

ACCELERON PHARMA INC
Form DEF 14A
April 17, 2015
Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
SCHEDULE 14A
Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (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 under §240.14a-12

ACCELERON PHARMA INC.
(Name of Registrant as Specified In Its Charter)

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

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
 - (1) Title of each class of securities to which transaction applies:
 - (2) Aggregate number of securities to which transaction applies:
 - (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):
 - (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:
-

Table of Contents

Acceleron Pharma Inc.
128 Sidney Street
Cambridge, MA 02139

NOTICE OF 2015 ANNUAL MEETING OF STOCKHOLDERS

The 2015 Annual Meeting of Stockholders of Acceleron Pharma Inc. (the "Company" or "Acceleron") will be held on June 4, 2015, at 10:00 a.m. local time, at Ropes & Gray LLP, Prudential Tower, 800 Boylston Street, Boston, MA 02199 for the following purpose of considering three company-sponsored proposals:

1. To elect Terrence C. Kearney, John L. Knopf, Ph.D. and Terrance G. McGuire as Class II directors, each for a three-year term.
2. An advisory, non-binding vote on the frequency of future advisory votes to approve the compensation paid to Acceleron's named executive officers.
3. To ratify the appointment of Ernst & Young LLP as the independent registered public accounting firm for the Company for the fiscal year ending December 31, 2015.

We will also consider and act upon any other matters that properly come before the Annual Meeting or any adjournment or postponement thereof.

Our Board of Directors recommends that you vote "for" each of the nominees for Class II director (proposal no. 1), "for" a frequency of voting on executive compensation every year (proposal no. 2), and "for" ratification of the proposed independent registered public accounting firm (proposal no. 3).

Each outstanding share of the Company's common stock (NASDAQ: XLRN) entitles the holder of record at the close of business on April 13, 2015, to receive notice of and to vote at the Annual Meeting or any adjournment or postponement of the Annual Meeting.

Whether or not you expect to attend the meeting, we urge you to vote your shares by following the instructions in the Important Notice Regarding the Availability of Proxy Materials that you previously received and submit your proxy by the Internet, telephone or by signing, dating and returning the proxy card included in these materials in order to ensure the presence of a quorum. If you choose to attend the annual meeting, you may still vote your shares in person, even if you have previously voted or returned your proxy by any of the methods described in our proxy statement. If your shares are held in a bank or brokerage account, please refer to the materials provided by your bank or broker for voting instructions.

All stockholders are extended a cordial invitation to attend the meeting.

By Order of the Board of Directors

John L. Knopf, Ph.D.
Chief Executive Officer, President and Director
April 17, 2015

Table of Contents

TABLE OF CONTENTS

	Page
<u>IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDER MEETING TO BE HELD ON JUNE 4, 2015</u>	<u>1</u>
<u>IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING</u>	<u>1</u>
<u>SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT</u>	<u>5</u>
<u>MANAGEMENT AND CORPORATE GOVERNANCE</u>	<u>9</u>
<u>COMPENSATION DISCUSSION AND ANALYSIS</u>	<u>19</u>
<u>COMPENSATION COMMITTEE REPORT</u>	<u>26</u>
<u>EXECUTIVE OFFICER AND DIRECTOR COMPENSATION</u>	<u>27</u>
<u>AUDIT COMMITTEE REPORT</u>	<u>37</u>
<u>SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE</u>	<u>38</u>
<u>CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS</u>	<u>38</u>
<u>PROPOSAL NO. 1—ELECTION OF DIRECTORS</u>	<u>39</u>
<u>PROPOSAL NO. 2—ADVISORY VOTE ON APPROVAL OF THE FREQUENCY OF HOLDING AN</u> <u>ADVISORY VOTE ON THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS</u>	<u>40</u>
<u>PROPOSAL NO. 3—RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC</u> <u>ACCOUNTING FIRM</u>	<u>41</u>
<u>GENERAL MATTERS</u>	<u>43</u>

Table of Contents

Acceleron Pharma Inc.
128 Sidney Street
Cambridge, MA 02139

PROXY STATEMENT FOR 2015 ANNUAL MEETING OF STOCKHOLDERS

To Be Held On Thursday, June 4, 2015 at 10:00 am ET

This proxy statement, along with the accompanying Notice of 2015 Annual Meeting of Stockholders, contains information about the 2015 Annual Meeting of Stockholders of Acceleron Pharma Inc., which we refer to as the Annual Meeting, including any adjournments or postponements of the Annual Meeting. We are holding the Annual Meeting at 10:00 a.m. local time, at Ropes & Gray LLP, Prudential Tower, 800 Boylston Street, Boston, MA 02199. In this proxy statement, we refer to Acceleron Pharma Inc. as "Acceleron," "the Company," "we" and "us."

This proxy statement relates to the solicitation of proxies by our Board of Directors for use at the Annual Meeting.

On or about April 17, 2015, we made available this proxy statement and the attached Notice of 2015 Annual Meeting of Stockholders to all stockholders entitled to vote at the Annual Meeting, and we began sending the proxy card and the Important Notice Regarding the Availability of Proxy Materials to all stockholders entitled to vote at the Annual Meeting. Although not part of this proxy statement, we have also made available with this proxy statement our Annual Report on Form 10-K for the fiscal year ended December 31, 2014 (the "Annual Report"), which includes our financial statements for the fiscal year ended December 31, 2014.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDER MEETING TO BE HELD ON JUNE 4, 2015

This proxy statement and our Annual Report are available for viewing, printing and downloading at www.proxyvote.com. To view these materials, please have your 16-digit control number(s) available that appears on your proxy card.

Additionally, you can find a copy of our Annual Report on the website of the Securities and Exchange Commission, or the SEC, at www.sec.gov, or in the "Annual Report" tab of the "Investors & Media" section of our website at www.acceleronpharma.com. You may also obtain a printed copy of our Annual Report, free of charge, by sending a written request to: Acceleron Pharma Inc., 128 Sidney Street, Cambridge, MA 02139, Attention: Secretary. Exhibits, if any, will be provided upon written request and payment of an appropriate processing fee.

IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

Why is the Company Soliciting My Proxy?

The Board of Directors of Acceleron Pharma Inc. is soliciting your proxy to vote at the 2015 Annual Meeting of Stockholders to be held at 10:00 a.m. local time, at Ropes & Gray LLP, Prudential Tower, 800 Boylston Street, Boston, MA 02199, and any adjournments of the meeting, which we refer to as the Annual Meeting. The proxy statement along with the accompanying Notice of 2015 Annual Meeting of Stockholders summarizes the purposes of the meeting and the information you need to know to vote at the Annual Meeting.

We have made available to you on the Internet or have sent you this proxy statement, the Notice of 2015 Annual Meeting of Stockholders, the proxy card and a copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2014 because you owned shares of Acceleron Pharma Inc. common stock on the record date. When were this proxy statement and the accompanying materials sent to stockholders?

On or about April 17, 2015, we began sending the Important Notice Regarding the Availability of Proxy Materials to all stockholders entitled to vote at the Annual Meeting.

Table of Contents

When is the record date for the Annual Meeting?

The Company's Board of Directors has fixed the record date for the Annual Meeting as of the close of business on April 13, 2015. Only stockholders who owned our common stock at the close of business on April 13, 2015 are entitled to vote at the Annual Meeting.

How many votes can be cast by all stockholders?

A total of 32,790,881 shares of common stock of the Company were outstanding on April 13, 2015 and are entitled to be voted at the meeting. Each share of common stock is entitled to one vote on each matter.

How do I vote?

If you are a stockholder of record and your shares are registered directly in your name, you may vote:

• **By Internet.** You may vote by proxy via the Internet at www.proxyvote.com by following the instructions provided on the Important Notice Regarding the Availability of Proxy Materials or the proxy card.

• **By Telephone.** If you live in the United States or Canada, you may vote by proxy by calling toll-free 1-800-690-6903 and by following the instructions provided on the proxy card. You must have the control number that is on either the notice or the proxy card when voting.

• **By Mail.** Complete and mail your proxy card in the postage prepaid envelope you receive, and return the proxy card to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717. Your proxy will be voted in accordance with your instructions. If you sign and return the enclosed proxy but do not specify how you want your shares voted, they will be voted as recommended by our Board of Directors and according to the discretion of the proxy holder named in the proxy card upon any other business that may properly be brought before the meeting and at all adjournments and postponements thereof.

• **In Person at the Meeting.** If you attend the meeting, be sure to bring a form of personal picture identification with you, and you may deliver your completed proxy card in person, or you may vote by completing a ballot, which will be available at the meeting.

If your shares of common stock are held in street name (held for your account by a broker or other nominee):

• **By Internet or By Telephone.** You will receive instructions from your broker or other nominee if you are permitted to vote by Internet or telephone.

• **By Mail.** You will receive instructions from your broker or other nominee explaining how to vote your shares.

• **In Person at the Meeting.** If you attend the meeting, in addition to picture identification, you should both bring an account statement or a letter from the record holder indicating that you owned the shares as of the record date, and contact the broker or other nominee who holds your shares to obtain a broker's proxy card and bring it with you to the meeting.

What are the Board's recommendations on how to vote my shares?

The Board of Directors recommends a vote:

Proposal 1: FOR election of Terrence C. Kearney, John L. Knopf, Ph.D. and Terrance G. McGuire as Class II directors.

Proposal 2: FOR holding an advisory vote on the compensation of our named executive officers every year.

Proposal 3: FOR ratification of selection of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2015.

Who pays the cost for soliciting proxies?

Acceleron will bear the cost of solicitation of proxies. This includes the charges and expenses of brokerage firms and others for forwarding solicitation material to beneficial owners of our outstanding common stock. Acceleron may solicit proxies by mail, personal interview, telephone or via the Internet through its officers, directors and other management employees, who will receive no additional compensation for their services.

Can I change my vote?

You may revoke your proxy at any time before it is voted by notifying the Secretary in writing, by returning a signed proxy with a later date, by transmitting a subsequent vote over the Internet or by telephone prior to the close of the Internet voting facility or the telephone voting facility, or by attending the meeting and voting in person. If your stock is held in street name, you must contact your broker or nominee for instructions as to how to change your vote.

Table of Contents

How is a quorum reached?

The presence, in person or by proxy, of holders of at least a majority of the total number of outstanding shares entitled to vote is necessary to constitute a quorum for the transaction of business at the Annual Meeting. Abstentions and "broker non-votes" (i.e., shares represented at the meeting held by brokers, bankers or other nominees as to which instructions have not been received from the beneficial owners or persons entitled to vote such shares and, with respect to one or more but not all issues, such brokers or nominees do not have discretionary voting power to vote such shares), if any, will be counted for purposes of determining whether a quorum is present for the transaction of business at the meeting.

What vote is required to approve each item?

- Proposal 1: Elect Directors
- The three nominees for director who receive the most votes (also known as a "plurality" of the votes cast) will be elected. You may vote either FOR all of the nominees, WITHHOLD your vote from all of the nominees or WITHHOLD your vote from any one or more of the nominees. Votes that are withheld will not be included in the vote tally for the election of the directors. Brokerage firms do not have authority to vote customers' unvoted shares held by the firms in street name for the election of directors. As a result, any shares not voted by a customer will be treated as a broker non-vote. Such broker non-votes will have no effect on the results of this vote.
- Proposal 2: Approve an Advisory Vote on the Frequency of Holding an Advisory Vote on the Compensation of our Named Executive Officers
- The frequency of holding an advisory vote on the compensation of our named executive officers—every year, every two years or every three years—receiving the majority of votes cast will be the frequency approved by our stockholders. Brokerage firms do not have authority to vote customers' unvoted shares held by the firms in street name on this proposal. As a result, any shares not voted by a customer will be treated as a broker non-vote. Such broker non-votes, as well as abstentions, will have no effect on the results of this vote. Although the advisory vote is non-binding, the Compensation Committee and the Board of Directors will review the voting results and take them into consideration when making future decisions regarding the frequency of holding an advisory vote on the compensation of our named executive officers.
- Proposal 3: Ratify Selection of our Independent Registered Public Accounting Firm
- The affirmative vote of a majority of the shares cast affirmatively or negatively for this proposal is required to ratify the selection of our independent registered public accounting firm. Abstentions will have no effect on the results of this vote. Brokerage firms have authority to vote customers' unvoted shares held by the firms in street name on this proposal. If a broker does not exercise this authority, such broker non-votes will have no effect on the results of this vote. We are not required to obtain the approval of our stockholders to select our independent registered public accounting firm. However, if our stockholders do not ratify the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2015, the Audit Committee of our Board of Directors will reconsider its selection.

If there are insufficient votes to approve these proposals, your proxy may be voted by the persons named in the proxy card to adjourn the Annual Meeting in order to solicit additional proxies in favor of the approval of such proposal(s). If the Annual Meeting is adjourned or postponed for any purpose, at any subsequent reconvening of the meeting, your proxy will be voted in the same manner as it would have been voted at the original convening of the Annual Meeting unless you withdraw or revoke your proxy.

Could other matters be decided at the Annual Meeting?

