employee directors and our nominating and governance committee recommended his appointment to our board of directors. Mr. Ramsay currently is vice president, corporate development of Halozyne Therapeutics, Inc., a publicly held biopharmaceutical company developing and commercializing products targeting the extracellular matrix for the endocrinology, oncology, dermatology and drug delivery markets, a position he has held since May 2009. From 2003 to May 2009, he served as Halozyne's vice president, chief financial officer. From 2000 to 2003, Mr. Ramsay was vice president, chief financial officer of Lathian Systems, Inc., a provider of technology-based sales solutions for the life science industry. From 1998 to 2000, he was with Valeant Pharmaceuticals International, Inc. (formerly ICN Pharmaceuticals, Inc.), a multinational specialty pharmaceutical company, where he served as vice president, treasurer and director, corporate finance. Mr. Ramsay began his career at Deloitte & Touche, where he obtained his CPA license. Mr. Ramsay holds a B.S. in business administration from the University of California, Berkeley and a M.B.A. with a dual major in finance and strategic management from The Wharton School at the University of Pennsylvania. Mr. Ramsay's significant experience as chief financial officer of life science companies, particularly his experiences at Halozyne during its successful development and its commercialization of its first products, and at a large audit and financial advisory firm, provide our board of directors with valuable financial and accounting perspectives and skills.

---

## [Table of Contents](#)

*Lewis J. Shuster.* Mr. Shuster joined our board of directors in April 2011 immediately following our acquisition of SynthRx, Inc. In 2002, Mr. Shuster founded Shuster Capital, a strategic and operating advisor to and angel investor in life science companies, and has served as its chief executive officer since that time. From June 2003 to November 2007, Mr. Shuster served as chief executive officer of Kemia, Inc., a drug discovery and development company. From February 2000 to December 2001, Mr. Shuster held various operating executive positions at Invitrogen Corporation, a biotechnology company that merged with Applied Biosystems Inc. and became Life Technologies Corporation. Between 1994 and 1999, Mr. Shuster served as chief financial officer and executive vice president corporate development of Pharmacopeia, Inc., a drug discovery product and service company, and also as president and chief operating officer of Pharmacopeia Labs, a division of Pharmacopeia, Inc. Mr. Shuster joined Human Genome Sciences, Inc. as its first employee in September 1992 and served as its executive vice president, operations and finance until 1994. Mr. Shuster currently serves as a member of the board of directors of Complete Genomics, Inc., a life science company that has developed and commercialized a DNA sequencing platform, and Response Biomedical Corporation, a medical device company engaged in the research, development, commercialization, and distribution of diagnostic technologies for the medical point of care and on-site environmental testing markets, and, from September 2009 to February 2010, served as a director of Sorrento Therapeutics, Inc., a biopharmaceutical company. Mr. Shuster received a B.A. in economics from Swarthmore College and an M.B.A. from Stanford University. Mr. Shuster's extensive executive background in strategic planning and managing rapid operations growth for multiple public and private life science companies provide our board of directors with expertise in evaluating and managing the operational and financial challenges and opportunities we may face as we grow our company.

## CORPORATE GOVERNANCE

### Director Independence

Our board of directors has determined that each of Mr. Lief, Mr. Ramsay and Mr. Shuster, is an "independent director" as such term is defined in Section 803A(2) of the NYSE Amex LLC Company Guide.

### Board Committees

Our board of directors currently has a standing audit committee, compensation committee and nominating and governance committee. During 2011, our board of directors also had a special committee and a pricing committee, but these committees had limited terms and automatically dissolved in June 2011 and December 2011, respectively.

*Audit Committee.* The audit committee currently consists of Mr. Ramsay (chair), Mr. Lief and Mr. Shuster. Mr. Ramsay and Mr. Shuster were each appointed to the audit committee in June 2011. Mr. Lief served as chair of the audit committee until June 2011. Our board of directors has determined that each member of the audit committee is an independent director under Section 803A(2) of the NYSE Amex LLC Company Guide and meets the applicable additional eligibility standards for audit committee service under Section 803B(2) of the NYSE Amex LLC Company Guide. In addition, our board of directors has determined that Mr. Ramsay qualifies as an "audit committee financial expert" as defined in Item 407(d)(5) of Regulation S-K under the Securities Exchange Act of 1934, as amended. The purpose of the audit committee is to oversee our accounting and financial reporting processes and audits of our financial statements and the effectiveness of our internal control over financial reporting. The responsibilities of the audit committee include appointing and providing for the compensation of an independent registered public accounting firm to conduct an annual audit of our financial statements, overseeing the work and evaluating the performance of the independent auditor, reviewing and evaluating our accounting principles and practices, approving all professional services to be provided to us by our independent registered public accounting firm, reviewing and overseeing any related party transactions, overseeing implementation and enforcement of our insider trading policy and reviewing and evaluating any significant financial risk exposures facing our company and the steps our management has taken to control and monitor such exposures. The audit committee is governed by a written charter approved by our board of directors.

---

## Table of Contents

*Compensation Committee.* The compensation committee currently consists of Mr. Lief (chair), Mr. Ramsay and Mr. Shuster. Mr. Ramsay and Mr. Shuster were each appointed to the compensation committee in June 2011. Our board of directors has determined that each member of the compensation committee is an independent director under Section 803A(2) of the NYSE Amex LLC Company Guide. The compensation committee reviews, approves and administers all compensation arrangements for our executive officers, administers our equity-based compensation plans, establishes and reviews general policies relating to the compensation and benefits of our executive officers and other personnel, evaluates the relationship between executive officer compensation policies and practices and corporate risk management to confirm those policies and practices do not incentivize excessive risk-taking, and evaluates and makes recommendations to our board of directors regarding the compensation of our non-employee directors. The compensation committee may, in its sole discretion, select, engage, compensate and terminate compensation consultants, legal counsel and such other advisors as it deems necessary and advisable to assist it in carrying out its responsibilities and functions. The compensation committee is governed by a written charter approved by our board of directors.

*Nominating and Governance Committee.* The nominating and governance committee currently consists of Mr. Shuster (chair), Mr. Lief and Mr. Ramsay. Mr. Ramsay and Mr. Shuster were each appointed to the nominating and governance committee in June 2011. Our board of directors has determined that each member of the nominating and governance committee is an independent director under Section 803A(2) of the NYSE Amex LLC Company Guide. The nominating and governance committee's responsibilities include identifying, evaluating and recommending to our board of directors nominees for possible election to our board of directors, evaluating and making recommendations to our board of directors regarding its size, composition and leadership structure, assessing and making recommendations to our board of directors regarding our corporate governance guidelines and providing oversight with respect to corporate governance and succession planning matters. The nominating and governance committee is governed by a written charter approved by our board of directors.

*Special Committee.* The special committee was established by our board of directors in June 2010 and it automatically dissolved in June 2011. The members of the special committee were directors who resigned from our board of directors during 2011 — Odysseas Kostas (chair), Michael Goldberg and Eric Rowinsky. See “— Director Resignation Policy” below. The special committee's responsibilities included identifying, evaluating and recommending to our board of directors product acquisition opportunities, overseeing regulatory affairs with respect to our product candidates and assessing and making recommendations to our board of directors regarding our operating budget. The special committee was governed by a written charter approved by our board of directors.

*Pricing Committee.* The pricing committee was established by our board of directors in March 2010 and it automatically dissolved in December 2011. It did not meet after May 2011. During 2011, the members of the pricing committee were Dr. Goldberg, Mr. Lief and Mark Pykett. Dr. Goldberg and Dr. Pykett resigned from our board of directors in June 2011. See “— Director Resignation Policy” below. The pricing committee was authorized and empowered to exercise the authority of our board of directors in connection with any proposed offer or sale of our securities intended to raise additional capital.

Charters for the audit committee, the compensation committee and the nominating and governance committee, as well as our corporate governance guidelines, are posted on our corporate website at: [www.adventrx.com](http://www.adventrx.com).

### **Meetings of the Board and its Committees**

As required under NYSE Amex rules and our corporate governance guidelines, our board of directors meets on a regular basis as often as necessary to fulfill its responsibilities, including at least once each quarter, and our independent directors meet at least annually in executive session without the presence of non-independent directors and management. During 2011, our board of directors met nine times, the audit committee met five times, the compensation committee met five times, the nominating and governance committee met four times and the pricing committee met once. Each member of our board of directors nominated for re-election at the Annual

---

[Table of Contents](#)

Meeting who served on our board during all or part of 2011 attended 75% or more of the aggregate of (i) the total number of board meetings held during the period of such member's service and (ii) the total number of meetings of committees on which such member served during the period of such member's service.

**Procedures for Determining Executive and Director Compensation**

The compensation committee was formed to, among other things, assist our board of directors in the discharge of its responsibilities with respect to compensation of our executive officers and non-employee directors. In accordance with its charter, the compensation committee has authority to determine the amount, form and terms of compensation of our chief executive officer and other officers, and to take such action, and to direct us to take such action, as it deems necessary or advisable to compensate our chief executive officer and other officers in a manner consistent with its determinations, and shall deliberate and vote on all such actions outside the presence of our chief executive officer and other officers. The compensation committee is responsible for reviewing, at least annually, the performance of our chief executive officer and other officers, including in light of any goals and objectives established for such performance, and, in light of such review, determining each officer's compensation.

In accordance with its charter, the compensation committee also has authority to establish our general compensation policies and practices and to administer plans and arrangements established pursuant to such policies and practices. In addition, the compensation committee has authority to administer our equity compensation plans, including, without limitation, to recommend the adoption of such plans, recommend the reservation of shares of our common stock for issuance thereunder, amend and interpret such plans and the awards and agreements issued pursuant thereto, and make awards to eligible persons under the plans and determine the terms of such awards, including any such awards to our chief executive officer and other officers.

With respect to non-employee director compensation, the compensation committee reviews such compensation practices and policies at least annually and makes a recommendation to our board of directors as to the amount, form and terms of non-employee director compensation. Our board of directors, taking the compensation committee's recommendation into consideration, sets the amount, form and terms of non-employee director compensation.

Except with respect to its responsibilities regarding setting compensation for our chief executive officer and our other officers, the compensation committee may delegate its authority to individual members of the compensation committee or other members of our board of directors. In addition, to the extent permitted by applicable law and regulations, the compensation committee may delegate to one or more of our officers (or other appropriate supervisory personnel) the authority to grant stock options, stock appreciation rights, restricted stock units and performance units to our employees (who are not officers or members of our board of directors), including employees of any of our subsidiaries; provided, however that (a) the number of shares of our common stock underlying such options, stock appreciation rights, restricted stock units and performance units are consistent with guidelines previously approved by the compensation committee; (b) the per-share exercise or purchase price of such awards equals the fair market value of our common stock on the date of grant; and (c) the vesting and other terms that apply to such awards are the same terms as apply under our standard form of agreement under the applicable equity compensation plan, provided that such officer(s) may, in such officer(s)' discretion, grant awards that are fully vested on the date of grant of the award or grant awards with more restrictive vesting requirements.

With respect to executive officer compensation, the compensation committee met in the first quarter of 2011 to review and evaluate 2010 performance and set 2011 compensation for our chief executive officer and our president and chief operating officer, who were our only executive officers at that time. The compensation committee determined that executive officer compensation would consist of a base salary, stock option awards and an opportunity for a cash bonus under a short-term incentive plan based on 2011 corporate performance. However, at that time, we were evaluating a number of strategic opportunities, which had the potential to significantly affect the nature, breadth and depth of our operations and the responsibilities of and demands on our executive officers, and, consequently, the compensation committee determined to re-evaluate the 2011 base salaries of and stock option awards to our executive officers and to postpone adoption of a short-term incentive

---

## [Table of Contents](#)

plan until we had greater clarity as to the impact of potential transactions then being considered. In July 2011, the compensation committee made adjustments to executive officer compensation and adopted a short-term incentive plan for the period from July 1 to December 31, 2011. See “Executive Officer Compensation — Narrative Disclosure to Summary Compensation Table” below. The compensation committee met in the first quarter of 2012 to review and evaluate 2011 performance against corporate objectives established in July 2011 and determined to award cash bonuses to our executive officers under the short-term incentive plan adopted by the compensation committee in July 2011, which awards to our named executive officers are reflected in the Summary Compensation Table under the section entitled, “Executive Officer Compensation” below. With respect to our executive officers’ role in the compensation process, our chief executive officer and our president and chief operating officer present the compensation committee with an assessment of our company’s performance during the prior year, including against pre-established corporate goals, and a proposal for executive officer compensation packages, which the compensation committee considers in making its determinations. However, our executive officers are not present during the compensation committee’s deliberation and determination of their compensation.