Acceleron does not know of any other matters that may be presented for action at the Annual Meeting. Should any other business come before the meeting, the persons named on the enclosed proxy will have discretionary authority to vote the shares represented by such proxies in accordance with their best judgment. If you hold shares through a broker, bank or other nominee as described above, they will not be able to vote your shares on any other business that comes before the Annual Meeting unless they receive instructions from you with respect to such matter.

What happens if the meeting is postponed or adjourned?

Your proxy may be voted at the postponed or adjourned meeting. You will still be able to change your proxy until it is voted.

What does it mean if I receive more than one proxy card or voting instruction form?

It means that you have multiple accounts at the transfer agent or with brokers. Please complete and return all proxy cards or voting instruction forms to ensure that all of your shares are voted.

3

Table of Contents

Who should I call if I have any additional questions?

If you hold your shares directly, please call John Quisel, Secretary of the Company, at (617) 649-9200. If your shares are held in street name, please contact the telephone number provided on your voting instruction form or contact your broker or nominee holder directly.

Electronic Delivery of Company Stockholder Communications

Most stockholders can elect to view future proxy materials and annual reports over the Internet instead of receiving paper copies in the mail. You can choose this option and save Acceleron the cost of producing and mailing these documents by following the instructions provided when you vote over the Internet.

Table of Contents

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information as of March 31, 2015 (unless otherwise specified), with respect to the beneficial ownership of our common stock by each person who is known to own beneficially more than 5% of the outstanding shares of common stock, each person currently serving as a director, each nominee for director, each named executive officer (as set forth in the Summary Compensation Table above), and all directors and executive officers as a group.

Shares of common stock subject to options, restricted stock units or other rights to purchase which are now exercisable or are exercisable within 60 days after March 31, 2015 are to be considered outstanding for purposes of computing the percentage ownership of the persons holding these options or other rights but are not to be considered outstanding for the purpose of computing the percentage ownership of any other person. As of March 31, 2015, there were 32,760,691 shares of common stock outstanding. Unless otherwise indicated, the address for each beneficial owner is c/o Acceleron Pharma Inc., 128 Sidney Street, Cambridge, MA 02139.

Name and address of beneficial owner	Number of shares beneficially owned	Percentage of shares beneficially owned	
5% or greater stockholders:			
Polaris Venture Partners, and related funds(1)	2,580,291	7.8	%
Advanced Technology Ventures, and related funds(2)	1,677,399	5.1	%
Celgene Corporation(3)	4,611,866	14.1	%
T. Rowe Price Associates, Inc.(4)	3,411,375	10.4	%
Adage Capital Partners, L.P., and related funds(5)	1,772,406	5.4	%
FMR LLC and affiliates(6)	4,837,978	14.8	%
Directors and named executive officers:			
John L. Knopf, Ph.D.(7)	744,835	2.2	%
Jean M. George(8)	1,447,774	4.4	%
George Golumbeski, Ph.D.	—	—	
Edwin M. Kania, Jr.(9)	582,789	1.8	%
Terrence C. Kearney(10)	5,000	*	
Tom Maniatis, Ph.D.(11)	151,731	*	
Terrance G. McGuire(12)	2,590,291	7.9	%
Francois Nader, M.D.(13)	1,667	*	
Richard F. Pops(14)	88,750	*	
Joseph S. Zakrzewski(15)	28,750	*	
Kevin F. McLaughlin(16)	158,236	*	
Matthew L. Sherman, M.D.(17)	153,344	*	
Steven D. Ertel(18)	146,656	*	
John Quisel, J.D., Ph.D.(19)	97,953	*	
All executive officers and directors as a group (15 persons)(20)	6,314,371	18.3	%

* Represents beneficial ownership of less than one percent of our outstanding common stock.

Table of Contents

(1) This information is based solely on a Schedule 13D/A filed jointly by Polaris Venture Partners IV, L.P. ("PVP IV"), Polaris Venture Partners Entrepreneurs' Fund IV, L.P. ("PVPE IV"), Polaris Venture Management Co. IV, L.L.C. ("PVM IV"), Jonathan A. Flint, Terrance G. McGuire and Alan G. Spoon on February 17, 2015, reporting ownership as of December 31, 2014. According to this Schedule 13D/A, these shares consist of 2,353,693 shares of common stock directly owned by PVP IV and a warrant to purchase 180,518 shares of common stock issued to PVP IV, and 42,696 shares of common stock directly owned by PVPE IV and a warrant to purchase 3,384 shares of common stock issued to PVPE IV. Each of PVP IV and PVPE IV has sole voting and dispositive power with respect to the shares of the Company directly held by PVP IV and PVPE IV, respectively. PVM IV, as the general partner of PVP IV and PVPE IV, may be deemed to have sole voting and dispositive power with respect to the shares held by PVP IV and PVPE IV. PVM IV disclaims beneficial ownership of all the shares held by PVP IV and PVPE IV, except to the extent of PVM IV's proportionate pecuniary interests therein. Messrs. Flint, McGuire and Spoon are each managing members of PVM IV (which is general partner of PVP IV and PVPE IV) and may be deemed to have shared voting and dispositive power over shares held by PVP IV and PVPE IV. Each of Messrs. Flint, McGuire and Spoon disclaims beneficial ownership of all securities held by PVP IV and PVPE IV other than those he owns directly, if any, or by virtue of his indirect pro rata interest as a member of PVM IV. The address of Polaris Venture Partners and related funds is 1000 Winter Street, Suite 3350, Waltham, MA 02451.

(2) This information is based solely on a Schedule 13G/A filed jointly by Advanced Technology Ventures VI, L.P. ("ATV VI"), Advanced Technology Ventures VII, L.P. ("ATV VII"), Advanced Technology Ventures VII (B), L.P. ("ATV VII-B"), Advanced Technology Ventures VII (C), L.P. ("ATV VII-C"), ATV Entrepreneurs VI, L.P. ("ATVE VI"), ATV Entrepreneurs VII, L.P. ("ATVE VII"), ATV Alliance 2003, L.P. ("ATV Alliance"), ATV Associates VI, L.L.C. (the general partner of ATV VI and ATVE VI) ("ATVA VI"), ATV Associates VII, L.L.C. (the general partner of ATV VII, ATV VII-B, ATV VII-C and ATVE VII) ("ATVA VII"), and ATV Alliance Associates, L.L.C. (the general partner of ATV Alliance) ("ATVAA" and, together with ATV VI, ATV VII, ATV VII-B, ATV VII-C, ATVE VI, ATVE VII, ATV Alliance, ATVA VI and ATVA VII, the "ATV Entities") on February 10, 2015, reporting ownership as of December 31, 2014. According to this Schedule 13G/A, these shares consist of (i) 205,334 shares of common stock and warrants to purchase 19,916 shares of common stock owned by ATV VI, (ii) 1,227,853 shares of common stock and warrants to purchase 119,323 shares of common stock owned by ATV VII, (iii) 49,271 shares of common stock and warrants to purchase 4,788 shares of common stock owned by ATV VII-B, (iv) 23,684 shares of common stock and warrants to purchase 2,302 shares of common stock owned by ATV VII-C, (v) 7,314 shares of common stock and warrants to purchase 711 shares of common stock owned by AVTE VII, (vi) 13,104 shares of common stock and warrants to purchase 1,271 shares of common stock owned by AVTE VI and (vii) 2,528 shares of common stock owned by ATV Alliance. ATVA VII is the general partner of ATV VII, ATV VII-B, ATV VII-C and ATVE VII and exercises voting and dispositive authority over the shares held by ATV VII, ATV VII-B, ATV VII-C and ATVE VII. Voting and dispositive decisions of ATVA VII are made collectively by Michael A. Carusi, Jean M. George (one of our directors), Steven N. Baloff, Robert C. Hower and William C. Wiberg (collectively, the "ATVA VII Managing Directors"). ATVA VII and each of the ATVA VII Managing Directors disclaims beneficial ownership of the shares held by ATV VII, ATV VII-B, ATV VII-C and ATVE VII except to the extent of their pecuniary interest therein. ATVA VI is the general partner of ATV VI and ATVE VI and exercises voting and dispositive authority over the shares held by ATV VI and ATVE VI. Voting and dispositive decisions of ATVA VI are made collectively by Michael A. Carusi, Steven N. Baloff, Pieter J. Schiller, Robert C. Hower and William C. Wiberg (collectively, the "ATVA VI Managing Directors"). ATVA VI and each of the ATVA VI Managing Directors disclaims beneficial ownership of the shares held by ATV VI and ATVE VI except to the extent of their pecuniary interest therein. ATVAA is the general partner of ATV Alliance and exercises voting and dispositive authority over the shares held by ATV Alliance. Voting and dispositive decisions of ATVAA are made by Ms. George (one of our directors). ATVA and Ms. George disclaim beneficial ownership of the shares held by ATV Alliance except to the extent of their pecuniary interest therein. The address of the ATV Entities is 500 Boylston Street, Suite 1380, Boston, MA 02116.

(3) This information is based solely on a Schedule 13D/A filed by Celgene Corporation ("Celgene") on May 6, 2014, reporting ownership as of May 5, 2014. According to this Schedule 13D/A, these shares include 38,979 shares of common stock that can be acquired upon the exercise of warrants to purchase shares of our common stock. The

address of Celgene is 86 Morris Avenue, Summit, NJ 07901.

(4) This information is based solely on a Schedule 13G/A filed by T. Rowe Price Associates, Inc. ("T. Rowe") on February 14, 2015, reporting ownership as of December 31, 2014. According to this Schedule 13G/A, T. Rowe exercises sole voting power over 570,976 shares of our common stock and sole dispositive power over 3,411,375 shares of our common stock. The address of T. Rowe is 100 E. Pratt Street, Baltimore, Maryland 21202.

Table of Contents

(5) This information is based solely on a Schedule 13G/A filed jointly by Adage Capital Partners, L.P., a Delaware limited partnership ("ACP"), Adage Capital Partners GP, L.L.C., a limited liability company organized under the laws of the State of Delaware ("ACPGP"), as general partner of ACP, Adage Capital Advisors, L.L.C., a limited liability company organized under the laws of the State of Delaware ("ACA"), as managing member of ACPGP, Robert Atchinson, as managing member of ACA, and Phillip Gross, as managing member of ACA, on February 17, 2015, reporting ownership as of December 31, 2014. According to this Schedule 13G/A, the shares of common stock are directly held by ACP. ACPGP, ACA, Mr. Atchinson and Mr. Gross may be deemed to beneficially own the shares due to their relationships with ACP described earlier in this footnote, and ACP, ACPGP, ACA, Mr. Atchinson and Mr. Gross exercise shared voting and dispositive power over these shares of common stock. The address of ACP, ACPGP, ACA, Mr. Atchinson and Mr. Gross is 200 Clarendon Street, 52nd floor, Boston, Massachusetts 02116.

(6) This information is based solely on a Schedule 13G/A filed jointly by FMR LLC ("FMR"), Edward C. Johnson 3d, Abigail P. Johnson, and Select Biotechnology Portfolio ("Select") on February 14, 2015, reporting ownership as of December 31, 2014. According to this Schedule 13G/A, Mr. Johnson 3rd is a Director and the Chairman of FMR and Ms. Johnson is a Director, the Vice Chairman and the President of FMR. Members of the family of Mr. Johnson 3d, including Ms. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR, representing 49% of the voting power of FMR. The Johnson family group and all other Series B stockholders have entered into a stockholders' 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 stockholders' 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. FMR exercises sole voting authority over 1,800 shares of our common stock, and FMR, Mr. Johnson 3d and Ms. Johnson each exercise sole dispositive authority over 4,837,978 shares of our common stock. Select exercises sole voting authority over 3,068,473 shares of our common stock and no dispositive authority of any of our shares of common stock. The address of FMR, Mr. Johnson 3d, Ms. Johnson and Select is 245 Summer Street, Boston, Massachusetts 02210.

(7) Includes 717,251 shares of common stock that can be acquired upon the exercise of outstanding options.

(8) As described in footnote 2 above, these shares consist of (i) 1,227,853 shares of common stock and warrants to purchase 119,323 shares of common stock owned by ATV VII, (ii) 49,271 shares of common stock and warrants to purchase 4,788 shares of common stock owned by ATV VII-B, (iii) 23,684 shares of common stock and warrants to purchase 2,302 shares of common stock owned by ATV VII-C, (iv) 7,314 shares of common stock and warrants to purchase 711 shares of common stock owned by AVTE VII, (v) 2,528 shares of common stock owned by ATV Alliance and (vi) 10,000 shares of common stock that can be acquired upon the exercise of outstanding options. By virtue of the relationships described in footnote 2 above, Ms. George may be deemed to share beneficial ownership in the shares held by ATV VII, ATV VII-B, ATV VII-C, AVTE VII and ATV Alliance, and Ms. George disclaims beneficial ownership of the shares owned by these entities.

(9) Consists of (i) 500,420 shares of common stock held directly by Applied Genomic Technology Capital Fund, L.P. ("AGTC Fund"), (ii) 30,248 shares of common stock held directly by AGTC Advisors Fund, L.P. ("AGTC Advisors"), (iii) 13,136 shares of common stock held directly by NewcoGen Group LLC ("NewcoGen LLC"), (iv) 251 shares of common stock held directly by AGTC Partners, L.P. ("AGTC Partners"), (v) 28,734 shares of common stock held directly by Edwin M. Kania, Jr. and (vi) 10,000 shares of common stock can be acquired by Mr. Kania upon the exercise of outstanding options. NewcoGen Group, Inc. ("NewcoGen Inc.") is the manager of NewcoGen LLC and the general partner of AGTC Partners, which is the general partner of each of AGTC Fund and AGTC Advisors. NewcoGen Inc. is a wholly-owned subsidiary of Flagship Ventures Management, Inc., and Noubar B. Afeyan, Ph.D. and Mr. Kania are the directors of Flagship Ventures Management, Inc. By virtue of their relationships described in this footnote, Dr. Noubar and Mr. Kania may be deemed to have beneficial ownership with respect to the shares held by AGTC Fund, AGTC Advisors, NewcoGen LLC and AGTC Partners. Each of Mr. Kania and Dr. Afeyan disclaims beneficial ownership over shares held by AGTC Fund, AGTC Advisors, NewcoGen LLC and AGTC Partners, except to the extent of his pecuniary interest therein.

(10) Includes 5,000 shares of common stock that can be acquired upon the exercise of outstanding options.

- (11) Includes 37,500 shares of common stock that can be acquired upon the exercise of outstanding options.
- (12) Consists of shares held by Polaris Venture Partners and related funds as described in footnote 1 above. By virtue of the relationships described in footnote 1 above, Mr. McGuire may be deemed to have beneficial ownership in the shares held by Polaris Venture Partners or related funds. Mr. McGuire disclaims beneficial ownership of the shares referred to in footnote 1 above, except to the extent of his pecuniary interest therein. Also includes 10,000 shares of common stock that can be acquired upon the exercise of outstanding options.
- (13) Includes 1,667 shares of common stock that can be acquired upon the exercise of outstanding options.
- (14) Includes 60,000 shares of common stock that can be acquired upon the exercise of outstanding options.
- (15) Includes 28,750 shares of common stock that can be acquired upon the exercise of outstanding options.
- (16) Includes 133,236 shares of common stock that can be acquired upon the exercise of outstanding options.
- (17) Includes 116,840 shares of common stock that can be acquired upon the exercise of outstanding options.

Table of Contents

(18) Includes 94,000 shares of common stock that can be acquired upon the exercise of outstanding options.

(19) Includes 82,953 shares of common stock that can be acquired upon the exercise of outstanding options.

(20) See footnotes 7 through 19. Also includes 83,395 shares of common stock that can be acquired upon the exercise of outstanding options.

8

Table of Contents

MANAGEMENT AND CORPORATE GOVERNANCE

BOARD COMPOSITION AND STRUCTURE

Our certificate of incorporation states that our Board shall consist of not fewer than three and not more than fifteen members, and the precise number of directors shall be fixed by a resolution of our Board. Each director holds office until his or her successor is duly elected and qualified or until his or her death, resignation or removal. Our certificate of incorporation provides that our directors may be removed only for cause by the affirmative vote of the holders of at least seventy-five percent (75%) of the voting power of the outstanding shares of capital stock of the Company entitled to vote generally in the election of directors, voting together as a single class, at a meeting of the stockholders called for that purpose. Any vacancy in the Board, including a vacancy that results from an increase in the number of directors, may be filled by a vote of the majority of the directors then in office.

Our certificate of incorporation provides that our Board of Directors is divided into three classes of directors, with the classes as nearly equal in number as possible. Each of our directors identified below serves in the class indicated. Subject to any earlier resignation or removal in accordance with the terms of our restated certificate of incorporation and bylaws, our Class I directors will serve until the 2017 annual meeting of stockholders; our Class II directors will serve until the 2015 annual meeting of stockholders; and our Class III directors will serve until the 2016 annual meeting of stockholders. Any additional directorships resulting from an increase in the number of directors will be apportioned by our Board among the three classes.

Our Board of Directors is currently comprised of ten members. Below is a list of the names, ages as of March 31, 2015 and classification of the individuals who currently serve as our directors.

Name	Age	Position
Jean M. George	57	Director (Class I)
George Golumbeski, Ph.D.	57	Director (Class I)
Edwin M. Kania, Jr.	57	Director (Class I)
Francois Nader, M.D.	58	Chair of the Board of Directors (Class I)(1)
Terrence C. Kearney	60	Director (Class II)
John L. Knopf, Ph.D.	62	Director (Class II); Chief Executive Officer and President
Terrance G. McGuire	59	Director (Class II)
Tom Maniatis, Ph.D.	71	Director (Class III)
Richard F. Pops	53	Director (Class III)
Joseph S. Zakrzewski	52	Director (Class III)

(1)Dr. Nader was promoted to Chair of the Board of Directors on April 6, 2015.

DIRECTOR BIOGRAPHIES

Information concerning our directors is set forth below. The biographical description of each director includes the specific experience, qualifications, attributes and skills that led to the Board of Directors' conclusion at the time of filing of this proxy statement that each person listed below should serve as a director.

CLASS II DIRECTOR NOMINEES

Terrence C. Kearney has served as a member of our Board of Directors since July 2014. Mr. Kearney has served as a member of the board of directors of Vertex Pharmaceuticals Incorporated since 2011, and as a member on the board of directors of Theravance, Inc. since 2014. Mr. Kearney previously served as the Chief Operating Officer of Hospira, Inc., a specialty pharmaceutical and medication delivery company, from 2006 to 2011. From 2004 to 2006, he served as Hospira's Senior Vice President, Finance, and Chief Financial Officer, and he served as Acting Chief Financial Officer through 2006. Mr. Kearney served as Vice President and Treasurer of Abbott Laboratories from 2001 to 2004. From 1996 to 2001, Mr. Kearney was Divisional Vice President and Controller for Abbott's International Division. He received a BS in biology from the University of Illinois and an MBA from the University of Denver. We believe that Mr. Kearney's extensive experience as a director and officer of many biotechnology companies and his financial expertise qualify him to serve as a member of our Board of Directors.

John L. Knopf, Ph.D. co-founded Acceleron in 2003 and is our Chief Executive Officer and President. Dr. Knopf served on our Board of Directors from 2003 to 2004, and has served from 2007 to the present. Prior to founding Acceleron, Dr. Knopf

Table of Contents

served as Site Head of the Wyeth Research facilities in Cambridge, MA and Vice President of Metabolic and Respiratory Disease. Dr. Knopf was an early key scientist at Genetics Institute (GI) from 1982 to 1998, where he participated in the development of pioneering biopharmaceutical products including the first treatment for hemophilia, recombinant factor VIII Recombinate® and helped establish GI as a premier biopharmaceutical company. While at GI, he established a structure-based small molecule discovery group. Dr. Knopf is the author of several key scientific manuscripts in the area of signal transduction, and is named as an inventor of several patents. Dr. Knopf received a BS in biology from SUNY Stonybrook and his Ph.D. in biology at SUNY Buffalo. We believe Dr. Knopf's extensive experience and knowledge of biopharmaceuticals and our company qualifies him to serve as a member of our Board of Directors.

Terrance G. McGuire has served as a member of our Board of Directors since 2005. Mr. McGuire co-founded Polaris Partners in 1996 and is currently one of their general partners. Prior to starting Polaris Partners, Mr. McGuire spent seven years at Burr, Egan, Deleage & Co., investing in early stage medical and information technology companies. He currently serves on the board of directors of one other public company Ironwood Pharmaceuticals, and served on the board of directors of another public company, Trevena, Inc. from 2011 to 2014. He also serves on the boards of several private companies, including Adimab/Arsanis, Alector, Quantum Designs, Arsenal Medical/480 Biomedical, Editas, Iora Health, MicroCHIPS, Pulmatrix, and SustainX. He has formerly served on the board of directors of Remon Medical Technologies, GlycoFi, Akamai Technologies, Aspect Medical Systems, Cubist Pharmaceuticals, Transform Pharma, deCODE genetics, among others. Mr. McGuire is the former chairman of the National Venture Capital Association, chairman of the board of the Thayer School of Engineering at Dartmouth College, and a member of the boards of The David H. Koch Institute for Integrative Cancer Research at the Massachusetts Institute of Technology and The Arthur Rock Center for Entrepreneurship at Harvard Business School. Mr. McGuire earned a BS in physics and economics from Hobart College, an MS in engineering from The Thayer School at Dartmouth College, and an MBA from Harvard Business School. We believe that Mr. McGuire's extensive experience as a venture capitalist focused on the biotechnology industry, as well as Mr. McGuire's many years of experience helping companies evolve from the start-up phase to successful public companies qualify him to serve as a member of our Board of Directors.

CURRENT DIRECTORS NOT STANDING FOR ELECTION AT THE ANNUAL MEETING

Edwin M. Kania, Jr. has served as a member of our Board of Directors since 2004. Since 2000, Mr. Kania has been a Managing Partner and the Chairman of Flagship Ventures, a Boston-based venture capital firm that he co-founded and that also manages the Applied Genomic Technology Capital Fund, L.P. (AGTC Fund). Prior to co-founding Flagship Ventures, Mr. Kania was a Managing Partner at OneLiberty Ventures and its predecessor firm, Morgan Holland Ventures which he joined in 1985. Mr. Kania currently serves on the boards of several private companies. Mr. Kania has also served on the boards of Aspect Medical, EXACT Sciences and other public and private companies.

Mr. Kania's direct investment experience covers over 100 companies, and he has been intimately involved in the launch and development of more than a dozen companies as the founding, lead or co-lead investor, and has on occasion assumed operating roles in support of management. Mr. Kania received a BS in physics from Dartmouth College and an MBA from Harvard Business School. We believe that Mr. Kania's extensive experience investing in, guiding and leading start-up and early phase companies qualifies him to serve as a member of our Board of Directors.

Jean M. George has served as a member of our Board of Directors since 2005. Since 2002, Ms. George has been a Managing Director at Advanced Technology Ventures (ATV), and, concurrently since April 2013, Ms. George has been a Managing Director at Lightstone Ventures. She joined ATV in 2002 and serves as the firm's East Coast lead partner for healthcare investments. Prior to joining ATV, Ms. George was a Director at BancBoston Ventures, where she led the health care team's investment activity in NuGenesis Technologies Corp., Ironwood Pharmaceuticals, Inc., Syntonix Pharmaceuticals, Inc. and Neurometrix, Inc. Before BancBoston Ventures, she worked at Genzyme Corporation from 1988 to 1998, where she held a variety of operational roles in marketing, product development, and business development, including Vice President of Global Sales and Marketing. She also worked as a Vice President and Founder of Genzyme's Tissue Repair Division. She is currently a Director of public companies Zeltiq Aesthetics, Inc. and Calithera Biosciences, Inc., as well as several private companies, including Hydra Biosciences, Inc., Thrasos Therapeutics, Inc. and Catabasis Pharmaceuticals, Inc. Ms. George was a Director of

Hypnion, Inc., Critical Therapeutics, Inc., Portola Pharmaceuticals, Inc. and Proteolix, Inc. She was named a member of the Scientific Advisory Board for the Massachusetts Life Sciences Center. Ms. George received a BS in biology from the University of Maine and an MBA from Simmons College Graduate School of Management. We believe that Ms. George's executive experience in the life sciences and therapeutic device industries qualifies her to serve as a member of our Board of Directors.

George Golumbeski, Ph.D. has served as a member of our Board of Directors since 2011. Since 2009, Dr. Golumbeski has been a Senior Vice President of Business Development for Celgene Corporation, where he is responsible for the full array of business development activities, including identification and evaluation of opportunities, structuring and negotiating transactions, in-licensing, M&A, out-licensing, and alliance management. At Celgene, these activities are focused primarily

Table of Contents

within the therapeutic areas of oncology and inflammation. Since 2014, Dr. Golumbeski has served on the board of directors of one other public company, Enanta Pharmaceuticals, Inc., and has served as a trustee of the Keck Graduate Institute since 2013. From 2008 to 2009, Dr. Golumbeski served as the CEO of Nabriva Therapeutics AG. Prior to Nabriva, Dr. Golumbeski served as Vice President of Business Development, Licensing and Strategy for Novartis-Oncology. During his tenure at Novartis, Dr. Golumbeski's group closed a significant number of collaboration agreements which bolstered the development pipeline. Earlier in his career, Dr. Golumbeski held senior positions at Elan Pharmaceuticals and at Schwarz Pharma, where he led the effort to in-license rotigotine and lacosamide (now both approved agents). Dr. Golumbeski received a BA in biology from the University of Virginia and a Ph.D. in genetics from the University of Wisconsin-Madison. We believe that Dr. Golumbeski's experience as an officer of other pharmaceutical companies, as well as Dr. Golumbeski's extensive experience in research and development and corporate leadership positions, qualify him to serve as a member of our Board of Directors.