Since 2007, our company and the compensation committee have utilized the compensation consulting firm, Frederic W. Cook & Co., Inc., to provide advice regarding compensation practices and programs. The compensation committee did not engage F.W. Cook in 2011 to conduct a full review and evaluation of our executive officer or director compensation policies and practices. However, in light of F.W. Cook’s familiarity with our company and industry, our executive officers contacted F.W. Cook with certain specific questions to assist them in providing input to the compensation committee regarding executive officer and non-employee director compensation matters. In addition, in 2011, F.W. Cook assisted the compensation committee in assessing our 2008 Omnibus Incentive Plan and recommending changes to such plan to our board of directors. Our board of directors adopted our Amended and Restated 2008 Omnibus Incentive Plan in March 2011 and our stockholders approved that plan in June 2011. Neither F.W. Cook nor any of its affiliates provided any services to us in 2011 apart from those described above.

### **Board Leadership Structure and Role in Risk Oversight**

Our leadership is structured such that the chair of our board of directors and chief executive officer positions are separated. Mr. Lief, an independent director, has served as chair of our board of directors since May 2007. We believe having an independent chair of our board of directors with extensive executive experience in the life science industry has provided our board of directors with consistent, experienced and independent leadership that enhances the effectiveness of our board of directors as a whole. Our corporate governance guidelines do not require our board of directors to choose an independent chair or to separate the roles of chair and chief executive officer, but our board of directors believes this leadership structure is the appropriate structure for our company at this time. Pursuant to our corporate governance guidelines, our board of directors may choose its chair in any manner that it deems to be in the best interests of our company. If, in the future, the chair of our board of directors is not an independent director, our board of directors may designate an independent director to serve as a lead independent director, with the responsibilities specified in our corporate governance guidelines.

Our board of directors is responsible for oversight of risks facing our company, while our management is responsible for day-to-day management of risk. Our board of directors, as a whole, directly administers its risk oversight function. In addition, the risk oversight function is also administered through the standing committees of our board of directors, which oversee risks inherent in their respective areas of responsibility, reporting to our board of directors regularly and involving our board of directors as necessary. For example, the audit committee oversees our financial exposure and financial reporting related risks, and the compensation committee oversees risks related to our compensation programs and practices. Our board of directors as a whole directly oversees our strategic and business risk, including product development risk, through regular interactions with our management and, from time-to-time, input from independent advisors. We believe our board’s leadership structure supports its role in risk oversight, with our executive officers responsible for assessing and managing risks facing our company on a day-to-day basis and the chair and other members of our board of directors providing oversight of such risk management.

### **Director Resignation Policy**

Under Delaware law, an incumbent director may remain in office notwithstanding the failure to receive the required vote for re-election until the director's successor is duly elected. To address this "holdover rule," our corporate governance guidelines include a director resignation policy whereby our board of directors will nominate for re-election only those directors who tender an irrevocable, contingent resignation in writing to the chair of our board. The resignation becomes effective only if (a) the director fails to receive a sufficient number of votes for re-election at a meeting of stockholders at which director elections are held and (b) our board of directors accepts the resignation. If a director fails to receive the required vote for re-election, the nominating and governance committee, or such other committee designated by our board of directors, which we refer to as the "reviewing committee," will act promptly to consider the director's resignation and recommend to the full board of directors whether to accept or reject the resignation, or whether other action should be taken. Our board of directors expects the director whose resignation is under consideration to abstain from participating in any decision regarding that resignation. In considering whether to accept or reject a director's resignation, each of the reviewing committee and our board of directors may consider any factors it deems relevant. Within 90 days after the date of the certification of the election results for the applicable stockholders' meeting, our board of directors will act on the resignation, taking into account the reviewing committee's recommendation, and publicly disclose its decision.

At our 2011 annual meeting of stockholders, three of our then incumbent directors — Dr. Goldberg, Dr. Pykett and Dr. Rowinsky — did not receive the requisite affirmative votes to be re-elected. Following the 2011 annual meeting of stockholders, our board of directors established a reviewing committee composed of Mr. Lief, Mr. Ramsay and Mr. Shuster and delegated to it the authority of our board of directors to determine whether to accept or reject the resignation of each of Dr. Goldberg, Dr. Pykett and Dr. Rowinsky. The reviewing committee determined to accept each such director's resignation, effective immediately, on June 15, 2011.

### **Prohibition on Hedging and Speculative Transactions Involving our Securities**

As part of our insider trading policy, our directors and employees (including our executive officers) and designated consultants, advisors and contractors to our company are prohibited from engaging in speculative transactions involving our securities, including short sales, "sales against the box" or any equivalent transaction involving our securities (or the securities of any of our customers, vendors, suppliers or other business partners). In addition, as part of our insider trading policy, our directors, officers and other specified employees of and consultants, advisors and contractors to our company are prohibited from engaging in hedging or derivative transactions involving our securities, such as "cashless" collars, forward sales, equity swaps and other similar or related transactions, and all other employees and persons subject to the policy are discouraged from engaging in such transactions and required to pre-clear any such proposed transaction with the compliance officer for our insider trading policy. Further, our insider trading policy states that we recommend that our directors and employees (including our executive officers) and other persons subject to the policy not hypothecate or pledge our securities to secure a loan and that they not purchase our securities "on margin" (that is, borrow funds to purchase securities, including in connection with exercising any stock options), and requires that our directors, officers and other specified employees of and consultants, advisors and contractors to our company pre-clear any proposed margin transaction involving our securities with the compliance officer for our insider trading policy.

## DIRECTOR NOMINATIONS

### Criteria for Board Membership

In recommending candidates for appointment or election to our board of directors, the nominating and governance committee considers the appropriate balance of experience, skills and characteristics required of our board of directors, and seeks to insure that at least a majority of the directors are independent under NYSE Amex rules, that members of the audit committee meet the financial literacy and sophistication requirements under NYSE Amex rules and that at least one of member of the audit committee qualifies as an “audit committee financial expert” under SEC rules. Nominees for director are selected on the basis of their depth and breadth of experience, wisdom, integrity, ability to make independent analytical inquiries, understanding of our business environment, willingness to devote adequate time to board duties, the interplay of the nominee’s experience and skills with those of other directors and the extent to which the nominee would be a desirable addition to our board of directors and any of its committees. No director may serve on more than a total of three boards of directors of other public companies, and directors generally will not be nominated for re-election at any annual or special meeting held after their 75<sup>th</sup> birthday. Other than the foregoing, there are no stated minimum criteria for director nominees, although the nominating and governance committee may also consider such other factors as it may deem are in the best interests of our company and our stockholders. The nominating and governance committee does not have a policy regarding board diversity, but it takes diversity of professional experience and perspective within the pharmaceutical and biotechnology industries into account in identifying and selecting director nominees.

### Stockholder Recommendations

Other than pursuant to the terms of the Rights Agreement, dated July 27, 2005, as amended, among us and, among other parties, Icahn Partners LP (the “Rights Agreement”), and the terms of the merger agreement pursuant to which we acquired SynthRx, Inc., we have never received a proposal from a stockholder to nominate a director. The nominating and governance committee will consider qualified candidates for director suggested by stockholders by applying the criteria for board membership described above. Stockholders wishing to suggest a qualified director candidate for review and consideration by the nominating and governance committee must provide a written statement to our corporate secretary that includes the following information: a statement that the proposing stockholder is recommending a candidate for consideration by the nominating and governance committee; the name, age, business address and residence address of the proposed nominee; a statement of the proposed nominee’s business experience and educational background; the proposed nominee’s principal occupation or employment; the class and number of shares of our capital stock beneficially owned by the proposed nominee; a detailed description of all relationships, arrangements or understandings between the proposing stockholder and the proposed nominee and any other person or persons (naming such person or persons) pursuant to which such proposed nomination is being made by the stockholder; a detailed description of all relationships, arrangements or understandings between the proposed nominee and any service-provider or supplier to, or competitor of, our company; information regarding each of the criteria for board membership described above in sufficient detail to allow the nominating and governance committee to evaluate the proposed nominee; and a statement from the proposed nominee that he or she is willing to be considered and willing to serve as a director if nominated and elected. The proposing stockholder must also include the following information with respect to such stockholder: documentation supporting that the proposing stockholder is a stockholder of our company; the proposing stockholder’s name and address, as they appear on our books; and the class and number of shares of our capital stock beneficially owned by the proposing stockholder. If a stockholder submits a director recommendation in compliance with the procedure described above, the nominating and governance committee will conduct an initial evaluation of the proposed nominee and, if it determines the proposed nominee may be a qualified candidate, the nominating and governance committee and one or more members of our management team will interview the proposed nominee to determine whether he or she might be suitable to be a director. If the nominating and governance committee determines the proposed nominee would be a valuable addition to our board of directors, based on the criteria for board membership described above and



---

## [Table of Contents](#)

our board of directors' specific needs at the time, it will recommend to our board of directors such person's nomination. In connection with its evaluation, the nominating and governance committee may request additional information from the proposed nominee and/or the proposing stockholder.

Separately, our bylaws contain provisions that address the process by which a stockholder may nominate an individual to stand for election to our board of directors at our annual meeting of stockholders. Such nominations may be made only if the stockholder has given timely written notice to our corporate secretary containing the information required by our bylaws. To be timely, such notice must be received at our principal executive offices not earlier than the 120th day, nor later than the close of business on the 90th day, prior to the first anniversary of the date of the preceding year's annual meeting as first specified in our notice of meeting (without regard to any postponements or adjournments of such meeting after such notice was first sent), except that if no annual meeting was held in the previous year or the date of the annual meeting is more than 30 days earlier or later than such anniversary date, such notice must be received not earlier than the 120th day prior to the date of such annual meeting and not later than the close of business on the later of the 90th day prior to the date of such annual meeting or the 10th day following the date on which we first publicly announce the date of such meeting.

### **Process for Identifying and Evaluating Nominees**

Each year before recommending to our board of directors a slate of nominees for director, the nominating and governance committee considers each incumbent director's performance on our board of directors and whether the incumbent director's nomination would be consistent with the criteria for board membership described above and other guidelines included in our corporate governance guidelines, including ensuring that the composition of our board of directors is such that it maintains an openness to new ideas and a willingness to critically re-examine the status quo. In the ordinary course, absent special circumstances or a material change in the criteria for board membership, the nominating and governance committee will recommend for nomination incumbent directors with skills and experience that are relevant to our business and who are willing to continue in service. If an incumbent director is not willing to stand for re-election, or if a vacancy on our board of directors occurs between annual stockholder meetings and our board of directors determines to fill such vacancy, the nominating and governance committee will identify the desired skills and experience of a new nominee based on the criteria for board membership described above and any specific needs of our board of directors at the time. The nominating and governance committee will then seek suggestions from other members of our board of directors and our management team as to individuals meeting such criteria. Potential nominees will be selected based on input from members of our board of directors, our management team and, if the nominating and governance committee deems appropriate, a third-party search firm. The nominating and governance committee will evaluate each potential nominee's qualifications and check relevant references. In addition, such individuals will be interviewed by at least one member of the nominating and governance committee. Following this process, the nominating and governance committee will determine whether to recommend to our board of directors that a potential nominee be presented as a nominee for election by the stockholders or appointed to fill a vacancy on our board of directors, as the case may be. Historically, our board of directors nominates for election at our annual stockholder meetings the individuals recommended by the nominating and governance committee.

### **Director Arrangements**

Under the terms of the Rights Agreement, we are required to cause our board of directors to nominate for election to our board of directors an individual, who we refer to as the Purchaser Designee, selected by the "Purchasers" who at the time own a majority of the "Purchased Shares." "Purchasers," as defined in the Rights Agreement, refers to those entities, including entities affiliated with Carl C. Icahn, that purchased our common stock and warrants in a private transaction in July 2005. "Purchased Shares," as defined in the Rights Agreement, refers to those shares of common stock outstanding and issuable upon exercise of warrants issued to the Purchasers in connection with the July 2005 transaction. The Purchasers' right to select a Purchaser Designee for nomination to our board of directors terminates upon the earlier of (i) July 27, 2012, (ii) the date that the Purchasers' aggregate holdings of Purchased Shares (either of record or beneficially) is, as a result of sales or

---

[Table of Contents](#)

other dispositions thereof, equal to less than 50% of the aggregate number of shares purchased by the Purchasers in connection with the July 2005 transaction, and (iii) upon a change of control of our company. Since Dr. Kostas resigned in May 2011, there has not been a Purchaser Designee on our board of directors. None of the director nominees for the Annual Meeting is a Purchaser Designee.

Pursuant to our merger agreement with SynthRx, Inc., we were required to appoint an individual to our board of directors proposed by SynthRx and reasonably acceptable to us. We appointed Mr. Shuster to our board of directors in April 2011 in satisfaction of that obligation. We do not have any ongoing obligation to nominate an individual proposed by SynthRx. Our nomination of Mr. Shuster for election as a director at the Annual Meeting was not pursuant to any obligation to do so. Our board of directors nominated Mr. Shuster as a director, as is the case for all of the other director nominees, upon the recommendation of the nominating and governance committee.

#### **COMMUNICATIONS WITH DIRECTORS**

Stockholders who wish to communicate with our directors to report complaints or concerns related to accounting, internal accounting controls or auditing may do so using the audit committee's procedures for the receipt of such communications. These procedures allow submitting the complaint or concern telephonically as set forth in our Code of Business Conduct and Ethics, which is available on our corporate website at [www.adventrx.com](http://www.adventrx.com).

If any stockholder wishes to address questions regarding our business affairs directly to our board of directors, or any individual director, the stockholder must submit the inquiry in writing to: ADVENTRX Pharmaceuticals, Inc., Attn: Investor Relations, 12390 El Camino Real, Suite 150, San Diego, California 92130. Submitting stockholders should indicate they are a stockholder of our company. Depending on the subject matter, investor relations will: forward the inquiry to the chair of our board of directors, who may forward the inquiry to a particular director if the inquiry is directed towards a particular director; forward the inquiry to the appropriate personnel within our company (for instance, if it is primarily commercial in nature); attempt to handle the inquiry directly (for instance, if it is a request for information about our company or a stock-related matter); or not forward the inquiry, if it relates to an improper or inappropriate topic or is otherwise irrelevant.

We encourage all of our directors to attend our annual meetings of stockholders. All of our incumbent directors who were directors (Messrs. Lief and Shuster) or an executive officer (Mr. Culley) of our company at the time of our 2011 annual meeting of stockholders attended that meeting.

## EXECUTIVE OFFICERS

Our executive officers, their ages and positions held as of April 13, 2012, are as follows:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Brian M. Culley	40	Chief Executive Officer and Director
Patrick L. Keran	40	President and Chief Operating Officer
R. Martin Emanuele	57	Senior Vice President, Development
Gregory D. Gorgas	49	Senior Vice President, Commercial
Brandi L. Roberts	38	Vice President, Finance

### Biographical Information of Executive Officers

Set forth below is biographical information regarding each of our executive officers other than Mr. Culley. For biographical information regarding Mr. Culley, please see “Nominees for Election to the Board,” above.

*Patrick L. Keran, J.D.* Mr. Keran joined our company in August 2006 and currently serves as our president and chief operating officer, a position he has held since February 2010. He has also served as our principal financial officer since July 2009 and as our secretary since September 2006. From August 2006 to February 2010, Mr. Keran served as our general counsel and, from January 2007 to February 2010, he served as our vice president, legal. From April 2004 to August 2006, Mr. Keran was associate general counsel at Isis Pharmaceuticals, Inc., a publicly held drug discovery and development company. From February 2003 to April 2004, Mr. Keran practiced corporate law at the law firm of Heller Ehrman LLP, specializing in public and private financings, licensing arrangements, mergers and acquisitions and corporate governance matters. From September 1999 to February 2003, Mr. Keran practiced law at the law firm of Brobeck Phleger & Harrison LLP where he had a similar corporate practice. Mr. Keran is licensed to practice law in the State of California. Mr. Keran received a B.A. from the University of California at San Diego and a J.D. from the University of California at Berkeley, Boalt Hall School of Law.

*R. Martin Emanuele, Ph.D.* Dr. Emanuele joined our company in April 2011 as our senior vice president, development in connection with our acquisition of SynthRx, Inc. Prior to this, from April 2010 to April 2011, Dr. Emanuele was vice president, pharmaceutical strategy at DaVita, Inc., a FORTUNE 500® company and leading provider of kidney care in the United States. Dr. Emanuele’s responsibilities while at DaVita focused on evaluating business opportunities related to emerging renal therapeutics, biomarkers and diagnostics. Prior to DaVita, from June 2008 to April 2010, Dr. Emanuele provided consulting services to a range of life science companies regarding corporate partnering and business development. From November 2006 to May 2008, Dr. Emanuele was senior vice president, business development at Kemia, Inc., a venture-backed privately-held company focused on discovering and developing small molecule therapeutics. From 2002 to 2006, Dr. Emanuele held various senior-level positions with Avanir Pharmaceuticals, Inc., most recently as vice president, business development and portfolio management, and from 1988 to 2002, Dr. Emanuele held positions of increasing responsibility at CytRx Corporation, most recently as vice president, research and business development. He holds an M.B.A. with an emphasis in healthcare and pharmaceutical management from the University of Colorado, a Ph.D. in pharmacology and experimental therapeutics from Loyola University of Chicago, Stritch School of Medicine, and a B.S. in biology from Colorado State University.

*Gregory D. Gorgas, M.B.A.* Mr. Gorgas joined our company in July 2011 as our senior vice president, commercial. Prior to joining our company, from November 2009 to July 2011, Mr. Gorgas was managing director at Theragence, Inc., a privately-held company he co-founded, that applies proprietary computational intelligence to analyze clinical data. From November 2008 to July 2011, Mr. Gorgas also served as an independent consultant, providing commercial and business development consulting services to pharmaceutical, biotechnology and medical device companies. From 1997 to October 2008, Mr. Gorgas held positions of

---

[Table of Contents](#)

increasing responsibility with Biogen Idec Inc., a publicly held biotechnology company that develops therapies for the treatment of neurodegenerative diseases, hemophilia and autoimmune disorders. Most recently, from March 2006 to October 2008, Mr. Gorgas served as senior director, global and U.S. marketing at Biogen Idec, where he was responsible for the strategic vision and operational commercialization of the company's worldwide cancer business, and, prior to such time, he had responsibilities in sales, commercial operations and project team and alliance management. Prior to Biogen Idec, he held sales and manager positions with Chiron Corporation, Cetus Corporation and The Upjohn Company. Mr. Gorgas holds an M.B.A. from the University of Phoenix and a B.A. in economics from California State University, Northridge.

*Brandi L. Roberts, M.B.A., CPA.* Ms. Roberts joined our company in March 2011 as our vice president, finance and principal accounting officer. She previously served as our vice president, finance from June 2008 to January 2009. From January 2009 to March 2011, Ms. Roberts served as vice president, accounting and corporate controller of Alphatec Spine, Inc., the wholly-owned operating subsidiary of Alphatec Holdings, Inc., a medical technology company listed on the NASDAQ Global Select Market, where she was responsible for managing all accounting activities, including SEC reporting and Sarbanes-Oxley Act compliance requirements. From June 2007 to June 2008, Ms. Roberts served as executive director, corporate controller of Artes Medical, Inc., a publicly traded medical technology company, and from September 2005 to June 2007, she served as director, finance of Stratagene Corporation, a publicly traded life science company acquired by Agilent Technologies, Inc. in June 2007. Ms. Roberts' experience also includes seven years at Pfizer's laboratories in La Jolla, California (formerly Agouron), most recently as director, finance, and three years with the public accounting firm of PricewaterhouseCoopers LLP. She is a certified public accountant with the State of California. Ms. Roberts received a B.S. in Business Administration from the University of Arizona and an M.B.A. from the University of San Diego.

**SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT**

The following table sets forth information regarding beneficial ownership of our common stock as of April 13, 2012 (the “Evaluation Date”), or an earlier date for information based on filings with the SEC, by (a) each person known to us to beneficially own more than 5% of the outstanding shares of our common stock, (b) each director and nominee for director, (c) each of the named executive officers listed in the compensation tables included in this proxy statement and (d) all of our current directors and executive officers as a group. The information in this table is based solely on statements in filings with the SEC or other reliable information. Percent of beneficial ownership is based on 47,715,709 shares of our common stock outstanding as of the Evaluation Date. The information in this table reflects the proportionate adjustments made to warrants and options we issued prior to the 1-for-25 reverse split of our outstanding common stock effected on April 23, 2010.

<u>Name and Address of Beneficial Owner(1)</u>	<u>Shares Beneficially Owned(2)</u>	<u>Percent of Outstanding</u>
<b>Principal Stockholders:</b>		
Fidelity Management & Research Company(3) 82 Devonshire Street Boston, MA 02109	3,872,110	8.1%
Special Situations Funds(4) 527 Madison Avenue, Suite 2600 New York, NY 10022	3,749,900	7.9%
<b>Directors and Named Executive Officers:</b>		
Brian M. Culley(5)	263,662	*
Jack Lief(6)	30,988	*
David A. Ramsay(7)	12,808	*
Lewis J. Shuster(8)	15,427	*
Patrick L. Keran(9)	221,962	*
Gregory D. Gorgas(10)	35,416	*
All directors and executive officers as a group (8 persons)(11)	1,164,140	2.4%

\* Less than 1%

- (1) Unless otherwise indicated, the address of each of the listed persons is c/o ADVENTRX Pharmaceuticals, Inc., 12390 El Camino Real, Suite 150, San Diego, California 92130.
- (2) Beneficial ownership of shares is determined in accordance with SEC rules and generally includes any shares over which a person exercises sole or shared voting or investment power, or of which a person has the right to acquire ownership within 60 days of the Evaluation Date. Except as otherwise noted, (a) each person or entity has sole voting and investment power with respect to the shares shown and (b) none of the shares shown as beneficially owned on this table are subject to pledge. In calculating the percentage ownership of each person identified in the table, shares underlying options, warrants or other rights to acquire shares of our common stock held by that person that are either currently exercisable or exercisable within 60 days of the Evaluation Date are deemed outstanding. These shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other individual or entity. Percentage ownership for each person is based on the number of shares of our common stock outstanding as of the Evaluation Date, together with the applicable number of shares of common stock subject to options, warrants or other rights to acquire shares of our common stock currently exercisable or exercisable within 60 days of the Evaluation Date for that person or group of persons.
- (3) Fidelity Management & Research Company (“Fidelity”), a wholly-owned subsidiary of FMR LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of all 3,872,110 shares as a result of acting as investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940. The ownership of one investment

---

## [Table of Contents](#)

company, Fidelity Advisor Capital Development Fund, amounted to 3,001,486 shares. Edward C. Johnson 3d and FMR LLC, through its control of Fidelity, and the funds each has sole power to dispose of all 4,867,110 shares. Members of the family of Mr. Johnson, Chairman of FMR LLC, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. Neither FMR LLC nor Mr. Johnson has the sole power to vote or direct the voting of the shares owned directly by the Fidelity funds, which power resides with the funds' boards of trustees. Fidelity carries out the voting of the shares under written guidelines established by the funds' boards of trustees. This information was obtained from the Schedule 13G jointly filed with the SEC on February 14, 2012 by FMR LLC, Mr. Johnson, Fidelity Management & Research Company and Fidelity Advisor Capital Development Fund (the "Fidelity 13G"). The number of shares listed in this table as beneficially owned by Fidelity excludes 995,000 shares of our common stock issuable upon exercise of warrants beneficially owned by Fidelity, as reported in the Fidelity 13G, because the warrants contain provisions that restrict the holder from exercising them to the extent that, after giving effect to the issuance of shares after such exercise, the holder and its affiliates would beneficially own in excess of 4.99% of our common stock, unless the holder gives us at least 61 days' prior notice that it wishes to increase such beneficial ownership limitation to 9.99%. As of the Evaluation Date, we have not received any such notice. These 995,000 warrant shares were included in the beneficial ownership amount reported in the Fidelity 13G.

- (4) Special Situations Fund III, QP, L.P. ("SSFQP") owns 1,882,500 shares of our common stock, Special Situations Life Sciences Fund, L.P. ("SSLSF") owns 1,237,400 shares of our common stock and Special Situations Cayman Fund, L.P. ("SSCF") owns 630,000 shares of our common stock. We collectively refer to these entities as the "Special Situations Funds." Austin W. Marxe and David M. Greenhouse may be deemed to beneficially own all 3,749,900 shares. Mr. Marxe and Mr. Greenhouse, as the controlling principals of AWM Investment Company, Inc. ("AWM"), the general partner of and investment adviser to SSCF, share sole voting and investment power over the 630,000 shares of our common stock held by SSCF. Mr. Marxe and Mr. Greenhouse share sole voting and investment power over the 1,882,500 shares of our common stock held by SSFQP as a result of being investment advisers to SSFQP and AWM serving as general partner of MGP Advisers Limited Partnership, the general partner of SSFQP. Mr. Marxe and Mr. Greenhouse share sole voting and investment power over the 1,237,400 shares of our common stock held by SSLSF as a result of being investment advisers to SSLSF and members of LS Advisers LLC, the general partner of SSLSF. The number of shares listed in this table as beneficially owned by the Special Situations Funds excludes 1,875,000 shares of common stock issuable, in the aggregate, upon exercise of warrants held by the Special Situations Funds because the warrants contain provisions that restrict the holder from exercising them to the extent that, after giving effect to the issuance of shares after such exercise, the holder and its affiliates would beneficially own in excess of 4.99% of our common stock, unless the holder gives us at least 61 days' prior notice that it wishes to increase such beneficial ownership limitation to 9.99%. As of the Evaluation Date, we have not received any such notice. This information was obtained from the Schedule 13G jointly filed with the SEC on February 13, 2012 by Mr. Marxe and Mr. Greenhouse.
- (5) Consists of (a) 229,162 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date and (b) 34,500 shares of common stock held directly by Mr. Culley.
- (6) Consists of 30,988 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.
- (7) Consists of 12,808 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.
- (8) Consists of 15,427 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.