Tom Maniatis, Ph.D. co-founded Acceleron in 2003 and has served as a member of our Board of Directors and Chair of our Scientific Advisory Board since 2003. Since 2010 he has been a Professor and Chair of the Department of Biochemistry & Molecular Biophysics at the Columbia University College of Physicians and Surgeons. Prior to working at Columbia, Dr. Maniatis was a professor at Harvard University where he studied the mechanisms of transcription and RNA splicing in eukaryotes. Dr. Maniatis currently serves on the board of one private company, Constellation Pharmaceuticals, Inc. Dr. Maniatis is also a co-founder of Genetics Institute and ProScript Inc., where he served on the board of directors. Dr. Maniatis is a member of the U.S. National Academy of Sciences, and has received numerous awards for his research contributions, including the Eli Lilly Research Award in Microbiology and Immunology, the Richard Lounsbery Award for Biology and Medicine from the U.S. and French National Academies of Science, and the 2012 Lasker-Koshland Special Achievement Award in Medical Science. Dr. Maniatis received a BA in biology, an MS in chemistry from the University of Colorado at Boulder, and a Ph.D. in molecular biology from Vanderbilt University. We believe Dr. Maniatis's extensive experience and knowledge of biopharmaceuticals and the biopharmaceutical industry qualify him to serve as a member of our Board of Directors.

Francois Nader, M.D. has served as a member of our Board of Directors since December 2014, and has served as the Chair of our Board of Directors since March 2015. Dr. Nader served as the President and Chief Executive Officer of NPS Pharmaceuticals, Inc., or NPS, from 2008 through February 2015 when NPS was acquired by Shire plc. Dr. Nader joined NPS in 2006 and served as Executive Vice President and Chief Operating Officer until 2008. He has served as a Director and Chair of the Compensation Committee of Trevena, Inc. since January 2014, and as a Director of Clementia Pharmaceuticals, Inc. since March 2014. Before joining NPS, Dr. Nader was a venture partner at Care Capital, LLC, where he served as Chief Medical Officer of its Clinical Development Capital unit from 2005 to 2006. From 2000 to 2004, he served as Senior Vice President, Integrated Healthcare Markets and Senior Vice President, North America Medical and Regulatory Affairs with Aventis Pharmaceuticals. He also held similar positions at Hoechst Marion Roussel and served as Head of Global Commercial Operations at the Pasteur Vaccines division of Rhone-Poulenc. Dr. Nader is the immediate past Chair of the Board of BioNJ, a trade association representing the biotechnology industry in New Jersey, and a Board member of the New Jersey Chamber of Commerce. He received a French State Doctorate in Medicine from St. Joseph University (Lebanon) and a Physician Executive M.B.A. from the University of Tennessee. We believe Dr. Nader's extensive experience in the life sciences industry and his background in research and development qualify him to serve as a member of our Board of Directors.

Richard F. Pops has served as a member of our Board of Directors since 2004. Since 2011, Mr. Pops has served as Chief Executive Officer and Chairman of the board of Alkermes plc, the parent company of Alkermes. From 2009 to 2011, Mr. Pops served as Chief Executive Officer and Chairman of the Board of Alkermes, from 2007 to 2009 he served as the Chairman of the board of Alkermes, and from 1991 through 2007 he served as the Chief Executive Officer of Alkermes. Mr. Pops also serves on the board of directors of two other public companies, Neurocrine Biosciences, Inc. and Epizyme Inc., and on the board of directors for the Biotechnology Industry Organization (BIO) and Pharmaceutical Research and Manufacturers of America (PhRMA). He has previously served on the board of directors of Sirtris Pharmaceuticals from 2004 to 2008, and CombinatoRx, Inc. from 2001 to 2009. Mr. Pops also served on the board of directors of Reliant Pharmaceuticals, a privately held pharmaceutical company purchased by GlaxoSmithKline in 2007, and on the advisory board of Polaris Venture Partners. He was a member of the Harvard

Medical School Board of Fellows from 2002 through June 2012. Mr. Pops received a BA in economics from Stanford University. We believe that Mr. Pops' leadership experience and industry knowledge qualify him to serve as a member of our Board of Directors.

Joseph S. Zakrzewski has served as a member of our Board of Directors since 2011. Since 2010 and through 2013, Mr. Zakrzewski had been Chairman and Chief Executive Officer of Amarin Corporation. From 2007 to 2010, Mr. Zakrzewski served as President and Chief Executive Officer of Xcellerex. From 2005 to 2007, Mr. Zakrzewski served as the Chief Operating Officer of Reliant Pharmaceuticals, overseeing the launch of Omacor®, a drug to treat elevated triglyceride levels. From 1988 to 2004, Mr. Zakrzewski served in a variety of positions at Eli Lilly and Company including as Vice President, Corporate Business Development from 2003 through 2004. In addition, Mr. Zakrzewski served as a Venture Partner with OrbiMed in 2010 and 2011. Mr. Zakrzewski currently serves on the board of directors of two other public companies, Amarin

Table of Contents

and Insulet Corporation. He also currently serves on the board of directors of a number of private companies, including Firehouse Pharmaceuticals (Chairman), Hapten Sciences, SiteOne Therapeutics, Biscardia, GliaCure Inc. and Thrasos Therapeutics, and he has previously served on the board of directors of Xcellerex, Azelon/Zelos Therapeutics and Promedior. Mr. Zakrzewski received a BS in Chemical Engineering and an MS in Biochemical Engineering from Drexel University as well as an MBA in Finance from Indiana University. We believe that Mr. Zakrzewski's substantial experience as an executive officer of other pharmaceutical companies, as well as Mr. Zakrzewski's service on boards of directors of other pharmaceutical companies qualify him to serve as a member of our Board of Directors.

Director Independence

Under NASDAQ Rule 5605, a majority of a listed company's board of directors must be comprised of independent directors. In addition, NASDAQ rules require that, subject to specified exceptions, each member of a listed company's audit committee, compensation committee and nominating and corporate governance committee be independent and, in the case of the audit committee and compensation committee, satisfy additional independence criteria set forth in Rule 10A-3 and 10C-1, respectively, under the Securities Exchange Act of 1934, or the Exchange Act.

Based upon information requested from and provided by each director concerning their background, employment and affiliations, including family relationships, our Board of Directors has determined that each of Ms. George and Messrs. Golumbeski, Kania, Kearney, Maniatis, McGuire, Nader, Pops and Zakrzewski, representing nine of our ten directors, is "independent" as that term is defined under NASDAQ Rule 5605(a)(2). Our Board of Directors also determined that each of the current members of our Audit Committee, our Compensation Committee and our Nominating and Corporate Governance Committee satisfies the independence standards for such committee established by Rule 10A-3 and 10C-1 under the Exchange Act, the SEC rules and the NASDAQ rules, as applicable. In making such determination, our Board of Directors considered the relationships that each such non-employee director has with our Company and all other facts and circumstances deemed relevant in determining their independence.

Some members of our Board of Directors were elected in compliance with the provisions of a voting agreement among us and our major stockholders. The voting agreement terminated upon the closing of our initial public offering on September 24, 2013, and at present we do not have any contractual obligations regarding the election of our directors. See "Certain Relationships and Related Party Transactions." There are no family relationships among any of our directors or executive officers.

Board Meetings and Attendance

The Board of Directors held five meetings during the year ended December 31, 2014. Each of the directors attended at least seventy-five percent (75%) of the meetings of the Board of Directors and the committees of the Board of Directors on which he or she served during the year ended December 31, 2014 (in each case, which were held during the period for which he or she was a director and/or a member of the applicable committee and excluding any meetings in which a director was an interested party).

The non-management directors met in executive session during each of the regularly scheduled Board of Directors meetings during the year ended December 31, 2014.

The Board of Directors has adopted a policy requiring that members of our Board of Directors make every effort to attend our annual stockholder meetings. Five of our then eight directors attended our 2014 Annual Meeting of Stockholders.

Board of Directors Leadership Structure

In March 2015, the Nominating and Corporate Governance Committee reviewed the leadership structure of our Board of Directors. As a result of its review, the committee determined that Acceleron and our stockholders would be best served by having a Chair of the Board of Directors at this time. Based on Francois Nader's qualifications and extensive experience in the life sciences industry, the Nominating and Corporate Governance Committee nominated Dr. Nader to serve as the Chair of the Board, and the Board approved the committee's nomination and appointed Dr. Nader as its Chair. The Nominating and Corporate Governance Committee evaluates our Board leadership structure from time to time, and may recommend alterations of this structure in the future.

The Board of Directors' Role in Risk Oversight

The Board of Directors plays an important role in risk oversight at Acceleron through direct decision-making authority with respect to significant matters, as well as through the oversight of management by the Board of Directors and its committees. In particular, the Board of Directors administers its risk oversight function through (1) the review and discussion of regular periodic reports by the Board of Directors and its committees on topics relating to the risks that Acceleron faces, (2) the required approval by the Board of Directors (or a committee of the Board of Directors) of significant transactions and

12

Table of Contents

other decisions, (3) the direct oversight of specific areas of Acceleron's business by the Audit, Compensation and Nominating and Corporate Governance Committees, and (4) regular periodic reports from the auditors and other outside consultants regarding various areas of potential risk, including, among others, those relating to our internal control over financial reporting. The Board of Directors also relies on management to bring significant matters impacting Acceleron to the attention of the Board of Directors.

Pursuant to the Audit Committee's charter, the Audit Committee is responsible for reviewing and discussing with management and Acceleron's independent registered public accounting firm, Acceleron's system of internal controls, its critical accounting practices, and policies relating to risk assessment and management. As part of this process, the Audit Committee discusses Acceleron's major financial risk exposures and steps that management has taken to monitor and control such exposure. In addition, the Audit Committee has established procedures for the receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls or auditing matters, and the confidential, anonymous submissions by employees of concerns regarding questionable accounting or accounting matters.

Because of the role of the Board of Directors and the Audit Committee in risk oversight, the Board of Directors believes that any leadership structure that it adopts must allow it to effectively oversee the management of the risks relating to Acceleron's operations. The Board of Directors acknowledges that there are different leadership structures that could allow it to effectively oversee the management of the risks relating to the Company's operations and believes its current leadership structure enables it to effectively provide oversight with respect to such risks.

BOARD COMMITTEES

The Board of Directors has a standing Audit, Compensation and Nominating and Corporate Governance Committee, each of which is comprised solely of independent directors, and is described more fully below. Each committee operates pursuant to a written charter and each reviews and assesses the adequacy of its charter periodically and submits its charter to the Board for approval. The charters for each committee are all available on our website (www.acceleronpharma.com) under the "Investors & Media—Corporate Governance" section.

The following table describes which directors serve on each of the Board of Directors' committees.

Name	Nominating and Corporate Governance Committee	Compensation Committee	Audit Committee
John L. Knopf, Ph.D.(1)			
Jean M. George	X	(2)	X
George Golumbeski, Ph.D.			
Edwin M. Kania, Jr.		X	(2)
Terrence C. Kearney(1)			X
Tom Maniatis, Ph.D.		X	
Terrance G. McGuire(1)	X		(2)
Francois Nader, M.D.			
Richard F. Pops			
Joseph S. Zakrzewski		X	X

(1)Sitting for election in Proposal 1.

(2)Chair of the committee.

Audit Committee

Our Audit Committee is composed of Jean M. George, Terrence C. Kearney and Joseph S. Zakrzewski, with Mr. Kearney serving as Chair of the committee. Our Board of Directors has determined that each member of the Audit Committee meets the independence requirements of Rule 10A-3 under the Exchange Act and the applicable listing standards of NASDAQ. Our Board of Directors has determined that Messrs. Kearney and Zakrzewski are "audit committee financial experts" within the meaning of the Securities and Exchange Commission, or SEC, regulations and applicable listing standards of NASDAQ. The Audit Committee's responsibilities include:

appointing, approving the compensation of, and assessing the qualifications, performance and independence of our independent registered public accounting firm;

13

Table of Contents

pre-approving audit and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;

- reviewing the audit plan with the independent registered public accounting firm and members of management responsible for preparing our financial statements;

reviewing and discussing with management and the independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;

reviewing the adequacy of our internal control over financial reporting;

establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;

recommending, based upon the Audit Committee's review and discussions with management and the independent

registered public accounting firm, whether our audited financial statements shall be included in our Annual Report on Form 10-K;

monitoring our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;

preparing the audit committee report required by the rules of the SEC to be included in our annual proxy statement;

viewing all related party transactions for potential conflict of interest situations and approving all such transactions;

and

reviewing and discussing with management and our independent registered public accounting firm our earnings releases and scripts.

During the year ended December 31, 2014, the Audit Committee met six times. The report of the Audit Committee is included in this proxy statement under "Report of the Audit Committee."

Nominating and Corporate Governance Committee

Our Nominating and Corporate Governance Committee is composed of Jean M. George and Terrance G. McGuire, with Ms. George serving as Chair of the committee, and we have one vacancy on this committee. Our Board of Directors has determined that each member of the Nominating and Corporate Governance Committee is "independent" as defined under the applicable listing standards of NASDAQ. The Nominating and Corporate Governance Committee's responsibilities include:

- developing and recommending to the Board of Directors criteria for Board and committee membership;

- establishing procedures for identifying and evaluating Board of Director candidates, including nominees recommended by stockholders;

- identifying individuals qualified to become members of the Board of Directors;

- recommending to the Board of Directors the persons to be nominated for election as directors and to each of the Board's committees;

- developing and recommending to the Board of Directors a set of corporate governance principles;

- articulating to each director what is expected, including reference to the corporate governance principles and directors' duties and responsibilities;

- reviewing and recommending to the Board of Directors practices and policies with respect to directors;

- reviewing and recommending to the Board of Directors the functions, duties and compositions of the committees of the Board of Directors;

- reviewing and assessing the adequacy of the committee charter and submitting any changes to the Board of Directors for approval;

- considering and reporting to the Board of Directors any questions of possible conflicts of interest of Board of Directors members;

- providing for new director orientation and continuing education for existing directors on a periodic basis;

- performing an evaluation of the performance of the committee; and

- overseeing the evaluation of the Board of Directors and management.