---

[Table of Contents](#)

- (9) Consists of 221,962 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.
- (10) Consists of 35,416 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.
- (11) Consists of (a) 582,163 shares of common stock, which includes 547,663 shares beneficially owned by Dr. Emanuele that were issued to him in his capacity as a former stockholder of SynthRx, Inc. in connection with our acquisition of SynthRx, Inc., and (b) 581,977 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date. The 547,663 shares of common stock beneficially owned by Dr. Emanuele are subject to the Voting Agreement and will be voted consistent with the recommendation of our board of directors with respect to each proposal described in this proxy statement. See “General Information about the Meeting — Voting Agreement,” above.

Based on the information obtained from a Schedule 13G jointly filed with the SEC on February 13, 2012 by Cranshire Capital Advisors, LLC (“CCA”) and Mitchell P. Kopin, CCA and Mr. Kopin may be deemed to beneficially own 966,600 shares of our common stock, which is approximately 2.0% of our common stock outstanding as of the Evaluation Date. That Schedule 13G also states that CCA serves as the investment manager to Cranshire Capital, L.P., Cranshire Capital Master Fund, Ltd., and two managed accounts, and that in such capacity, CCA exercises voting and investment power over the shares of common stock held for the account of each of Cranshire Capital, L.P., Cranshire Capital Master Fund, Ltd. and such managed accounts (collectively, with CCA and Mr. Kopin, the “CCA Parties”). In addition to the 966,600 shares of our common stock referenced above, the CCA Parties hold warrants to which 1,704,786 shares of our common stock are subject. These warrants contain provisions that restrict the holder from exercising them to the extent that, after giving effect to the issuance of shares after such exercise, the holder and its affiliates would beneficially own in excess of 4.99% of our common stock, unless the holder gives us at least 61 days’ prior notice that it wishes to increase such beneficial ownership limitation to 9.99%. As of the Evaluation Date, we have not received any such notice. Therefore, these warrants are not exercisable within 60 days of the Evaluation Date to the extent that such exercise would result in the holder, together with its affiliates, beneficially owning more than 4.99% of our common stock as of the Evaluation Date. Accordingly, the CCA Parties have not been included as a principal stockholder in the table above.

## **CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS**

We have incorporated into our written review and approval policies certain procedures designed to ensure that any proposed transaction in which we would be a participant and in which any of our directors, executive officers, holders of more than 5% of our common stock, or any member of the immediate family of any of the foregoing, would have a direct or indirect material interest is reviewed by individuals within our company familiar with the requirements of Item 404 of Regulation S-K promulgated by the SEC. If any such proposed transaction would require disclosure pursuant to Item 404(a) of Regulation S-K, it will be presented to the audit committee for review and, if appropriate, approval.

Other than the following transactions and the transactions described under “Executive Officer Compensation” and “Director Compensation” below, since January 1, 2010, there has not been, nor currently are there proposed, any transactions or series of similar transactions in which we were or are to be a participant and the amount involved exceeds or will exceed the lesser of \$120,000 or 1% of the average of our total assets as of December 31, 2010 and 2011, which is approximately \$451,716, and in which any of our directors, executive officers, holders of more than 5% of our common stock or any member of the immediate family of any of the foregoing persons, had or will have a direct or indirect material interest.

### **Sandivino, Inc.**

During 2010 and 2011, we paid an aggregate of \$178,139 and \$239,383, respectively, to Sandivino, Inc. for consulting services, principally for consulting services provided by Gregory D. Gorgas, our senior vice president, commercial, prior to his employment by us. Mr. Gorgas and his wife are the sole shareholders and he is an officer of Sandivino.

### **Indemnification of Officers and Directors**

Our amended and restated certificate of incorporation and our bylaws provide that we will indemnify each of our directors and officers to the fullest extent permitted by the Delaware General Corporation Law. Further, we have entered into indemnification agreements with each of our directors and officers, and we have purchased a policy of directors’ and officers’ liability insurance that insures our directors and officers against the cost of defense, settlement or payment of a judgment under certain circumstances.

## **SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE**

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires our officers and directors, and persons who own more than 10% of our common stock, to file reports of securities ownership and changes in such ownership with the SEC. Our officers and directors and persons who own more than 10% of our common stock also are required by rules promulgated by the SEC to furnish us with copies of all Section 16(a) forms they file. Based solely upon a review of the copies of such forms furnished to us and written representations from our directors and executive officers, we believe that all Section 16(a) filing requirements were timely met during 2011.



**EQUITY COMPENSATION PLAN INFORMATION**

The following table provides information as of December 31, 2011 regarding equity compensation plans previously approved by our stockholders. We do not have any equity compensation plans that have not been approved by our stockholders. All share and per share information included in this table reflects retrospective application of the 1-for-25 reverse split of our outstanding common stock effected on April 23, 2010.

<u>Plan Category</u>	<u>Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights</u> (a)	<u>Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights</u> (b)	<u>Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (excluding securities reflected in column (a))</u> (c)
<b>Equity Compensation Plans Approved by Security Holders:</b>			
Amended and Restated 2008 Omnibus Incentive Plan(1)	2,274,745	\$ 1.63	1,917,574
2008 Omnibus Incentive Plan(1)	577,029	\$ 4.25	0
2005 Equity Incentive Plan(1)	40,358	\$ 50.05	0
2005 Employee Stock Purchase Plan(2)	0	\$ —	216,945
<b>Equity Compensation Plans Not Approved by Security Holders:</b>			
	—	—	—
<b>Total</b>	<u>2,892,132</u>	<u>\$ 2.83</u>	<u>2,134,519</u>

- (1) In June 2011, the Amended and Restated 2008 Omnibus Incentive Plan (the “Amended and Restated 2008 Plan”) was approved by our stockholders and became effective. Upon effectiveness, the Amended and Restated 2008 Plan amended and restated in its entirety the 2008 Omnibus Incentive Plan (the “Original 2008 Plan”), and no awards have been or will be granted under the Original 2008 Plan after such date. Likewise, since the Original 2008 Plan was approved by our stockholders and became effective in May 2008 no awards have been or will be granted under the 2005 Equity Incentive Plan (the “2005 Plan”). If any awards granted under the Amended and Restated 2008 Plan, the Original 2008 Plan or the 2005 Plan are forfeited, expire or are settled for cash pursuant to the terms of an award, we may use the shares that were subject to the award for new awards under the Amended and Restated 2008 Plan to the extent of the forfeiture, expiration or settlement, other than under specified circumstances. The shares will be added to the Amended and Restated 2008 Plan as one share for every share of common stock if the shares were subject to a stock option or stock appreciation right, and as 1.5 shares for every share of common stock if the shares were subject to an award other than a stock option or stock appreciation right.
- (2) Our 2005 Employee Stock Purchase Plan contains a provision for an automatic increase in the number of shares available for grant on the first day of each fiscal year beginning in 2006 and on each anniversary of that date thereafter equal to the lesser of (i) one percent of the number of outstanding shares of our common stock on such day, (ii) 30,000 and (iii) such other amount as our board of directors may specify prior to the date such annual increase is to take effect. Although the 2005 Employee Stock Purchase Plan was approved by our stockholders in 2005, we have not implemented it or issued any shares under it.

**EXECUTIVE OFFICER COMPENSATION**

**Summary Compensation Table**

The following table sets forth information concerning compensation earned for services rendered to us during the years ended December 31, 2011 and December 31, 2010 by our principal executive officer and our two most highly compensated executive officers other than our principal executive officer as of December 31, 2011. Collectively, the executive officers named in the following table are referred to as the “named executive officers” or “NEOs.”

Name and Principal Position	Summary Compensation Table								
	Year	Salary	Bonus	Stock Awards	Option Awards (1)	Non-Equity Incentive Plan Compensation (2)	Nonqualified Deferred Compensation Earnings	All Other Compensation	Total
Brian M. Culley Chief Executive Officer	2011	\$360,750	—	—	\$1,164,247	\$ 131,250	—	\$ 17,648(3)	\$1,673,895
	2010	\$315,000	—	—	\$ 457,401	\$ 112,500	—	\$ 19,527(3)	\$ 904,428
Patrick L. Keran President and Chief Operating Officer	2011	\$343,950	—	—	\$1,164,247	\$ 131,250	—	\$ 17,662(3)	\$1,657,109
	2010	\$289,000	—	—	\$ 457,401	\$ 112,500	—	\$ 19,536(3)	\$ 878,437
Gregory D. Gorgas(4) Senior Vice President, Commercial	2011	\$104,243	—	—	\$ 395,184	\$ 23,589	—	\$ 234,304(5)	\$ 775,320

- (1) The amounts in this column represent the aggregate grant date fair value of option awards granted to the named executive officers in 2011 and 2010, respectively, calculated in accordance with the provisions of Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718, “Stock Compensation,” except that any estimate of forfeitures was disregarded. For a description of the assumptions used to calculate these amounts, see Note 9 to our audited consolidated financial statements included in our annual report on Form 10-K for the year ended December 31, 2011. The actual value of any option award to an officer, if any, will depend on the excess of our stock price over the exercise price on the date the option is exercised. The actual value realized by the officer upon exercise of the option awards may be higher or lower than the value shown in this column.
- (2) We paid the amounts set forth in this column pursuant to the terms of our 2011 mid-year incentive plan and 2010 incentive plan, respectively. See “Narrative Disclosure to Summary Compensation Table — 2011 Non-Equity Incentive Plan Awards” below for a description of the material terms of our 2011 mid-year incentive plan.
- (3) This amount consists of (a) matching contributions made pursuant to our tax-qualified 401(k) plan, (b) contributions to health savings accounts in excess of the amount not subject to federal tax and (c) premiums paid for life insurance policies for the benefit of our executives.
- (4) Mr. Gorgas joined our company in July 2011. He was not a named executive officer in 2010. Accordingly, this table does not include 2010 compensation information for Mr. Gorgas.
- (5) This amount consists of (a) matching contributions made pursuant to our tax-qualified 401(k) plan, (b) premiums paid for a life insurance policy for the benefit of Mr. Gorgas and (c) fees earned by Sandivino, Inc. for consulting services provided to us by Mr. Gorgas prior to his employment with our company, the amount of which was \$227,313. Mr. Gorgas and his wife are the sole shareholders of Sandivino.

**Narrative Disclosure to Summary Compensation Table**

The compensation committee of our board of directors typically makes executive officer compensation determinations during the first quarter of each year, including the amounts of awards under the prior year’s incentive plan, adjustments to base salaries for the current year and equity incentive awards for the current year,

---

## [Table of Contents](#)

if any. During the first half of 2011, our business strategy involved a particular focus on expanding our product pipeline and we were evaluating a number of opportunities, including the acquisition of SynthRx, Inc., which was completed in April 2011. Consequently, when the compensation committee met in January 2011, it made adjustments to the base salaries of and approved stock option awards to Messrs. Culley and Keran, our only executive officers at that time, taking into consideration our operations and the responsibilities of those executive officers at that time, but determined to re-evaluate their base salaries and equity incentive awards during 2011 based on changes to the breadth and depth of our operations and the responsibilities of and demands on the executive officers, in particular, as a result of the acquisition of any new companies, infrastructure, products or technologies. In addition, in January 2011, we had a limited number of shares of our common stock available for issuance as awards under our 2008 Omnibus Incentive Plan, and management and the compensation committee wanted to ensure shares would be available for awards to other employees, including anticipated new hires, and our non-employee directors. The compensation committee also determined to postpone adoption of a short-term incentive plan until there was greater clarity as to the potential impact of strategic transactions then being considered. By July 2011, we had completed the SynthRx acquisition, we were preparing for the potential commercial launch of Exelbine in light of the September 1, 2011 PDUFA goal date for its new drug application and our stockholders had approved our Amended and Restated 2008 Omnibus Incentive Plan, which increased the number of shares of our common stock available for equity incentive awards, and the compensation committee determined to make further adjustments to the base salaries of and grant additional option awards to Messrs. Culley and Keran. At that time, the compensation committee also adopted the 2011 mid-year executive incentive plan, which is described below.