During the year ended December 31, 2014, the Nominating and Corporate Governance Committee met four times.

Compensation Committee

Our Compensation Committee is composed of Edwin M. Kania, Jr., Tom Maniatis, Ph.D. and Joseph S. Zakrzewski, with Mr. Kania serving as Chair of the committee. Our Board of Directors has determined that each member of the Compensation Committee is "independent" as defined under the applicable listing standards of NASDAQ and meets the independence criteria set forth in Rule 10C-1. The Compensation Committee has the authority to delegate to subcommittees of the Compensation Committee any of the responsibilities of the full committee. The Compensation Committee's responsibilities include:

- annually reviewing and approving corporate goals and objectives relevant to the compensation of our chief executive officer;

Table of Contents

- evaluating the performance of our chief executive officer in light of such corporate goals and objectives and determining and approving the compensation of our chief executive officer;
- reviewing and approving the compensation of our other executive officers;
- appointing, compensating and overseeing the work of any compensation consultant, legal counsel or other advisor retained by the Compensation Committee;
- conducting the independence assessment outlined in NASDAQ rules with respect to any compensation consultant, legal counsel or other advisor retained by the Compensation Committee;
- annually reviewing and reassessing the adequacy of the committee charter in its compliance with the listing requirements of NASDAQ;
- reviewing and establishing our overall management compensation, philosophy and policy;
- overseeing and administering our equity compensation and other compensatory plans;
 - reviewing and approving our equity and incentive policies and procedures for the grant of equity-based awards and approving the grant of such equity-based awards;
- reviewing and making recommendations to the Board of Directors with respect to director compensation; and
- reviewing and discussing with management the compensation discussion and analysis to be included in our annual proxy statement.

During the year ended December 31, 2014, the Compensation Committee met five times.

Compensation Consultant

As a part of determining compensation for our named executive officers, the Compensation Committee has engaged Radford, an Aon Hewitt Company - a division of Aon Corporation, as an independent compensation consultant. Radford provides analysis and recommendations to the Compensation Committee regarding:

- trends and emerging topics with respect to executive compensation;
- peer group selection for executive compensation benchmarking;
- compensation practices for our peer group;
- compensation programs for executives, directors, and all of our employees; and
- stock utilization and related metrics.

When requested, Radford consultants attend meetings of the Compensation Committee, including executive sessions in which executive compensation issues are discussed. Radford reports to the Compensation Committee and not to management, although Radford meets with management for purposes of gathering information for its analyses and recommendations.

In determining to engage Radford, the Compensation Committee considered the independence of Radford, taking into consideration relevant factors, including the absence of other services provided to the Company by Radford, the amount of fees the Company paid to Radford as a percentage of Radford's total revenue, the policies and procedures of Radford that are designed to prevent conflicts of interest, any business or personal relationship of the individual compensation advisors employed by Radford with an executive officer of the Company, any business or personal relationship the individual compensation advisors employed by Radford have with any member of the Compensation Committee, and any stock of the Company owned by Radford or the individual compensation advisors employed by Radford. The Compensation Committee has determined, based on its analysis in light of all relevant factors, including the factors listed above, that the work of Radford and the individual compensation advisors employed by Radford as compensation consultants to the Compensation Committee has not created any conflicts of interest, and that Radford is independent pursuant to the independence standards set forth in the Nasdaq listing standards promulgated pursuant to Section 10C of the Exchange Act.

Compensation Committee Interlocks and Insider Participation

None of the members of our Compensation Committee has at any time during the prior three years been one of our officers or employees. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the Board of Directors or Compensation Committee of any entity that has one or more executive officers serving on our Board of Directors or Compensation Committee. For a description of transactions between us and members of our Compensation Committee and affiliates of such members, please see "Certain Relationships and Related Party Transactions."

Risks Related to Compensation Practices and Policies

The Compensation Committee maintains a pay-for-performance compensation philosophy, but also recognizes that providing certain types of compensation incentives may inadvertently motivate individuals to act in ways that could be detrimental to the organization as a whole in order to maximize personal compensation. To minimize such risk, the Compensation Committee reviews at least annually the overall structure and components of our compensation program. The Compensation Committee also performs an annual evaluation to ensure that salary levels, equity awards and other elements of

Table of Contents

compensation are benchmarked against appropriate standards and that incentives provided for achievement of target goals are balanced between short-term rewards and longer-term enhancement of shareholder value. Our Compensation Committee has reviewed and evaluated the philosophy and standards on which our compensation plans have been developed and implemented across Acceleron. It is our belief that our compensation program does not encourage inappropriate actions or risk taking by our executive officers. We do not believe that any risks arising from our employee compensation policies and practices are reasonably likely to have a material adverse effect on our business. In addition, we do not believe that the mix and design of the components of our executive compensation program encourage management to assume excessive risks. We believe that our current business process and planning cycle fosters the behaviors and controls that would mitigate the potential for adverse risk caused by the action of our executives, including the following:

- the establishment of base salaries consistent with our executive officers' responsibilities and market comparables to ensure that our executive officers would not be motivated to take excessive risks to achieve a reasonable level of financial security;
- annual establishment of corporate objectives for our performance-based cash bonus program for our executive officers that are consistent with our annual operating and strategic plans, that are designed to achieve the proper risk/reward balance, and that should not require excessive risk taking to achieve;
- the mix between fixed and variable, annual and long-term and cash and equity compensation are designed to encourage strategies and actions that balance our short-term and long-term best interests;
- stock option awards vest over a period of time, which we believe encourages executives to take a long-term view of our business; and
- the discretion available to our Compensation Committee not to apply fixed formulae in assessing our company performance, which allows the Compensation Committee to, among other things, (a) eliminate the potential incentive for management to conduct activities that are in our annual corporate goals, but which may not, due to new data or other developments, ultimately prove to be in the best interest of our stockholders, and (b) reward management for making decisions that are in the long-term best interest of our therapeutic candidate development programs, even when those decisions result in the failure to meet short-term objectives.

Code of Business Conduct and Ethics

We have adopted a code of business conduct and ethics that applies to all of our employees, officers and directors, including those officers responsible for financial reporting. Our code of business conduct and ethics is available on our website. We intend to disclose any amendments to the code, or any waivers of its requirements, on our website.

Table of Contents

EXECUTIVE OFFICERS

Below is a list of the names, ages as of March 31, 2015 and positions, and a brief account of the business experience of the individuals who serve as our executive officers.

Name	Age	Position
John L. Knopf, Ph.D.	62	Chief Executive Officer and President; Director (Class II)
Kevin F. McLaughlin	58	Senior Vice President, Chief Financial Officer and Treasurer
Matthew L. Sherman, M.D.	59	Executive Vice President and Chief Medical Officer(1)
Steven D. Ertel	45	Executive Vice President and Chief Operating Officer(2)
Ravindra Kumar, Ph.D.	55	Vice President and Chief Scientific Officer
John D. Quisel, J.D., Ph.D.	43	Senior Vice President, General Counsel and Secretary(3)

(1) We promoted Dr. Sherman on March 4, 2015 from the position of Senior Vice President and Chief Medical Officer.

(2) We promoted Mr. Ertel on March 4, 2015 from the position of Senior Vice President and Chief Business Officer.

(3) We promoted Dr. Quisel on June 20, 2014 from the position of Vice President, General Counsel and Secretary.

EXECUTIVE OFFICER BIOGRAPHIES

Kevin F. McLaughlin joined Acceleron in November 2010 and is our Senior Vice President, Chief Financial Officer and Treasurer. Since January 2015, Mr. McLaughlin has served on the board of directors of Vericel Corporation. He also recently served, from 2009 through 2010, as Senior Vice President and Chief Financial Officer of Qteros, Inc. He was a co-founder of Aptius Education, Inc. and from 2007 through 2009 he worked as the Chief Operating Officer and a director. From 1996 through 2007, Mr. McLaughlin held several executive positions with PRAECIS Pharmaceuticals, Inc. He joined PRAECIS as their first Chief Financial Officer where he had responsibility for private financings, partnership financings, the company's initial public offering and subsequent stock offering. Later, Mr. McLaughlin became COO, and then President and CEO, and he served as a member of the board of directors. In this capacity he was responsible for negotiating the sale of the company to GlaxoSmithKline. He began his career in senior financial roles at Prime Computer and Computervision Corporation. Mr. McLaughlin received a BS in business from Northeastern University and an MBA from Babson College.

Matthew L. Sherman, M.D. joined Acceleron in May 2006 and is our Executive Vice President and Chief Medical Officer. Previously, he served as Senior Vice President and Chief Medical Officer at Synta Pharmaceuticals Corp. where he was responsible for clinical research, clinical operations, biostatistics, data management, regulatory affairs, quality assurance and program management. Prior to that, Dr. Sherman worked at Genetics Institute and Wyeth Pharmaceuticals in various capacities including Therapeutic Area Director for Oncology. While at Wyeth, Dr. Sherman provided senior oncology and hematology leadership for worldwide clinical development for both small molecule and biologic therapeutics, including the submission and approval of Mylotarg® by the FDA. He has published numerous papers and book chapters in the field of oncology and clinical development and is named as an inventor of several patents. Dr. Sherman is board certified in Medical Oncology and Internal Medicine and held various clinical positions at Harvard Medical School with corresponding hospital appointments at the Dana-Farber Cancer Institute and Brigham and Women's Hospital. Dr. Sherman received an SB in chemistry from the Massachusetts Institute of Technology and an MD from Dartmouth Medical School.

Steven D. Ertel joined Acceleron in January 2006 and is our Executive Vice President and Chief Operating Officer. Mr. Ertel established our business development function and currently leads our business development, commercial strategy, program management, manufacturing, quality, and corporate communications functions. Mr. Ertel has over 20 years of experience in the biotechnology industry at Vivus, Inc., Genentech, Inc., Biogen Idec, Inc., and Synta Pharmaceuticals Corp. His responsibilities at these companies included program management for preclinical and clinical stage programs, commercial strategy for clinical stage programs, market launch of a novel biologic agent, and business development. Mr. Ertel began his career in the venture capital industry at Oxford Bioscience Partners. Mr. Ertel received a BSE in biomedical engineering from Duke University and an MBA from the Wharton School at the University of Pennsylvania.

Ravindra Kumar, Ph.D. joined Acceleron in March 2004 and is currently our Vice President and Chief Scientific Officer. Dr. Kumar established and currently leads our discovery research. Previously, Dr. Kumar worked for 12 years at Genetics Institute and Wyeth Pharmaceuticals. At Genetics Institute, Dr. Kumar was a key member of the Small Molecule Drug Discovery group and was responsible for cell biology. Following the integration of discovery functions from GI and Wyeth Pharmaceuticals, Dr. Kumar served as Senior Scientist in the Biological Chemistry group. Dr. Kumar is the author of several key scientific manuscripts in the area of protein glycosylation and is named as an inventor of several patents. Dr. Kumar received his BS in chemistry from Rohilkhand University, his MS in chemistry from Meerut University, his Ph.D. from

Table of Contents

University of New Brunswick and he completed his post-doctoral fellowship at Albert Einstein College of Medicine, in Bronx, NY.

John D. Quisel, J.D., Ph.D. joined Acceleron in October 2006 and is currently our Senior Vice President, General Counsel and Secretary. Prior to joining us, Dr. Quisel worked at the Boston office of Ropes & Gray LLP and, prior to that, the Boston office of Foley Hoag LLP. In his work at law firms, Dr. Quisel has, through strategic in-licensing and protection of internal research programs, assembled and licensed product and platform focused intellectual property portfolios for numerous biotechnology ventures. Over his entire career, Dr. Quisel's experience spans many aspects of biotechnology law, including the negotiation of intellectual property licenses and product development collaborations, patent prosecution and litigation. Dr. Quisel received an AB in biology from Harvard University, an MS in biology from Stanford University, a Ph.D. in biology from the Massachusetts Institute of Technology and a J.D. from Harvard Law School.

Table of Contents

COMPENSATION DISCUSSION AND ANALYSIS

Executive Summary

This Compensation Discussion and Analysis, or CD&A, describes the actions taken by our Compensation Committee with respect to compensation awarded or paid to our named executive officers for fiscal year 2014 and the policies and principles underlying those decisions. Our named executive officers for fiscal year 2014 were the following:

Name	Position
John L. Knopf, Ph.D.	Chief Executive Officer and President
Kevin F. McLaughlin	Senior Vice President, Chief Financial Officer and Treasurer
Matthew L. Sherman, M.D.	Executive Vice President and Chief Medical Officer(1)
Steven D. Ertel	Executive Vice President and Chief Operating Officer(2)
John D. Quisel, J.D., Ph.D.	Senior Vice President, General Counsel and Secretary(3)

(1) We promoted Dr. Sherman on March 4, 2015 from the position of Senior Vice President and Chief Medical Officer.

(2) We promoted Mr. Ertel on March 4, 2015 from the position of Senior Vice President and Chief Business Officer.

(3) We promoted Dr. Quisel on June 20, 2014 from the position of Vice President, General Counsel and Secretary.

Our Compensation Committee applied the following policies and principles in making its compensation determinations for our named executive officers in fiscal year 2014:

• Base salaries should be consistent with similar positions at similar companies;

• Incentive pay should be directly connected to company performance and the achievement of corporate goals;

• Equity compensation should be used to align the interests of our named executive officers with those of our stockholders;

• Benefits provided to our named executive officers should be modest and generally the same as those provided to our other employees; and

• Total compensation should attract, motivate and retain talented executives in a competitive environment.

As described in more detail below under "Executive Compensation Philosophies and Objectives," the basic premise of our compensation philosophy is to pay for performance. Our executive compensation program is designed to motivate, attract and retain a highly skilled team of key executives and to appropriately reward them for their contributions to our business. Our framework for measuring performance consists of a combination of strategic, operational and financial performance goals, taking into consideration each individual executive's contribution to those goals, and mixing cash- and equity-based pay. An important portion of total executive compensation is variable and tied to the achievement of annual company performance goals. In combination, these elements provide a balanced view of performance and are the basis for the Compensation Committee's executive compensation decisions.

In fiscal year 2014, we achieved a number of successes, including the presentation of positive data from clinical trials across all three of our most advanced programs, luspatercept, sotatercept and dalantercept, and the announcement by our partner Celgene of its intention to move forward with Phase 3 clinical trials in patients with β -thalassemia and in patients with myelodysplastic syndromes. While we had a number of significant successes during 2014, actual achievement of previously established corporate goals applicable to short-term incentives was slightly below targeted levels, and our Compensation Committee determined that we reached 95% of our target corporate goals. However, due to our significant achievement of successfully completing a public offering in January 2014 that provided us with net proceeds of \$129.0 million, the Compensation Committee exercised its discretion to pay short-term incentives at 100% of the target level to reward our named executive officers for their contributions to this significant achievement even though it was outside of the previously established goals. As such, we have demonstrated its commitment to our pay-for-performance philosophy.

We have several governance practices that we believe reinforce the soundness of our compensation programs.

• **Director Independence.** The Compensation Committee is made up entirely of independent directors.

• **Independent Compensation Consultant.** The Compensation Committee retains an independent compensation consultant to advise on our executive compensation programs and practices. The compensation consultant works

exclusively for the Compensation Committee and does not perform any other work for us.

• No Excessive Perquisites. Other than participation in benefit plans offered to all of our employees, we offer no other

Table of Contents

perquisites to our executive officers, including our named executive officers.

- No Hedging or Pledging. We do not allow any of our executive officers, including our named executive officers, or our directors, to enter into any hedging-type transactions in our stock or to pledge our stock.

Executive Compensation Philosophy and Objectives

Our executive compensation program and pay decisions are based on the philosophy that pay should be competitive and reward our executives for company performance. To maintain pay at competitive levels, our Compensation Committee sets base salaries and total compensation at levels that approximate the median of the market within a range of the 50th percentile of our peer companies for base salaries, annual incentive targets and long-term incentives. For information on our peer companies, please see the discussion under "Market Benchmarks and Competitive Analysis." To tie executive compensation to performance, annual incentives are tied to previously established corporate goals and take into consideration overall company performance for the year. The Compensation Committee also considers company performance when setting levels of long-term incentive awards.

The primary objectives of our executive compensation program are to:

- attract, motivate and retain a highly skilled team of key executives;
- align the interests of our executives with the interests of our stockholders by tying compensation to the achievement of short- and long-term strategic goals of the Company, which serves to enhance short- and long-term value creation for our stockholders;

- promote the achievement of key strategic, research and development, operational and financial performance goals by linking compensation to the achievement of measurable performance goals; and

- provide for levels of compensation that are competitive with the market place.

To achieve these objectives, the Compensation Committee evaluates our executive compensation program annually to maintain a design that furthers these objectives. We provide competitive pay by taking into consideration comparable pay at our peer companies as well as the job scope, responsibilities and individual performance and experience of each executive. We award equity-based compensation in the form of stock options that vest over time, which we believe aligns the interests of our executives with the interests of our stockholders by allowing them to participate in our longer term success as reflected in the appreciation of our stock price and helps to retain our executives. We promote the achievement of our corporate goals and objectives by tying short-term and long-term incentives to the achievement of such goals.

Market Benchmarks and Competitive Analysis

Each year, the Compensation Committee considers a variety of factors in assessing the competitiveness of our executive compensation program and the individual compensation of each of our executives, including our named executive officers. These factors include our performance against our internal strategic, operational and financial corporate goals, the mix of short-term cash and long-term equity compensation, a thorough review of compensation paid at peer companies compared to the compensation we pay our executive officers, and survey data for national and regional companies in the biopharmaceutical industry.

The Compensation Committee has engaged Radford, an Aon Hewitt Company - a division of Aon Corporation, as its independent compensation consultant. Radford assists the Compensation Committee in the development of a list of our peer companies and collects, analyzes and compares compensation data of such peer companies to the levels and components of our executive compensation program. In determining our peer companies, we select companies that are publicly traded, that operate in our industry and have a similar market cap, and that are of comparable size and scientific stage of development. In late 2013, the Compensation Committee, taking into consideration information provided by Radford, determined that our peer companies for the 2014 fiscal year were the companies listed in the table below, which was used as a basis for stock options granted at the end of 2013 and cash compensation paid for 2014:

Table of Contents

Achillion Pharmaceuticals, Inc.
 Ambit Biosciences Corporation
 Array BioPharma Inc.
 bluebird bio, Inc.
 Chimerix, Inc.
 Coronado Biosciences, Inc.
 Cytokinetics, Incorporated
 Epizyme, Inc.
 Idenix Pharmaceuticals, Inc.
 Infinity Pharmaceuticals, Inc.
 KaloBios Pharmaceuticals, Inc.

Merrimack Pharmaceuticals, Inc.
 NewLink Genetics Corporation
 Receptos, Inc.
 Sangamo BioSciences, Inc.
 Stemline Therapeutics, Inc.
 Targacept, Inc.
 Tesaro, Inc.
 Tetrphase Pharmaceuticals, Inc.
 Trius Therapeutics, Inc.
 Verastem, Inc.

The Compensation Committee also considered data from a specialized subset of Radford’s Global Life Sciences compensation survey representing publicly traded companies in the biopharmaceutical industry with employee populations in the range of 25 to 250 employees.

In late 2014, the Compensation Committee, with Radford’s input, revised the list of peer companies given changes in the Company’s profile, including market cap and employee size, and the new list of peer companies was used as the basis for stock option grants made in early 2015 and cash compensation being paid for 2015. The following companies were removed from the 2014 peer group: Ambit Biosciences; Coronado Biosciences; Cytokinetics; KaloBios Pharmaceuticals; Stemline Therapeutics; Targacept; Tetrphase; Trius Therapeutics; and Verastem. In addition, the following companies were added to the 2014 peer group: Agios Pharmaceuticals, Celldex Therapeutics, Clovis Oncology, Exelixis, Karyopharm Therapeutics, MacroGenics, Neurocrine Biosciences, and Synageva Biopharma.

Using the peer group data provided by Radford and Radford’s Global Life Sciences compensation survey data, the Compensation Committee determines compensation of our executive officers with a philosophy of setting base salaries and total executive compensation at a level consistent with approximately the 50th percentile of our peer companies. The Compensation Committee evaluates and considers specific compensation data from our peer companies to ensure the competitiveness of the compensation packages we provide to our executive officers.

Elements of Executive Compensation

The compensation of our executive officers for fiscal year 2014 consisted of the following elements:

Compensation Element	Purpose	Features
Base salary	To attract and retain highly skilled executives	Fixed component of pay to provide financial stability, based on responsibilities, experience, individual contributions and peer company data
Annual cash bonuses	To promote and reward the achievement of key short-term strategic and business goals of the Company as well as individual performance; to motivate and attract executives	Variable component of pay based on previously-established annual company goals
Long-term incentives	To encourage executives to focus on long-term Company performance; to promote retention of executives; to reward outstanding Company and individual performance	Equity component of pay that aligns executive interests with those of our stockholders and rewards stockholder value creation over the long-term; awards generally vest in equal installments annually over a four-year period

Base Salaries. Base salaries for our named executive officers are determined by the Compensation Committee based on a number of factors, including the scope of each executive’s responsibilities, each executive’s respective experience and individual contributions to the Company as well as the Company’s assessment of base salaries paid for comparable

positions at our peer companies. The Compensation Committee also considers company performance as a whole and general industry conditions, but does not assign any specific weighting to any factor when determining levels of base salary. The Compensation Committee annually evaluates the base salaries of our executive officers, including our named executive officers, taking into consideration the foregoing factors, and ultimately determines the base salary of each of our named executive officers.

In December 2013, the Compensation Committee evaluated base salaries of our executive officers, including our named executive officers, for fiscal year 2014. The Compensation Committee considers information from Dr. Knopf, who as our Chief Executive Officer regularly discusses compensation matters with the Chair of the Compensation Committee and meets with the

Table of Contents

Compensation Committee to discuss these matters. Dr. Knopf also provides the Compensation Committee and Board of Directors with his evaluation of the performance of the executive officers other than himself. The amount of the salary increases, including Dr. Knopf's 15% base salary increase, were determined, in large part, based on base salaries paid for comparable positions at our peer companies and our philosophy of targeting base salary and total compensation at approximately the 50th percentile of our peer companies. Based on a review of the peer group compensation data, the Compensation Committee did not increase Dr. Quisel's base salary or bonus eligibility in connection with his promotion in June 2014 from Vice President, General Counsel and Secretary to Senior Vice President, General Counsel and Secretary, but it did grant him additional stock options as further described below. Based on its evaluation of peer company data and company performance, the Compensation Committee approved base salary increases for our named executive officers, effective January 1, 2014, as follows:

Name	2013 Base Salary	2014 Base Salary	Percent Increase	
John L. Knopf, Ph.D.	\$400,000	\$460,000	15.0	%
Kevin F. McLaughlin	\$307,491	\$325,000	5.7	%
Matthew L. Sherman, M.D.	\$380,662	\$392,000	3.0	%
Steven D. Ertel	\$313,500	\$335,000	6.9	%
John D. Quisel, J.D., Ph.D.	\$319,300	\$335,000	4.9	%

Annual Cash Bonuses. Our annual cash bonus program for our named executive officers and other executive officers and key employees is administered by the Compensation Committee through the Acceleron Pharma Inc. Cash Incentive Plan, or the Cash Incentive Plan. The Cash Incentive Plan promotes and rewards the achievement of key strategic and business goals. For fiscal year 2014, the target annual bonuses as a percentage of base salary for our named executive officers under the Cash Incentive Plan were 60% for Dr. Knopf and 35% for our other named executive officers.

The Compensation Committee establishes specific performance criteria under the Cash Incentive Plan annually through the establishment of our corporate goals. The Compensation Committee then compares company performance for the prior year against our corporate goals for such year. The amount actually paid in cash bonuses to each of our named executive officers is determined by the Compensation Committee based primarily on the achievement of our corporate goals, subject to adjustment for individual performance. In its sole discretion, the Compensation Committee may, however, award bonuses above or below these amounts on a case-by-case basis or may decide to not award bonus payments at all, notwithstanding the achievement of particular goals or individual contributions, but consistent with our stated compensation philosophy and objectives. Payment of a bonus is conditioned on the executive remaining employed by us at the time the award is actually paid.

Each of our corporate goals has a designated weighting that applies to our key strategic and financial goals relating to research and our pipeline, process development and manufacturing, business development and the achievement of financial objectives.

The performance bonuses for fiscal year 2014 were based on our performance relative to the following performance objectives:

Development goals for our lead programs, sotatercept and luspatercept, were assigned an aggregate 50% weighting. The lead indications of chronic kidney disease, -thalassemia and myelodysplastic syndromes were assigned a 45% weighting and included the following: reaching consensus with our partner Celgene to initiate a registration enabling clinical trial with either luspatercept or sotatercept and successfully conducting supporting activities for such clinical trial, such as by obtaining supportive guidance from regulatory agencies regarding the design of such clinical trial and supporting the establishment by Celgene of an outsourced Phase 3- compliant drug substance manufacturing process for luspatercept. The remaining 5% weighting was assigned to initiating a clinical trial in a new indication for either luspatercept or sotatercept.

Development goals for our earlier stage programs, dalantercept, ACE-083 and our preclinical programs were assigned a 30% weighting and included the following: advancing our dalantercept clinical trial in patients with RCC by establishing and presenting a safety and efficacy profile justifying the initiation of a randomized, placebo controlled trial and initiating such trial; initiating a clinical trial with dalantercept in patients with hepatocellular carcinoma;

expanding our pipeline of clinical stage products by initiating a first-in-man Phase 1 clinical trial with ACE-083; expanding our pre-clinical pipeline by establishing a collaboration with an antibody technology company and establishing the activity of novel, undisclosed molecules in indications selected for future clinical development.