In July 2011, we also hired Mr. Gorgas as our senior vice president, commercial. Under the terms of our offer letter to Mr. Gorgas, we agreed to pay him an annual base salary of \$250,000 and recommend to our board of directors that he be granted an option award to purchase 100,000 shares of our common stock, vesting monthly over four years, except that no shares would vest until January 1, 2012, at which time 25% of the shares would vest. We also agreed that he would be eligible to participate in our 2011 mid-year incentive plan and that the target amount of his incentive award would be 30% of his base salary earned in 2011. See “— 2011 Stock Option Awards” and “— 2011 Non-Equity Incentive Plan Awards,” below. Prior to joining our company, Mr. Gorgas provided consulting services to us through Sandivino, Inc. and the fees earned by Sandivino for Mr. Gorgas’ 2011 services to us were \$227,313. Mr. Gorgas and his wife are the sole shareholders of Sandivino.

### ***Base Salaries***

As described above, the compensation committee set 2011 base salaries for Messrs. Culley and Keran in January 2011 and re-evaluated them in July 2011. From January through June 2011, Messrs. Culley’s and Keran’s annual base salaries were \$346,500 and \$317,900, respectively. From July through December 2011, Messrs. Culley’s and Keran’s annual base salaries were \$375,000 and \$370,000, respectively. Mr. Gorgas’ 2011 base salary was \$250,000.

### ***2011 Stock Option Awards***

As discussed above, the compensation committee approved stock option awards to each of Messrs. Culley and Keran in each of January and July 2011 to purchase up to 100,000 and 250,000 shares of our common stock, respectively. The grant of the option awards approved in January 2011 was subject to and contingent upon our receipt of a waiver under the Rights Agreement, which, among other things, prohibits us from granting certain securities without complying with the provisions of the Rights Agreement. On February 1, 2011, we received the necessary waiver. Accordingly, on that date, the option awards approved by the compensation committee in January 2011 were granted to Messrs. Culley and Keran. The exercise price of those option awards is \$2.29 per share, which was the closing price of our common stock on February 1, 2011, and each option award becomes exercisable, subject to the officer’s continued service to us, in four equal annual installments on January 1 of each of 2012, 2013, 2014 and 2015. The July 2011 option awards were not contingent upon receipt of a waiver under the Rights Agreement because we previously had received a waiver that also covered those awards. Accordingly, the exercise price of the July option awards is \$3.26 per share, which was the closing price of our

---

## [Table of Contents](#)

common stock on July 6, 2011, the date of grant by the compensation committee. Each of the July 2011 option awards becomes exercisable, subject to the officer's continued service to us, in substantially equal monthly installments over four years beginning on August 1, 2011.

In July 2011, in connection with his employment with our company, our board of directors approved a stock option award to Mr. Gorgas to purchase up to 100,000 shares of our common stock. The grant of the option award was subject to and contingent upon Mr. Gorgas' employment with us. As with the July 2011 option awards to Messrs. Culley and Keran, Mr. Gorgas' option award grant was not contingent upon receipt of a waiver under the Rights Agreement because we previously had received a waiver that covered the award. The exercise price of Mr. Gorgas' option award is \$3.44 per share, which was the closing price of our common stock on July 21, 2011, the start date of Mr. Gorgas' employment with us. It became exercisable as to 25% of the shares subject to the option award on January 1, 2012 and the remaining shares subject to the option award become exercisable, subject to Mr. Gorgas' continued service to us, in substantially equal monthly installments over three years beginning on February 1, 2012.

In December 2011, the compensation committee granted stock option awards to all of our employees, including the NEOs, in lieu of granting such awards in the first quarter of 2012. The compensation committee determined to grant these option awards at its fourth quarter 2011 meeting primarily because the Rights Agreement waivers we previously had received would expire on December 31, 2011 and our ability to obtain future waivers under the Rights Agreement on a timely basis, or at all, was uncertain. The compensation committee determined that an inability to use equity awards as part of our 2012 compensation program would adversely affect our ability to compensate and incentivize our employees, including our NEOs. Messrs. Culley and Keran were each granted an option award to purchase up to 425,000 shares of our common stock and Mr. Gorgas was granted an option award to purchase up to 160,000 shares of our common stock. The exercise price of each of these option awards is \$0.60 per share, which was the closing price of our common stock on December 8, 2011, the date of grant of the option awards by the compensation committee. The option awards granted to Messrs. Culley and Keran become exercisable, subject to the officer's continued service to us, in substantially equal monthly installments over four years beginning on February 1, 2012, and Mr. Gorgas' option award becomes exercisable, subject to Mr. Gorgas' continued service to us, as to 19,999 shares on the one year anniversary of his employment start date and in substantially equal monthly installments thereafter over four years.

The stock option awards granted in January 2011 were granted under our 2008 Omnibus Incentive Plan (the "Original 2008 Plan") and the stock option awards granted in July and December 2011 were granted under our Amended and Restated 2008 Omnibus Incentive Plan (the "Amended and Restated 2008 Plan"). All of the option awards have a term of 10 years. Pursuant to the Original 2008 Plan and the Amended and Restated 2008 Plan, the exercise price per share of the option awards cannot be lowered without prior approval of our stockholders, except in the event of a merger, reorganization, consolidation, recapitalization, dividend or distribution (whether in cash, shares or other property, other than a regular cash dividend), stock split, reverse stock split, spin-off or similar transaction or other change in corporate structure affecting our common stock or the value thereof, in each case as the compensation committee may deem equitable or appropriate.

In the event Mr. Culley or Mr. Keran ceases to provide services to us as an employee by reason of an involuntary termination, his option award will, immediately prior to such involuntary termination, vest and become exercisable with respect to 25% of the total number of shares subject to the option award, and the exercisability of the then-vested portion of the option award (after taking into account the foregoing acceleration) will be extended such that the option award will be exercisable for a period of 12 months from the date of such involuntary termination but not later than the 10-year term expiration. In addition, the vesting and/or exercisability of each option award will accelerate or be extended under certain circumstances, including, (a) in the event of a change in control (as defined in the Original 2008 Plan and the Amended and Restated 2008 Plan, depending on whether the option award was granted under the Original 2008 Plan or the Amended and Restated 2008 Plan), acceleration of vesting with respect to 50% of the then unvested shares on the day prior to the date of the change in control and, subject to the respective officer's continuous service, with respect to the remaining 50% of the then unvested shares on the one year anniversary of the date of the change in control, (b) subject to

---

## [Table of Contents](#)

the preceding clause (a), in the event of a change of control, to the extent the successor company (or a subsidiary or parent thereof) does not assume or substitute for the option award, acceleration in full on the day prior to the date of the change in control if the officer is then providing services or was the subject of an involuntary termination in connection with, related to or in contemplation of the change in control and exercisability for a period of 24 months from the date of such involuntary termination, and (c) subject to the preceding clause (a), in the event of a change of control, to the extent the successor company (or a subsidiary or parent thereof) assumes or substitutes for the option award, and in the event of an involuntary termination of the officer within 12 months following the date of the change in control, acceleration in full of vesting and exercisability for a period of 24 months from the date of such involuntary termination. For purposes of the option awards granted to Messrs. Culley and Keran in 2011, an “involuntary termination” means (i) without the officer’s express written consent, an action by our board of directors or external events causing or immediately portending a material reduction or alteration of the officer’s duties, position or responsibilities relative to the officer’s duties, position or responsibilities in effect immediately prior to such reduction or alteration, or the removal of the officer from such position, duties or responsibilities; (ii) without the officer’s express written consent, a material reduction by us of the officer’s base salary as in effect immediately prior to such reduction; (iii) without the officer’s express written consent, the relocation of the officer’s principal place of employment with us by more than 50 miles; or (iv) any termination of the officer’s employment by us without cause (as defined below) or, in the case of option awards granted under the Amended and Restated 2008 Plan, as a result of the retirement of the officer (as defined below). For purposes of the option awards granted to Messrs. Culley and Keran in 2011, “cause” means (A) any act of personal dishonesty taken by the officer in connection with his responsibilities as an employee which is intended to result in substantial personal enrichment of the officer; (B) the officer’s conviction of a felony that our board of directors reasonably believes has had or will have a material detrimental effect on our reputation or business; (C) a willful act by the officer that constitutes misconduct and is materially injurious to us, or (D) continued willful violations by the officer of the officer obligations to us after there has been delivered to the officer a written demand for performance from us that describes the basis for our belief that the officer has not substantially performed his duties. For purposes of the option awards granted to Messrs. Culley and Keran in 2011, “retirement” means termination of the officer’s employment with us or a successor company (or a subsidiary or parent thereof) other than for cause (1) if (x) the officer is then at least age 60 and (y) the sum of the officer’s age and years of continuous service with us is then equal to at least 70 or (2) if the compensation committee characterizes such termination as a “retirement” for purposes of the option agreement.

Mr. Gorgas’ option awards may vest and become exercisable in full (100%) in the event of a change in control (as defined in the Amended and Restated 2008 Plan) if (a) the successor company does not assume or substitute for the option awards or (b) the successor company assumes or substitutes for the option awards but Mr. Gorgas’ employment is subsequently terminated by us or the successor company without cause or by Mr. Gorgas for good reason within 24 months after the change in control. For purposes of Mr. Gorgas’ option awards, “cause” means (i) the commission of any act of fraud, embezzlement or dishonesty by the officer, (ii) any unauthorized use or disclosure by the officer of our confidential information or trade secrets, or (iii) any other intentional misconduct by the officer adversely affecting our business affairs in a material manner. For purposes of Mr. Gorgas’ option awards, “good reason” means, in each case without the officer’s explicit written consent, which the officer may withhold or provide in the officer’s sole and absolute discretion, (A) a reduction by us or a successor company (or a subsidiary or parent thereof) of more than 10% in the officer’s annual base salary as in effect immediately prior to the change in control; (B) a reduction by us or a successor company (or a subsidiary or parent thereof) of more than 10% of the officer’s individual annual target or bonus opportunity, except under circumstances where we or the successor company (or a subsidiary or parent thereof) implement changes to the bonus structure of similarly situated employees, including but not limited to changes to the bonus structure designed to integrate our personnel with other personnel of the successor company (or a subsidiary or parent thereof); (C) a change in position that materially reduces the officer’s level of responsibility, including the level of person to whom the officer reports; or (D) a relocation following the change in control of the officer’s primary office location (1) by more than 50 miles or (2) that would reasonably be expected to increase the officer’s commute such that the officer’s total (i.e., round-trip) commute would reasonably be expected to increase by more than one hour per day.

### ***2011 Non-Equity Incentive Plan Awards***

In July 2011, the compensation committee adopted a 2011 mid-year executive incentive plan for our officers, including the NEOs, for the period from July 1 to December 31, 2011. The 2011 mid-year incentive plan was governed and administered by the compensation committee.

Pursuant to the 2011 mid-year incentive plan and, in Mr. Gorgas' case, his offer letter, each NEO was assigned an incentive target that was expressed either as a specific dollar amount or as a percentage of base salary, and the participant's incentive award, if any, would be based on our company's achievement of near-term corporate objectives approved by the compensation committee. Although, pursuant to his offer letter, Mr. Gorgas' award also may have been based on his achievement of individual objectives, the compensation committee determined not to adopt individual objectives for Mr. Gorgas and, consequently, all incentive awards for the NEOs were based 100% on our company's achievement of the corporate objectives. Awards generally would be paid in cash; however, the compensation committee had discretion to determine the composition of each award payment. The actual payout amount of an incentive award could exceed the incentive target if performance exceeded objectives or was excellent in view of prevailing conditions or it could be less than the incentive target if performance partially met objectives or was less than acceptable. The compensation committee would determine the actual payout amount of each award after considering the recommendations of Messrs. Culley and Keran. In evaluating performance, the 2011 mid-year incentive plan called for the compensation committee to consider the achievement of objectives, the degree to which performance exceeded the objective or an objective is partially achieved, the quality of achievement, the difficulty in achieving the objective, conditions that affected the ability to achieve objectives and such other factors as the compensation committee determined appropriate to consider. The incentive target for each of Messrs. Culley and Keran was \$187,500 and for Mr. Gorgas was 30% of his base salary earned in 2011.

The corporate performance objectives under the 2011 mid-year incentive plan were set by the compensation committee when the plan was adopted in July 2011 based on recommendations by Messrs. Culley and Keran and the compensation committee's assessment, as of such date, of near-term corporate objectives the achievement of which would enhance stockholder value. The corporate objectives involved progress with the clinical development of one or more of our product candidates, including progress with regulatory and/or manufacturing activities, favorable responses from the FDA regarding one or more of our product candidates, progress with evaluating and/or the acquisition of additional technologies, product candidates, products and/or companies and maintaining specified levels of capital. We achieved many of the corporate objectives under the 2011 mid-year incentive plan, but not all of them, primarily due to the complete response letter from the FDA we received in August 2011 regarding our Exelbine new drug application. As a result, in determining whether to grant awards to the NEOs under 2011 mid-year incentive plan in the first quarter of 2012, the compensation committee determined to award 70% of their incentive targets to the NEOs, or \$131,250 to each of Messrs. Culley and Keran and \$23,589 to Mr. Gorgas.

### ***Employment Retention and Severance Arrangements***

The employment of each of our NEOs is at-will and they or we may terminate their employment with us at any time with or without prior notice. In July 2009, the compensation committee adopted a retention and severance plan applicable to each of Messrs. Culley and Keran. The compensation committee determined that this plan was necessary to incentivize and retain Messrs. Culley and Keran, who at the time were our only employees, and reinforce their dedication to us during a period when they would otherwise likely seek alternative employment. Under this plan, if the employment of Mr. Culley or Mr. Keran, as applicable, terminates at any time as a result of an involuntary termination, and Mr. Culley or Mr. Keran, as the case may be, delivers and does not revoke a general release of claims, which will also confirm any post-termination obligations and/or restrictions applicable to him, he will be entitled to (i) an amount equal to 12 months of his then-current base salary, less applicable withholdings, and (ii) an amount equal to the estimated cost of continuing his healthcare coverage and the coverage of his dependents who are covered at the time of the involuntary termination under the

---

[Table of Contents](#)

Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, for a period equal to 12 months. These severance benefits will be paid in a lump-sum on the date the general release of claims becomes effective. As of December 31, 2011, our aggregate contractual contingent obligation under the retention and severance plan, including applicable payroll and employer taxes, was \$411,435 for Mr. Culley and \$406,362 for Mr. Keran.

For purposes of the retention and severance plan, the definition of “involuntary termination” is the same as described above with respect to the 2011 stock options awards, except that (i) an involuntary termination shall also be deemed to occur upon a material breach of the retention and severance plan, including, but not limited to, our failure to obtain the assumption of the retention and severance plan by any successors as contemplated in the retention and severance plan and (ii) for purposes of clause “(i)” of the definition of involuntary termination described above, an involuntary termination will not be deemed to occur (a) with respect to Mr. Culley, if Mr. Culley remains the head of and most senior individual within our company’s (or our successor’s) business development function and (b) with respect to Mr. Keran, if Mr. Keran remains the head of and most senior individual within our company’s (or our successor’s) legal function. The definition of “cause” is also the same as described above with respect to the 2011 stock options awards.

***Other Employment Benefits and Arrangements***

*Vacation Benefits.* Messrs. Culley, Keran and Gorgas accrue 27, 25 and 20 vacation days per year, respectively, subject to adjustment based on the number of years of the officer’s employment with us. As of December 31, 2011, Messrs. Culley and Keran had accrued 54 and 50 vacation days, respectively, which is the maximum amount they can accrue under our vacation benefits policy, and Mr. Gorgas had accrued approximately nine vacation days. Pursuant to our policy, employees may not accrue vacation days in excess of twice their annual vacation accrual rate. Accordingly, until Mr. Culley or Mr. Keran uses his accrued vacation days, he will not accrue additional vacation days unless his annual accrual rate increases. If the NEOs’ employment with us had terminated as of December 31, 2011, our aggregate vacation benefits payment obligation, including applicable payroll and employer taxes, would have been approximately \$79,009, \$72,186 and \$8,671 for Messrs. Culley, Keran and Gorgas, respectively.

*Other Agreements.* It is our policy that, at the beginning of employment, all employees sign our standard confidential information, non-solicitation and invention assignment agreement for employees. Under the current version of this agreement, employees agree that, during the period of the employee’s service to us and for one year thereafter, the employee will not (a) solicit any employee or consultant of ours to leave the employ of or terminate any relationship with us or (b) solicit the business of any client or customer of ours using our confidential information. Each of our named executive officers has signed one of these agreements.

[Table of Contents](#)

**Outstanding Equity Awards at Fiscal Year-End 2011**

The following table sets forth information regarding outstanding equity awards held by our named executive officers at the end of fiscal 2011. All share and per share information included in this table reflects retrospective application of the 1-for-25 reverse split of our outstanding common stock effected on April 23, 2010.

Outstanding Equity Awards at Fiscal Year-End for Fiscal Year 2011									
Name	Option Awards					Stock Awards			
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)	Equity Incentive Plan Awards: Number of Shares, Units or Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)
Brian M. Culley	4,000	—	—	\$ 57.50	07/13/2015	—	—	—	—
	3,200	—	—	\$ 118.75	01/30/2016	—	—	—	—
	5,999	—	—	\$ 68.75	01/11/2017	—	—	—	—
	4,800(1)	3,200(1)	—	\$ 13.50	03/30/2018	—	—	—	—
	34,000(2)	33,999(2)	—	\$ 3.25	07/20/2019	—	—	—	—
	16,001(3)	47,998(3)	—	\$ 8.00	02/02/2020	—	—	—	—
	—	100,000(4)	—	\$ 2.29	02/01/2021	—	—	—	—
	26,041(5)	223,959(5)	—	\$ 3.26	07/05/2021	—	—	—	—
—	425,000(6)	—	\$ 0.60	12/07/2021	—	—	—	—	
Patrick L. Keran	4,000	—	—	\$ 74.75	08/17/2016	—	—	—	—
	1,999	—	—	\$ 68.75	01/11/2017	—	—	—	—
	4,800(1)	3,200(1)	—	\$ 13.50	03/30/2018	—	—	—	—
	34,000(2)	33,999(2)	—	\$ 3.25	07/20/2019	—	—	—	—
	16,001(3)	47,998(3)	—	\$ 8.00	02/02/2020	—	—	—	—
	—	100,000(4)	—	\$ 2.29	02/01/2021	—	—	—	—
	26,041(5)	223,959(5)	—	\$ 3.26	07/05/2021	—	—	—	—
	—	425,000(6)	—	\$ 0.60	12/07/2021	—	—	—	—
Gregory D. Gorgas	—	100,000(7)	—	\$ 3.44	07/20/2021	—	—	—	—
	—	160,000(8)	—	\$ 0.60	12/07/2021	—	—	—	—

- (1) Subject to accelerated vesting in the event of a change in control or an involuntary termination within 24 months of a change in control, as described below under “Acceleration of Vesting of Stock Options Granted Under 2005 Equity Incentive Plan,” this option vests and becomes exercisable in five equal annual installments. One-fifth of the total underlying shares vested and became exercisable on January 1 of each of 2009, 2010 and 2011 and will vest and become exercisable on January 1 of each of 2012 and 2013.
- (2) Subject to accelerated vesting in the event of a change in control or an involuntary termination, as described below under “Acceleration of Vesting of 2010 and 2009 Stock Option Awards,” this option vests and becomes exercisable in four substantially equal annual installments. Approximately 1/4 of the total underlying shares vested and became exercisable on January 1 of each of 2010 and 2011 and will vest and become exercisable on January 1 of each of 2012 and 2013.
- (3) Subject to accelerated vesting in the event of a change in control or an involuntary termination, as described below under “Acceleration of Vesting of 2010 and 2009 Stock Option Awards,” this option vests and



---

## [Table of Contents](#)

becomes exercisable in four substantially equal annual installments. Approximately 1/4 of the total underlying shares vested and became exercisable on January 1, 2011 and will vest and become exercisable on January 1 of each of 2012, 2013 and 2014.

- (4) Subject to accelerated vesting in the event of a change in control or an involuntary termination, as described above under “Narrative Disclosure to Summary Compensation Table — 2011 Stock Option Awards” this option vests and becomes exercisable in four equal annual installments. One-fourth of the total underlying shares will vest and become exercisable on January 1 of each of 2012, 2013, 2014 and 2015.
- (5) Subject to accelerated vesting in the event of a change in control or an involuntary termination, as described above under “Narrative Disclosure to Summary Compensation Table — 2011 Stock Option Awards,” this option vests and becomes exercisable in substantially equal monthly installments over four years. Approximately 1/48 of the total underlying shares vested and became exercisable on August 1, 2011 and approximately 1/48 of the total underlying shares vests and becomes exercisable on the first of each month thereafter.
- (6) Subject to accelerated vesting in the event of a change in control or an involuntary termination, as described above under “Narrative Disclosure to Summary Compensation Table — 2011 Stock Option Awards,” this option vests and becomes exercisable in substantially equal monthly installments over four years. Approximately 1/48 of the total underlying shares vests and becomes exercisable on February 1, 2012 and on the first of each month thereafter.
- (7) Subject to accelerated vesting in the event of a change in control or an involuntary termination, as described above under “Narrative Disclosure to Summary Compensation Table — 2011 Stock Option Awards,” this option vests in substantially equal monthly installments over three years after a one-year cliff. Approximately 1/4 of the total underlying shares vests and becomes exercisable on January 1, 2012 and approximately 1/48 of the total underlying shares vests and becomes exercisable on the first of each of the 36 months thereafter.
- (8) Subject to accelerated vesting in the event of a change in control or an involuntary termination, as described above under “Narrative Disclosure to Summary Compensation Table — 2011 Stock Option Awards,” this option vests in substantially equal monthly installments over four years after a cliff vesting on the anniversary of Mr. Gorgas’ employment start date. Approximately 19,999 of the total underlying shares will vest and become exercisable on July 21, 2012 and approximately 1/48 of the balance of the shares subject to this option will vest and become exercisable on the 21<sup>st</sup> of each month thereafter until July 21, 2016.

### ***Acceleration of Vesting of 2010 and 2009 Stock Option Awards***

The agreements governing the option awards granted in 2010 under the Original 2008 Plan to Messrs. Culley and Keran provide for acceleration of vesting and exercisability of those option awards under substantially the same circumstances and terms as the option awards granted to those NEOs in January 2011, except that for purposes of clause (i) of the definition of involuntary termination described with respect to those option awards above, an involuntary termination will not be deemed to occur (a) with respect to Mr. Culley, if Mr. Culley remains the head of and most senior individual within our company’s (or our successor’s) business development function and (b) with respect to Mr. Keran, if Mr. Keran remains the head of and most senior individual within our company’s (or our successor’s) legal function.

The agreements governing the option awards granted in 2009 under the Original 2008 Plan to Messrs. Culley and Keran provide that the vesting and exercisability of each option award will accelerate under certain circumstances, including: (i) in the event of an involuntary termination of the NEO, the option award will vest and become exercisable immediately prior to such involuntary termination with respect to 25% of the total number of shares subject to the option award, (ii) in the event of a change in control (as defined in our 2008 Omnibus Incentive Plan), the option award will vest and become exercisable with respect to 50% of the then unvested shares on the day prior to the date of the change in control and, subject to the NEO’s continuous service, with respect to the remaining 50% of the then unvested shares on the one year anniversary of the date of the change in control, (iii) subject to the preceding clause (ii), in the event of a change of control, to the extent

---

## [Table of Contents](#)

the successor company (or a subsidiary or parent thereof) does not assume or substitute for the option award, the option award will vest and become exercisable with respect to 100% of the then unvested shares on the day prior to the date of the change in control if the NEO is then providing services or was the subject of an involuntary termination in connection with, related to or in contemplation of the change in control and will remain exercisable for a period of 24 months from the date of such involuntary termination, and (iv) subject to the preceding clause (ii), in the event of a change in control, to the extent the successor company (or a subsidiary or parent thereof) assumes or substitutes for the option award, and in the event of an involuntary termination of the NEO within 12 months following the date of the change in control, the option award will vest and become exercisable with respect to 100% of the then unvested shares on the day prior to the date of the change in control and will remain exercisable for a period of 24 months from the date of such involuntary termination.

Although the terms of the stock option awards granted to Messrs. Culley and Keran in 2010 and 2009 provide for acceleration of vesting in certain circumstances as described above, they would not have then realized any intrinsic value from these option awards as a result of the acceleration provisions if any of the acceleration scenarios had occurred on December 31, 2011 because none of these option awards were “in-the-money” on December 31, 2011, meaning none of them had an exercise price per share less than the market value per share of our common stock. The market value of our common stock is based on the closing market price of our common stock, which was \$0.59 per share on December 31, 2011.