Table of Contents

Financial and corporate governance goals were assigned a 20% weighting and included the following: operating the Company within its budget forecast, ending the year with a cash balance sufficient to fund the Company for an additional two years, and recruiting two additional members to the Board of Directors.

In January 2015, the Compensation Committee met and evaluated our performance against the Compensation Committee's established corporate goals for fiscal year 2014. The Compensation Committee determined that the Company satisfied 95% of the previously-established corporate goals based on the following achievements:

- Initiated regulatory interactions regarding Phase 3 clinical trial design in patients with β -thalassemia.
 - Celgene announced its intention to initiate a Phase 3 clinical trial for luspatercept in patients with β -thalassemia and a Phase 3 trial with luspatercept or sotatercept in patients with myelodysplastic syndrome.
 - Established an outsourced manufacturing process for luspatercept to provide material for Phase 3 clinical trials.
 - Presented new interim data from the Phase 2 clinical trial of dalantercept in combination with Inlyta® (axitinib) in patients with advanced renal cell carcinoma, or RCC.
 - Initiated the randomized, placebo-controlled part of the Phase 2 clinical trial with dalantercept in patients with RCC.
 - Initiated a Phase 2 clinical trial with dalantercept in patients with hepatocellular carcinoma.
 - Initiated a Phase 1 clinical trial with ACE-083 in healthy volunteers.
 - Presented data providing a preclinical rationale in support of additional possible indications for luspatercept and sotatercept, including sickle cell disease.
 - Entered into a multi-target antibody discovery collaboration with Adimab LLC against targets in the TGF- β superfamily.
 - Established the activity of additional undisclosed molecules in indications selected for future clinical development.
 - Met our 2014 budget.
 - Ended fiscal year 2014 with sufficient cash to fund projected operating requirements into the second half of 2017.
 - Recruited Terrence C. Kearney to serve as a new member of our Board of Directors and the chair of our Audit Committee, and recruited Francois Nader, M.D. to serve as a new member of our Board of Directors.
- The Company and Celgene elected to focus on the advancement of the existing luspatercept and sotatercept programs in chronic kidney disease, β -thalassemia and myelodysplastic syndromes, rather than initiate a clinical trial in a new indication, and therefore the goal associated with the initiation of a clinical trial in a new indication for luspatercept or sotatercept, weighted at 5%, was not met.
- In addition to the previously-established corporate goals, the Compensation Committee considered a significant corporate achievement outside of those goals, which was the successful completion of a public offering in January 2014 that provided us with net proceeds of \$129.0 million, after deducting underwriting discounts and offering expenses. The Compensation Committee believed that this offering was an important achievement and that annual cash bonus awards to our named executive officers should reflect this achievement, even if it was not related to a previously-established corporate goal. As a result, in recognition of this achievement, the Compensation Committee awarded annual bonuses under the Cash Incentive Plan for members of our management team, including our named executive officers, at 100% of the target levels.
- Individual performance for our executive officers, other than Dr. Knopf, was evaluated by Dr. Knopf and the Compensation Committee and determined primarily based on the achievement of corporate goals, with the opportunity for adjustment based on each individual's contribution to our corporate goals. Dr. Knopf's individual performance was evaluated by the Compensation Committee and determined based on the achievement of our corporate goals.
- Accordingly, our named executive officers received the following annual cash bonuses for 2014:

Table of Contents

2014 Annual Cash Bonuses

Name	2014 Target Bonus (%)	2014 Bonus Awarded (%)	2014 Bonus Awarded (\$)
John L. Knopf, Ph.D.	60	60	276,000
Kevin F. McLaughlin	35	35	113,750
Matthew L. Sherman, M.D.	35	35	137,200
Steven D. Ertel	35	35	117,250
John D. Quisel, J.D., Ph.D.	35	35	117,250

Long-Term Incentives. Long-term incentives are awarded to our named executive officers in the form of stock options granted under our 2013 Equity Incentive Plan. Stock options have traditionally been used to deliver long-term incentive compensation because they directly align executive pay with the creation of stockholder value since the value of stock options depend on stock price appreciation after the grant date. Stock options also encourage retention when subject to time-based vesting. Awards that are subject to time-based vesting generally are subject to continued employment and either vest in quarterly installments over four years for grants to existing employees, or vest as to 25% of the shares subject to the option after one year and thereafter continue to vest in quarterly installments over the following three years for grants to new hires. Pursuant to agreements with certain members of senior management, including our named executive officers, a portion of the executive's stock option will vest automatically as of the date of a change of control and all or a portion of the executive's stock options may vest upon certain terminations of employment. The exercise price of all employee stock options is generally equal to the fair market value of our common stock on the grant date, measured as the closing price of our common stock on such date as reported by the NASDAQ Stock Market.

In establishing long-term incentive award levels for our executive officers, the Compensation Committee takes into account long-term incentives awarded by our peer companies as well as industry survey data provided by Radford. The Compensation Committee also evaluates overall Company performance over the fiscal year for which the awards are granted.

For fiscal 2014, our Compensation Committee decided to defer making long-term incentive awards for performance in the 2014 fiscal year to January 2015. Previously, such awards were made in December of each year. Our Compensation Committee made this change so that decisions on long-term incentives to our named executive officers for fiscal year 2014 would be made after the conclusion of the year, once all company strategic, operational and financial performance results could be assessed for such fiscal year. As a result, long-term incentive awards to our named executive officers granted for performance in fiscal year 2014 do not appear in the Summary Compensation Table below due to SEC rules governing the reporting of equity compensation in the Summary Compensation Table, which require equity awards to be reported in the year of grant, even where the awards are intended to compensate executives for performance in a prior year.

Long-term incentive awards for performance in fiscal year 2014 and granted in January 2015 to our named executive officers were primarily based on the Compensation Committee's evaluation of long-term incentive awards granted to comparable positions at our peer companies. The table below reflects the long-term incentive award granted in January 2015, in the form of stock options, to each of our named executive officers for performance in fiscal year 2014, as determined by the Compensation Committee.

Name	Grant Date	Stock Options Awarded (#)	Stock Options Value (\$)
John L. Knopf, Ph.D.	January 8, 2015	151,000	3,796,684
Kevin F. McLaughlin	January 8, 2015	41,000	1,030,888
Matthew L. Sherman, M.D.	January 8, 2015	41,000	1,030,888
Steven D. Ertel	January 8, 2015	41,000	1,030,888
John D. Quisel, J.D., Ph.D.	January 8, 2015	41,000	1,030,888

In addition to long-term incentive awards granted for fiscal year 2014 performance, on July 1, 2014, the Compensation Committee granted Dr. Quisel an option to purchase 10,000 shares of our Common Stock in

connection with his promotion from Vice President, General Counsel and Secretary to Senior Vice President, General Counsel and Secretary in June 2014. This stock option award vests in equal, quarterly installments over four years, generally subject to his continued employment.

Benefits. Our named executive officers receive broad-based benefits that are provided to all employees, including medical insurance, dental insurance, vision insurance, group life insurance, accidental death and dismemberment insurance, long and short term disability insurance, flexible spending accounts and matching contributions in our 401(k) plan. All of our

Table of Contents

executive officers are eligible to participate in all of our employee benefit plans, in each case on the same basis as other employees.

Pursuant to our 401(k) plan, employees' elective deferrals are immediately fully vested and non-forfeitable under this plan. We may, but are not required to, make discretionary matching contributions and other employer contributions on behalf of eligible employees under this plan. For fiscal year 2014, we matched a portion of eligible employee contributions up to \$2,500 pursuant to our 401(k) plan's matching formula.

In addition, we maintain our tax-qualified 2013 Employee Stock Purchase Plan, or the ESPP, in which all our employees, including our named executive officers, may participate, subject to the eligibility criteria set forth in the plan, consistent with the applicable tax regulations. The purpose of the ESPP is to encourage employees, including our named executive officers, to become our stockholders and better align their interests with those of our other stockholders. None of our named executive officers purchased shares of our common stock under the ESPP in fiscal year 2014.

Employment Agreements

We have entered into employment agreements with each of our named executive officers, which provide for initial base salaries, eligibility to participate in the Company's annual bonus plan, and payments and benefits in connection with certain terminations of employment, including in connection with a change in control. We believe that change of control arrangements provide our executives with security that will likely reduce any reluctance they may have to pursue a change of control transaction that could be in the best interests of our stockholders. We also believe that reasonable severance and change of control benefits are necessary to attract and retain high-quality executive officers. These agreements are discussed in more detail below under "Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table—Employment Agreements" and "Potential Payments Upon Termination or Change of Control."

Table of Contents

COMPENSATION COMMITTEE REPORT

The Compensation Committee of our Board of Directors has reviewed and discussed the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K, which appears elsewhere in this proxy statement, with our management. Based on this review and discussion, the Compensation Committee has recommended to the Board of Directors that the Compensation Discussion and Analysis be included in our proxy statement and incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2014.

Members of the Acceleron Pharma Inc. Compensation Committee

Edwin M. Kania, Jr., Chair

Tom Maniatis, Ph.D.

Joseph S. Zakrzewski

Table of Contents

EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

Summary Compensation Table

The following table summarizes the total compensation earned by or paid to our named executive officers for fiscal years 2012 through 2014.

Name and Principal Position	Year	Salary (\$)	Option Awards \$(4)	Non-Equity Incentive Plan Compensation \$(5)	All Other Compensation (\$)	Total (\$)
John L. Knopf, Ph.D. Chief Executive Officer and President	2014	460,000	—	276,000	2,500	(6) 738,500
	2013	400,000	1,696,423	300,000	237,461	(7) 2,633,884
	2012	400,000	1,355,300	200,000	—	1,955,300
Kevin F. McLaughlin Senior Vice President, Chief Financial Officer and Treasurer	2014	325,000	—	113,750	2,500	(6) 441,250
	2013	307,491	447,244	138,375	—	893,110
	2012	294,250	93,411	88,275	—	475,936
Matthew L. Sherman, M.D. Executive Vice President and Chief Medical Officer(1)	2014	392,000	—	137,200	2,500	(6) 531,700
	2013	380,662	447,239	171,315	—	999,216
	2012	364,270	124,550	109,281	—	598,101
Steven D. Ertel Executive Vice President and Chief Operating Officer(2)	2014	335,000	—	117,250	2,500	(6) 454,750
	2013	313,500	447,244	141,075	—	901,819
	2012	300,000	124,550	90,000	—	514,550
John D. Quisel, J.D., Ph.D. Senior Vice President, General Counsel and Secretary(3)	2014	335,000	216,507	117,250	2,500	(6) 671,257
	2013	319,300	447,239	143,680	—	910,219
	2012	310,000	158,415	93,000	—	561,415

(1) We promoted Dr. Sherman on March 4, 2015 from the position of Senior Vice President and Chief Medical Officer.

(2) We promoted Mr. Ertel on March 4, 2015 from the position of Senior Vice President and Chief Business Officer.

We promoted Dr. Quisel on June 20, 2014 from the position of Vice President, General Counsel and Secretary. His

(3) salary was not increased as a result of this promotion, but he was granted an option to purchase 10,000 shares of our common stock on July 1, 2014.

Amounts shown reflect the grant date fair value of options awarded during each of fiscal year 2012, 2013 and 2014 determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, Compensation—Stock Compensation. These amounts exclude the value of estimated forfeitures. With respect to the performance-based option granted to Dr. Knopf in 2013, the amount included in the table assumes the highest level of performance is achieved. See Note 10 to our consolidated financial statements for the years ended December 31, 2014, 2013 and 2012 filed with our Annual Report on Form 10-K filed with the SEC on

(4) March 2, 2015 for details on the assumptions made in the valuation of these awards. Equity awards granted in recognition of performance in 2014 were made in January 2015, and do not appear in the Summary Compensation Table because SEC rules governing the reporting of equity compensation in the Summary Compensation Table require equity awards to be reported in the year of grant, even where the awards are intended to compensate executives for performance in a prior year. For information on the January 2015 equity awards granted in recognition of performance in 2014, see the discussion in "Compensation Discussion and Analysis—Long-Term Incentives."

- (5) Amounts shown reflect the annual cash bonus award paid to the named executive officer for each of fiscal 2012, 2013 and 2014 that was earned based on company performance.
- (6) Represents matching contributions made under our 401(k) plan.
- Represents income imputed to Dr. Knopf upon the forgiveness of the entire principal amount of a promissory note entered into by him and the Company, plus accrued interest. We and Dr. Knopf were parties to a Secured
- (7) Promissory Note dated January 28, 2008 and amended on November 13, 2012, pursuant to which we made a loan to Dr. Knopf with a principal balance of \$200,000 and an interest rate of 3.11% per annum. The outstanding balance of \$237,461, including principal and accrued and unpaid interest on the note, was forgiven immediately prior to the public filing of the registration statement in connection with our initial public offering in August 2013.

Table of Contents

2014 Fiscal Year Grants of Plan-Based Awards

The following table shows information regarding cash incentive and equity awards granted to our named executive officers during the fiscal year ended December 31, 2014.