### ***Acceleration of Vesting of Outstanding Stock Options Granted Under 2005 Equity Incentive Plan***

All of the stock option awards held by the NEOs that were granted before July 2009 were granted under our 2005 Equity Incentive Plan. The stock option agreements governing the option awards granted to the NEOs before August 2006 provide that the option awards will accelerate in full in the event of an “acquisition” constituting a “change of control” (as such terms are defined in the stock option agreement) if the option holder remains employed by us as of the closing date of such acquisition and the option is not assumed or replaced by the successor or acquiring entity or the entity in control of such successor or acquiring entity. Otherwise, the option will not accelerate in the event of such an acquisition. The stock option agreements governing the option awards granted to the NEOs in and after August 2006 additionally provide that, if following a change of control in which an option is assumed as described above, the option holder is subject to an “involuntary termination” within 24 months after the closing date of such change in control, the vesting of the assumed option will be accelerated such that the option will vest as of the effective date of such involuntary termination with respect to all shares that would have vested during the period from the date of the option holder’s involuntary termination until the date that is 24 months after the closing date of such change in control if such option holder had not been involuntarily terminated. For purposes of these stock option agreements, an “involuntary termination” is a termination of employment that occurs by reason of dismissal for any reason other than “misconduct” or of voluntary resignation following: (i) a change in position that materially reduces the level of the employee’s responsibility, (ii) a material reduction in the employee’s base salary, or (iii) relocation by more than 50 miles; provided that (ii) and (iii) will apply only if the employee has not consented to the change or relocation.

“Misconduct” means the commission of any act of fraud, embezzlement or dishonesty by the employee, any unauthorized use or disclosure by the employee of confidential information or trade secrets of our company (or any parent or subsidiary), or any other intentional misconduct by the employee adversely affecting our business affairs (or those of any parent or subsidiary) in a material manner. All of the stock option agreements governing the option awards granted to our NEOs in January 2007 contain this double trigger acceleration provision.

Although the terms of the stock option awards granted to Messrs. Culley and Keran under our 2005 Equity Incentive Plan provide for acceleration of vesting in certain circumstances as described above, they would not have then realized any intrinsic value from these option awards as a result of the acceleration provisions if any of the acceleration scenarios had occurred on December 31, 2011 because none of these option awards were “in-the-money” on December 31, 2011, meaning none of them had an exercise price per share less than the market value per share of our common stock. The market value of our common stock is based on the closing market price of our common stock, which was \$0.59 per share on December 31, 2011.

[Table of Contents](#)

**Tax-Qualified Defined Contribution Plan**

We have a defined contribution savings plan pursuant to Section 401(k) of the Internal Revenue Code of 1986. The plan is for the benefit of all employees and permits voluntary contributions by qualifying employees of up to 100% of eligible compensation, subject to Internal Revenue Service-imposed maximum limits. Under the terms of the plan, we are required to make matching contributions equal to 100% of employee contributions up to 6% of eligible compensation, limited by the IRS-imposed maximum, for all employees. With respect to the NEOs, we incurred total expenses of approximately \$36,054 and \$29,400 in employer matching contributions in 2011 and 2010, respectively.

**DIRECTOR COMPENSATION**

The following table shows compensation information for the individuals who served as our non-employee directors during the year ended December 31, 2011. Mr. Culley, our only director who is also one of our employees, does not receive any additional compensation for his service as a director.

**Director Compensation for Fiscal Year 2011**

<u>Name</u>	<u>Fees Earned or Paid in Cash</u>	<u>Stock Awards</u>	<u>Option Awards(1)(2)</u>	<u>Non-Equity Incentive Plan Compensation</u>	<u>Nonqualified Deferred Compensation Earnings</u>	<u>All Other Compensation</u>	<u>Total</u>
Michael M. Goldberg(3)	\$ 20,771	—	—	—	—	—	\$ 20,771
Odysseas Kostas(4)	\$ 9,889	—	—	—	—	—	\$ 9,889
Jack Lief	\$ 74,343	—	\$ 31,079	—	—	—	\$105,422
Mark J. Pykett(3)	\$ 20,771	—	—	—	—	—	\$ 20,771
David A. Ramsay(5)	\$ 31,972	—	\$ 43,032	—	—	—	\$ 75,004
Eric K. Rowinsky(3)	\$ 16,167	—	—	—	—	\$ 96,500(6)	\$112,667
Lewis J. Shuster(7)	\$ 34,517	—	\$ 46,574	—	—	—	\$ 81,091

- (1) The amounts in this column represent the aggregate grant date fair value of option awards granted to the directors in 2011, calculated in accordance with the provisions of FASB ASC Topic 718, "Stock Compensation," except that any estimate of forfeitures was disregarded. For a description of the assumptions used to calculate these amounts, see Note 9 to our audited consolidated financial statements included in our annual report on Form 10-K for the year ended December 31, 2011. The actual value of any option award to a director, if any, will depend on the excess of our stock price over the exercise price on the date the option award is exercised. The actual value realized by the director upon exercise of the option awards may be higher or lower than the value shown in this column.
- (2) As of December 31, 2011, our non-employee directors had option awards outstanding to purchase the following number of shares of our common stock:

<u>Name</u>	<u>Shares Underlying Outstanding Options</u>
Michael M. Goldberg	11,443
Odysseas Kostas	—
Jack Lief	30,988
Mark J. Pykett	11,443
David A. Ramsay	12,808
Eric K. Rowinsky	11,443
Lewis J. Shuster	15,427

- (3) Each of Dr. Goldberg, Dr. Pykett and Dr. Rowinsky resigned from our board of directors effective as of June 15, 2011. See "Corporate Governance — Director Resignation Policy" above for a discussion of the circumstances of their resignations.

---

[Table of Contents](#)

- (4) Dr. Kostas resigned from our board of directors on May 5, 2011.
- (5) Mr. Ramsay was appointed to our board of directors effective as of June 15, 2011.
- (6) This amount represents fees earned for consulting services provided to us under a consulting agreement with Dr. Rowinsky. See “Consulting Services Agreement with Eric K. Rowinsky” below for a description of our consulting agreement with Dr. Rowinsky.
- (7) Mr. Shuster was appointed to our board of directors effective as of April 8, 2011.

**Overview of Non-Employee Director Compensation**

Compensation of the non-employee members of our board of directors for their service on the board and its committees is set forth in a written policy adopted by our board of directors. With the assistance of its compensation committee, our board of directors periodically reviews and evaluates the director compensation policy and adopts changes to ensure our director compensation enables us to recruit and retain individuals with the requisite experience, skills and characteristics for membership on our board of directors. Our current director compensation policy was adopted in March 2011, retroactive to January 1, 2011. It provides for a combination of cash compensation in the form of a fixed retainer and meeting attendance fees and equity compensation in the form of stock option awards. We also reimburse our directors for travel and other reasonable out-of-pocket expenses related to attendance at meetings of our board of directors and its committees.

***Retainer***

Pursuant to our director compensation policy, the amount of the cash retainer we pay a non-employee director varies based on the director’s role on our board and its committees, as set forth in the table below.

**2011 Cash Retainer(1)**

	<u>Chairperson</u>	<u>Member</u>
Board of Directors	\$ 40,000	\$20,000
Audit Committee	\$ 7,500	\$ —
Compensation Committee	\$ 3,500	\$ —
Nominating and Governance Committee	\$ 3,500	\$ —
Special Committee(2)	\$ 3,500	\$ —
Pricing Committee(3)	\$ 3,500	\$ —

- (1) The amounts listed in this table are the annual amounts payable, which we pay in four equal installments on a quarterly basis. A non-employee director whose service begins or ends during a quarter receives a pro-rated portion of the applicable payment.
- (2) The special committee automatically dissolved in June 2011.
- (3) The pricing committee automatically dissolved in December 2011.

***Meeting Fees***

Pursuant to our director compensation policy, we pay our non-employee directors \$1,000 for attendance at each meeting of our board of directors and each meeting of a board committee of which such director is a member (whether such attendance is in person or by telephone, videoconference or other comparable communication device).

***Equity Compensation***

Pursuant to our director compensation policy, non-employee directors are eligible, in connection with each annual meeting of our stockholders, to receive an “annual option” to purchase up to such number of shares of our

---

## [Table of Contents](#)

common stock that is equal to the sum of (a) an amount, which we refer to as the “allocated amount,” equal to the product of 0.0396% multiplied by the number of shares of our common stock outstanding as of the date of the applicable annual meeting of stockholders and (b) an amount, which we refer to as the “adjustment amount,” equal to the difference between (i) the allocated amount for the current year’s annual meeting of stockholders, minus (ii) the allocated amount that was applicable to the prior year’s annual meeting of stockholders (unless a director was not a non-employee director at the time of the prior year’s annual meeting of stockholders, in which case the adjustment amount for that director will be based on the number of shares of our common stock outstanding as of the date of that director’s appointment or election to our board of directors). However, the adjustment amount will be included in the annual option for a director only if (x) the adjustment amount for that director exceeds 20% of the allocated amount for the current year’s annual meeting of stockholders, (y) our company’s market capitalization (shares outstanding multiplied by stock price) has not exceeded \$100 million for a sustained period, as determined unanimously by our board of directors, and (z) our board of directors unanimously determines to include the adjustment amount in such annual option. Each annual option will vest and become exercisable in 12 substantially equal monthly installments of 1/12<sup>th</sup> of the shares subject to the option at the end of each successive month following the date of the applicable annual meeting of stockholders, subject to the director’s continuing service (as defined in the Amended and Restated 2008 Plan).

In addition, any non-employee director initially appointed or elected to our board of directors after January 1, 2011, is eligible to receive an “inducement option” and a “pro-rated annual option.” An inducement option entitles the director to purchase up to such number of shares of our common stock that is equal to the amount, which we refer to as the “new director allocated amount,” that is the product of 0.0396% multiplied by the number of shares of our common stock outstanding as of the date of the director’s initial appointment or election to our board of directors. A pro-rated annual option entitles the director to purchase up to such number of shares of our common stock that is equal to the product of (A) the quotient of the new director allocated amount, divided by 12, and (B) the number of full 30-day periods between the new director’s date of appointment or election and the date of our next annual meeting of stockholders (or, if, on the new director’s date of appointment or election, the date of our next annual meeting of stockholders has not been set, the one-year anniversary of the new director’s date of appointment or election). Each inducement option will vest and become exercisable in 36 substantially equal monthly installments of 1/36<sup>th</sup> of the shares subject to the option at the end of each successive month following the date of the director’s initial appointment or election to our board of directors, subject to the director’s continuing service (as defined in the Amended and Restated 2008 Plan). Each pro-rated annual option will vest and become exercisable in such number of substantially equal monthly installments as is equal to the number of full 30-day periods between the director’s initial appointment or election to our board of directors and the date of the next annual meeting of our stockholders.

Each stock option award granted pursuant to our director compensation policy will be granted under the Amended and Restated 2008 Plan or any amendment or restatement thereof, will have an exercise price per share equal to the fair market value (as defined in the Amended and Restated 2008 Plan) of a share of our common stock on the date the option award is granted, and will have a term equal to the shorter of (i) ten years from the date the option award is granted and (ii) three years from the date such non-employee director ceases to provide services (as defined in the Amended and Restated 2008 Plan) to us for any reason other than such director’s death or disability. In addition, in the event of a change of control of our company, each option award will vest and become exercisable on the day prior to the date of the change in control if the director is then providing services (as defined in the Amended and Restated 2008 Plan), and each option award will terminate on the date of the change in control to the extent not exercised.

### **Consulting Services Agreement with Eric K. Rowinsky**

Dr. Rowinsky was a member of our board of directors from February 2008 to June 2011. In addition, Dr. Rowinsky has provided consulting services to us from time to time at our request pursuant to a consulting agreement entered into effective as of November 23, 2009, as amended effective as of November 23, 2010. Pursuant to the consulting agreement, as amended, during the period from the effective date of the original

---

[Table of Contents](#)

agreement through June 30, 2011, we paid Dr. Rowinsky at a rate of \$350 per hour and, during the period from July 1, 2011 through the end of 2011, we paid Dr. Rowinsky at a rate of \$12,000 per month for the services he provided to us. His services to us have included responding to inquiries of ours regarding medical, clinical and regulatory matters with which Dr. Rowinsky has knowledge and providing advice and assistance regarding development of our product candidates, special projects or any other matter consistent with Dr. Rowinsky's background, skills and experience.

## AUDIT COMMITTEE REPORT

Under the guidance of a written charter adopted by our board of directors, the purpose of the audit committee is to oversee our accounting and financial reporting processes and audits of our financial statements and the effectiveness of our internal control over financial reporting. The responsibilities of the audit committee include appointing and providing for the compensation of an independent registered public accounting firm to conduct an annual audit of our financial statements and overseeing the work and evaluating the performance of the independent auditor. Each of the members of the audit committee meets the independence and qualification requirements of the NYSE Amex.

Management has primary responsibility for the financial statements and the reporting process, including the system of internal controls. The independent registered public accounting firm has the responsibility to express an opinion on the financial statements and internal control over financial reporting based on an audit conducted in accordance with generally accepted auditing standards.

In this context and in connection with the audited financial statements contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2011, the audit committee:

- reviewed and discussed the audited financial statements as of and for the fiscal year ended December 31, 2011 with our management;
- discussed with PricewaterhouseCoopers LLP, our independent registered public accounting firm, the matters required to be discussed by Statement of Auditing Standards No. 61, as amended, as adopted by the Public Company Accounting Oversight Board in Rule 3200T;
- reviewed the written disclosures and the letter from PricewaterhouseCoopers LLP required by applicable requirements of the Public Company Accounting Oversight Board regarding the independent accountant's communications with the audit committee concerning independence, and has discussed with PricewaterhouseCoopers LLP its independence; and
- based on the foregoing reviews and discussions, recommended to our board of directors that the audited financial statements be included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2011 filed with the SEC.

### AUDIT COMMITTEE

David A. Ramsay, Chair

Jack Lief

Lewis J. Shuster

*The preceding "Audit Committee Report" shall not be deemed soliciting material or filed with the SEC, nor shall any information in this report be incorporated by reference into any past or future filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent the Company specifically incorporates it by reference into such filing.*

## PRINCIPAL ACCOUNTANT FEES AND SERVICES

The audit committee has appointed PricewaterhouseCoopers LLP (“PwC”) as our independent registered public accounting firm for the fiscal year ending December 31, 2012. We are asking our stockholders to ratify this appointment.

PwC has served as our independent registered public accounting firm since June 28, 2011. The following table presents the aggregate fees for the period from June 28, 2011 through December 31, 2011 for professional services rendered to us by PwC:

	2011
Audit Fees(1)	\$241,324
Audit-Related Fees	—
Tax Fees	—
All Other Fees	—
<b>Total</b>	<b><u>\$241,324</u></b>

- (1) “Audit Fees” represent fees for professional services provided in connection with the integrated audit of our annual financial statements and internal control over financial reporting, review of financial statements included in our quarterly reports, review of our registration statements on Form S-3, and related services normally provided in connection with statutory and regulatory filings and engagements.

J.H. Cohn LLP served as our independent registered public accounting firm for the year ended December 31, 2010 and for part of 2011 (from January 1 through June 17, 2011). The following table presents the aggregate fees for such periods for professional services rendered to us by J.H. Cohn.

	2011	2010
Audit Fees(1)	\$82,164	\$109,336
Audit-Related Fees	—	—
Tax Fees	—	—
All Other Fees	—	—
<b>Total</b>	<b><u>\$82,164</u></b>	<b><u>\$109,336</u></b>

- (1) “Audit Fees” represent fees for professional services provided in connection with the audit of our annual financial statements, review of financial statements included in our quarterly reports, review of our registration statements on Forms S-3, S-8 and S-1, and related services normally provided in connection with statutory and regulatory filings and engagements.

On June 17, 2011, we dismissed J.H. Cohn as our independent registered public accounting firm. The audit committee approved such dismissal. The audit report of J.H. Cohn on our consolidated financial statements as of and for the years ended December 31, 2010 or December 31, 2009, respectively, did not contain an adverse opinion or a disclaimer of opinion and was not qualified or modified as to uncertainty, audit scope or accounting principles. During the fiscal years ended December 31, 2010 and 2009, and through June 17, 2011, there were no disagreements (as defined in Item 304(a)(1)(iv) of Regulation S-K and the related instructions to Item 304 of Regulation S-K) with J.H. Cohn on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of J.H. Cohn, would have caused J.H. Cohn to make reference to the subject matter of the disagreements in its reports on our consolidated financial statements for such years. During the fiscal years ended December 31, 2010 and 2009, and through June 17, 2011, there were no reportable events of the kind that would require disclosure under Item 304(a)(1)(v) of Regulation S-K. We provided J.H. Cohn with a copy of the above disclosures and requested J.H. Cohn to provide us with a letter addressed to the SEC stating whether it agrees with such disclosures. A copy of J.H. Cohn’s letter dated June 21, 2011 is attached as Exhibit 16.1 to the Current Report on Form 8-K that we filed with the SEC on June 23, 2011.



---

[Table of Contents](#)

On June 28, 2011, the audit committee engaged PwC as our independent registered public accounting firm for the year ended December 31, 2011. During the years ended December 31, 2010 and 2009 and through June 28, 2011, neither we nor anyone on our behalf consulted with PwC regarding (a) the application of accounting principles to a specified transaction, either completed or proposed, or the type of audit opinion that might be rendered on our consolidated financial statements, and neither a written report nor oral advice was provided to us that PwC concluded was an important factor considered by us in reaching a decision as to the accounting, auditing or financial reporting issue; or (b) any matter that was either the subject of a disagreement (as defined in Item 304(a)(1)(iv) of Regulation S-K and the related instructions to Item 304 of Regulation S-K) or a reportable event (as described in Item 304(a)(1)(v) of Regulation S-K).

**Policy Regarding Pre-Approval of Audit and Non-Audit Services by Our Independent Registered Public Accounting Firm**

We have established a policy that all audit and permissible non-audit services provided by our independent registered public accounting firm will be approved by the audit committee in advance of their performance. These services may include audit services, audit-related services, tax services and other services. The audit committee may pre-approve services as part of its approval of the scope of the engagement of the independent registered public accounting firm or on an individual case-by-case basis. The audit committee considers whether the provision of any non-audit service is compatible with maintaining the independence of our auditors.

### PROPOSAL 1 — ELECTION OF DIRECTORS

At the Annual Meeting, our stockholders will vote on the election of four directors to serve for one-year terms until the 2013 annual meeting of stockholders and until their successors are elected and qualified, or until their earlier death, retirement, resignation or removal. Our board of directors has unanimously nominated Brian M. Culley, Jack Lief, David A. Ramsay and Lewis J. Shuster for election to our board of directors at the Annual Meeting. The director nominees have indicated that they are willing and able to serve as directors. If any of the nominees becomes unable or unwilling to serve, the proxies being solicited by this proxy statement will be voted for the election of any substitute nominee who shall be designated by our board of directors to fill the vacancy. The proxies being solicited by this proxy statement will be voted for no more than four nominees at the Annual Meeting.

Assuming a quorum is present at the Annual Meeting, each director nominee who receives an affirmative vote of the holders of a majority of the shares of common stock having voting power present in person or represented by proxy at the Annual Meeting will be elected. Abstentions will have the same effect as negative votes. Broker non-votes will not be counted and will have no effect on the outcome of this proposal. Stockholders do not have cumulative voting rights in the election of directors.

**Our board of directors recommends a vote “FOR” the election of Brian M. Culley, Jack Lief, David A. Ramsay and Lewis J. Shuster as directors.**

Unless otherwise instructed, the holders of proxies solicited by this proxy statement intend to vote the proxies received by them for the election of Brian M. Culley, Jack Lief, David A. Ramsay and Lewis J. Shuster.

### PROPOSAL 2 — RATIFICATION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

At the Annual Meeting, our stockholders will be asked to ratify the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2012. Stockholder ratification of the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm is not required by our bylaws or otherwise. Our board of directors is submitting the appointment of PricewaterhouseCoopers LLP to our stockholders for ratification as a matter of good corporate practice. If our stockholders do not ratify the appointment of PricewaterhouseCoopers LLP, the audit committee will reconsider this appointment. Even if the appointment is ratified, the audit committee, in its discretion, may appoint a different independent registered public accounting firm at any time during the year if the audit committee determines that such a change would be in the best interests of our company and our stockholders.

Assuming a quorum is present at the Annual Meeting, the affirmative vote of the holders of a majority of the shares of our common stock having voting power present in person or represented by proxy at the Annual Meeting is required to approve this proposal. Abstentions will have the same effect as negative votes. A broker or other nominee generally will have discretionary authority to vote on this proposal because it is considered a routine matter, and therefore we do not expect broker non-votes with respect to this proposal.

We expect representatives of PricewaterhouseCoopers LLP to be present at the Annual Meeting and they will have the opportunity to make a statement at the Annual Meeting if they so desire. We also expect such representatives to be available to respond to appropriate questions.

**Our board of directors recommends a vote “FOR” the ratification of the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2012.**

## OTHER MATTERS

As of the time of preparation of this proxy statement, neither our board of directors nor our management knows of any matter to be presented at the Annual Meeting that is not listed in the Notice of Annual Meeting accompanying this proxy statement and described in this proxy statement. If any other matters should properly come before the Annual Meeting or any adjournment or postponement thereof, however, the holders of proxies solicited by this proxy statement will vote on such matters in accordance with their judgment.

## STOCKHOLDER PROPOSALS FOR 2013 ANNUAL MEETING

The deadline for submitting a stockholder proposal for inclusion in our proxy materials for our 2013 Annual Meeting of Stockholders is December 28, 2012, which is 120 days prior to the first anniversary of the mailing date of this proxy statement. These proposals must be delivered to our principal executive offices and comply with the requirements as to form and substance established by the SEC for such proposals in order to be included in our proxy materials. Stockholders who wish to nominate persons for election to our board of directors or make a proposal at the 2013 Annual Meeting of Stockholders without including the proposal in our proxy materials relating to that meeting must notify us in writing delivered to our principal executive offices no earlier than February 20, 2013 and no later than March 22, 2013. Stockholders are advised to review our bylaws, which contain additional advance notice requirements. A copy of our bylaws is available to stockholders upon written request to our corporate secretary.

By Order of the Board of Directors,



Brian M. Culley  
*Chief Executive Officer*

San Diego, California  
April 27, 2012

## YOUR VOTE IS IMPORTANT!

**You are cordially invited to attend the Annual Meeting. However, to ensure the presence of a quorum and that your shares are represented at the Annual Meeting, and to save us additional proxy solicitation costs, please vote by proxy via the Internet by following the instructions on your proxy card or via the toll-free telephone number indicated on your proxy card or complete, sign, date and return your proxy card in the enclosed envelope, which does not require postage if mailed in the United States. Even if you have voted by proxy, you may still vote in person if you attend the meeting. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.**

ADVENTRX PHARMACEUTICALS, INC.  
 12390 EL CAMINO REAL, SUITE 150  
 SAN DIEGO, CA 92130

**VOTE BY INTERNET - www.proxyvote.com**

Use the internet to transmit your voting instructions and for electronic delivery of information up until 11:59 P.M. Eastern Time the day before the 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**

If you would like to reduce the costs incurred by our company in mailing 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 - 1-800-880-8903**

Use any touch-tone telephone to transmit your voting instructions up until 11:59 P.M. Eastern Time the day before the meeting date. Have your proxy card in hand when you call and then follow the instructions.

**VOTE BY MAIL**

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

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

KEEP THIS PORTION FOR YOUR RECORDS  
 DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

<p>The Board of Directors recommends you vote FOR each of the following nominees for director:</p>			
1. Election of Directors	For	Against	Abstain
1a Brian M. Culley	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1b Jack Lief	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1c David A. Ransay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1d Lewis J. Shuster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>The Board of Directors recommends you vote FOR the following proposal:</p>			
2. To ratify the appointment of PricewaterhouseCoopers LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2012.	For	Against	Abstain
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>NOTE: Such other business as may properly come before the meeting and any adjournment or postponement thereof.</p>			
<p>For address change/comments, mark here. (see reverse for instructions)</p>			<input type="checkbox"/>
<p>Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name, by authorized officer, giving full title as such.</p>			
<input type="text"/> Signature [PLEASE SIGN WITHIN BOX]		<input type="text"/> Date	
<input type="text"/> Signature (Joint Owners)		<input type="text"/> Date	

0000143036\_1\_R1.0.0.11099

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting: The Notice & Proxy Statement, Annual Report is/ are available at [www.proxyvote.com](http://www.proxyvote.com).

**ADVENTRX PHARMACEUTICALS, INC.**  
This proxy is solicited by the Board of Directors  
for use at the  
Annual Meeting of Stockholders to be held on June 20, 2012

The stockholder(s) hereby appoint(s) Brian M. Culey and Patrick L. Keran, or either of them, as proxies, each with the power to appoint his substitute, and hereby authorize(s) them to represent and to vote, as designated on the reverse side of this proxy card and in their discretion upon any other matter that may properly come before the meeting and any adjournment or postponement thereof, all shares of common stock of ADVENTRX Pharmaceuticals, Inc. that the stockholder(s) is/are entitled to vote at the Annual Meeting of Stockholders to be held at 9:00 AM PDT on June 20, 2012, at the offices of Sheppard, Mullin, Richter & Hampton, LLP, 12275 El Camino Real, Suite 200, San Diego, California 92130, and any adjournment or postponement thereof. By signing this proxy, the stockholder(s) revoke any prior proxy given for use at the Annual Meeting.

This proxy, when properly executed, will be voted as specified by the stockholder(s) on the reverse side. If no choice is specified, this proxy will be voted "FOR" all of the director nominees listed on the reverse side and "FOR" Proposal 2.

Address change/comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(If you noted any Address Changes and/or Comments above, please mark corresponding box on the reverse side.)

Continued and to be signed on reverse side

0000143026\_1 81.0.0.11099