Name	Grant Date	Approval Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards(2)		All other option awards: Number of securities underlying options(3)	Exercise or base price of option awards (\$/Share)	Grant date fair value of stock and option awards(4)
			Target (\$)	Maximum (\$)			
John L. Knopf, Ph.D.			276,000	276,000			
Kevin F. McLaughlin			113,750	113,750			
Matthew L. Sherman, M.D.			137,200	137,200			
Steven D. Ertel			117,250	117,250			
John D. Quisel, J.D., Ph.D.	7/1/2014	6/20/2014 (1)	117,250	117,250	10,000	\$34.05	\$216,507

(1) Represents the date that the Compensation Committee took action to grant the award.

(2) Represents the target and maximum award amounts applicable to 2014 performance-based annual cash bonus awards for each named executive officer.

Represents an option award granted to Dr. Quisel in July 2014 in connection with his promotion from Vice President, General Counsel and Secretary to Senior Vice President, General Counsel and Secretary in June 2014. Equity awards granted in recognition of performance in 2014 were made in January 2015, and do not appear in the Grants of Plan-Based Awards table because of SEC rules governing the reporting of equity compensation in the Grants of Plan-Based Awards table require equity awards to be reported in the year of grant, even where the awards are intended to compensate executives for performance in a prior year. For information on the January 2015 equity awards granted in recognition of performance in 2014, see the discussion in "Compensation Discussion and Analysis—Long-Term Incentives."

(3) Represents the grant date fair value options determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, Compensation-Stock Compensation, excluding the value of estimated forfeitures.

Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table

Employment Agreements

We have entered into employment agreements with each of our named executive officers, which provide for initial base salaries, eligibility to participate in the Company's annual bonus plan, and payments and benefits in connection with certain terminations of employment, including in connection with a change in control. Payments and benefits that may be payable in connection with certain terminations of employment are described in more detail under "Potential Payments Upon Termination or Change of Control."

John L. Knopf, Ph.D. We entered into an amended and restated employment agreement with Dr. Knopf effective as of August 26, 2013, pursuant to which we agreed to continue to employ Dr. Knopf as our Chief Executive Officer and President. Dr. Knopf's employment agreement will continue until the agreement is terminated by us or Dr. Knopf under the terms of the agreement. Under his employment agreement, he is eligible to receive a performance-based cash bonus each year under our 2013 Cash Incentive Plan in an amount equal to a percentage of his annual base salary for such year as established by the Compensation Committee, which amount is to be based on the achievement of performance goals established by the Compensation Committee each fiscal year.

Kevin F. McLaughlin. We entered into an amended and restated employment agreement with Mr. McLaughlin effective as of January 31, 2014, pursuant to which we agreed to continue to employ Mr. McLaughlin as our Senior Vice President and Chief Financial Officer. Mr. McLaughlin's employment agreement will continue until the

agreement is terminated by us or Mr. McLaughlin under the terms of the agreement. Under his employment agreement, he is eligible to receive a performance-based cash bonus each year under our 2013 Cash Incentive Plan in an amount equal to a percentage of his annual base salary for such year as established by the Compensation Committee, which is based on the achievement of performance goals established by the Compensation Committee each fiscal year.

Matthew L. Sherman, M.D. We entered into an amended and restated employment agreement with Dr. Sherman effective as of August 26, 2013, pursuant to which we agreed to continue to employ Dr. Sherman as our Senior Vice President and Chief

Table of Contents

Medical Officer. In March 2015, we promoted Dr. Sherman to Executive Vice President and Chief Medical Officer. Dr. Sherman's employment agreement will continue until the agreement is terminated by us or Dr. Sherman under the terms of the agreement. Under his employment agreement, he is eligible to receive a performance-based cash bonus each year under our 2013 Cash Incentive Plan in an amount equal to a percentage of his annual base salary for such year as established by the Compensation Committee, which is based on the achievement of performance goals established by the Compensation Committee each fiscal year.

Steven D. Ertel. We entered into an amended and restated employment agreement with Mr. Ertel effective as of January 31, 2014, pursuant to which we agreed to continue to employ Mr. Ertel as our Senior Vice President and Chief Business Officer. In March 2015, we promoted Mr. Ertel to Senior Vice President and Chief Operating Officer. Mr. Ertel's employment agreement will continue until the agreement is terminated by us or Mr. Ertel under the terms of the agreement. Under his employment agreement, he is eligible to receive a performance-based cash bonus each year under our 2013 Cash Incentive Plan in an amount equal to a percentage of his annual base salary for such year as established by the Compensation Committee, which is based on the achievement of performance goals established by the Compensation Committee each fiscal year.

John D. Quisel, J.D., Ph.D. We entered into an amended and restated employment agreement with Dr. Quisel effective as of August 26, 2013, pursuant to which we agreed to continue to employ Dr. Quisel as our Vice President and General Counsel. In June 2014, we promoted Dr. Quisel to Senior Vice President and General Counsel. Dr. Quisel's employment agreement will continue until the agreement is terminated by us or Dr. Quisel under the terms of the agreement. Under his employment agreement, he is eligible to receive a performance-based cash bonus each year under our 2013 Cash Incentive Plan in an amount equal to a percentage of his annual base salary for such year as established by the Compensation Committee, which is based on the achievement of performance goals established by the Compensation Committee each fiscal year.

The amended and restated employment agreements with our executive officers also contain severance and change of control arrangements in place with each of our named executive officers. For a description and quantification of benefits payable to the executive officers in connection with a termination of employment or a change of control pursuant to these arrangements, see "—Potential Payments Upon Termination or Change of Control."

Option Awards

Except for the grant of an option to purchase 10,000 shares of our common stock to Dr. Quisel in July 2014 in connection with his promotion from Vice President, General Counsel and Secretary to Senior Vice President, General Counsel and Secretary in June 2014, equity awards granted in recognition of performance in 2014 were made in January 2015, and do not appear in the Grants of Plan-Based Awards table because of SEC rules governing the reporting of equity compensation in the Grants of Plan-Based Awards table require equity awards to be reported in the year of grant, even where the awards are intended to compensate executives for performance in a prior year. For information on the January 2015 equity awards granted in recognition of performance in 2014, see the discussion in "Compensation Discussion and Analysis—Long-Term Incentives."

Table of Contents

Outstanding Equity Awards at 2014 Fiscal Year-End

The following table sets forth information regarding outstanding equity awards held by our named executive officers as of December 31, 2014:

Name	Number of Securities Underlying Unexercised Options Exercisable		Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise Price (\$)(6)	Option Expiration Date (7)	
John L. Knopf, Ph.D.	12,500	(1)	—	0.40	2/2/2015	
	12,500	(2)	—	0.40	3/29/2016	
	100,000	(2)	—	1.80	1/31/2017	
	262,500	(2)	—	5.08	3/27/2018	
	50,000	(2)	—	5.88	2/4/2020	
	87,500	(2)	—	3.88	12/2/2020	
	37,500	(2)	12,500	(2)	5.28	12/16/2021
	77,344	(2)	60,156	(2)	5.28	11/13/2022
	9,375	(3)	28,125	(3)	5.28	11/13/2022
	—		37,500	(5)	5.28	11/13/2022
	15,625	(4)	21,875	(4)	5.28	11/13/2022
Kevin F. McLaughlin	27,500	(2)	82,500	(2)	24.11	12/5/2023
	110,751	(1)	—	3.88	12/2/2020	
	18,750	(2)	6,250	(2)	5.28	12/16/2021
	9,374	(2)	9,376	(2)	7.12	12/12/2022
Matthew L. Sherman, M.D.	7,250	(2)	21,750	(2)	24.11	12/5/2023
	32,000	(1)	—	0.48	5/31/2016	
	29,496	(2)	—	5.08	3/27/2018	
	35,500	(2)	—	3.88	12/2/2020	
	9,375	(2)	3,125	(2)	5.28	12/16/2021
	12,500	(2)	12,500	(2)	7.12	12/12/2022
Steven D. Ertel	7,250	(2)	21,750	(2)	24.11	12/5/2023
	11,094	(2)	—	1.80	1/31/2017	
	6,250	(2)	—	5.08	3/27/2018	
	37,500	(2)	—	3.88	12/2/2020	
	28,123	(2)	9,377	(2)	5.28	12/16/2021
	12,500	(2)	12,500	(2)	7.12	12/12/2022
John D. Quisel, J.D., Ph.D.	7,250	(2)	21,750	(2)	24.11	12/5/2023
	3,500	(1)	—	0.92	11/15/2016	
	2,500	(2)	—	1.80	6/12/2017	
	7,500	(2)	—	5.08	3/27/2018	
	9,399	(2)	—	5.88	12/17/2018	
	25,000	(2)	—	5.88	12/2/2019	
	36,240	(2)	—	3.88	12/2/2020	
	5,184	(2)	4,689	(2)	5.28	12/16/2021
	4,332	(2)	9,375	(2)	5.28	6/7/2022
	781	(2)	6,250	(2)	7.12	12/12/2022
	7,250	(2)	21,750	(2)	24.11	12/5/2023
—		10,000	(2)	34.05	7/1/2024	

Table of Contents

- Reflects time-based options to purchase shares of our common stock that vested as to 25% of the shares subject to
- (1) the option on the first anniversary of the vesting commencement date and thereafter vested in equal quarterly installments over the following three years, subject to the executive's continued employment.
- (2) Reflects time-based options to purchase shares of our common stock that vest in equal quarterly installments over four years generally subject to the executive's continued employment.
- Reflects time- and performance-based options granted to Dr. Knopf to purchase shares of our common stock that vest as to 1/12th of the shares subject to the option on the date that is three months from the date on which the company achieves a specified performance condition related to a financial goal and that continue to vest thereafter
- (3) on a quarterly basis over three years on each three-month anniversary of the initial vesting date. On January 8, 2015, our Compensation Committee affirmed that the performance goal had been met as of January 28, 2014. As a result, 1/12th of the shares subject to the stock option vested on January 28, 2014, and the remainder of the shares will vest on each of the subsequent eleven three-month anniversaries of such date. To the extent unvested, the option will fully vest on September 6, 2016, generally subject to Dr. Knopf's continued employment.
- Reflects time- and performance-based options granted to Dr. Knopf to purchase shares of our common stock that vest as to 1/12th of the shares subject to the option on the date that is three months from the date on which the company achieves a specified performance condition related to a financial goal and that continue to vest thereafter
- (4) on a quarterly basis over three years on each three-month anniversary of the initial vesting date. On December 5, 2013, our Board of Directors determined that the performance goal had been met on September 24, 2013. As a result, 1/12th of the shares subject to the stock option vested on December 24, 2013, and the remainder of the shares will vest on each of the subsequent eleven three-month anniversaries of such date. To the extent unvested, the option will fully vest on September 6, 2016, generally subject to Dr. Knopf's continued employment.
- Reflects time- and performance-based options granted to Dr. Knopf to purchase shares of our common stock that vest as to 1/12th of the shares subject to the option on the date that is three months from the date on which the company achieves a specified performance condition related either to a financial goal or clinical study milestone and that continue to vest thereafter on a quarterly basis over three years on each three-month anniversary of the initial vesting date. To the extent unvested, the option will fully vest on September 6, 2016, generally subject to Dr. Knopf's continued employment.
- (5)
- The exercise price of the stock options was not less than the fair market value of a share of our common stock on the date of grant, as determined by our Board of Directors based, in part, on an independent third party valuation
- (6) with respect to the period prior to our initial public offering. Stock options granted subsequent to us becoming a public company were granted with an exercise price equal to the closing price of a share of our common stock on the date the stock option was granted.
- (7) All stock options have a 10-year term measured from the date of grant.

Option Exercises and Stock Vested in 2014

The table below sets forth the number of shares acquired and the value realized upon the exercise of stock options during fiscal year 2014 by each of our named executive officers:

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise (\$)(1)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting (\$)
John L. Knopf, Ph.D.	—	—	—	—
Kevin F. McLaughlin	105,000	3,081,920	—	—
Matthew L. Sherman, M.D.	68,082	2,040,991	—	—
Steven D. Ertel	105,000	2,897,987	—	—
John D. Quisel, J.D., Ph.D.	79,000	2,348,659	—	—

- (1) The value realized upon exercise is the difference between the fair value of our common stock at the time of exercise and the exercise price, multiplied by the number of shares acquired on exercise.

Pension Benefits

We do not have any qualified or non-qualified defined benefit plans.

Nonqualified Deferred Compensation

We do not have any non-qualified defined contribution plans or other deferred compensation plans.

31

Table of Contents

Potential Payments Upon Termination or Change of Control

Pursuant to the amended and restated employment agreements between the Company and each of our named executive officers, each named executive officer is entitled to payments and benefits upon certain terminations of the executive's employment and a change of control, as described below. We believe that change of control arrangements provide our executives with security that will likely reduce any reluctance they may have to pursue a change of control transaction that could be in the best interests of our stockholders. We also believe that reasonable severance and change of control benefits are necessary in order to attract and retain high-quality executive officers.

The table below reflects, as applicable, cash severance, option acceleration, continuation of health benefits, accrued vacation benefits and tax gross-up payable to each of our named executive officers in connection with (1) a change of control of the Company, (2) the termination of the executive's employment without cause or for good reason following a change of control, (3) the termination of the executive's employment without cause or for good reason, (4) the termination of the executive's employment due to his death or disability, or (5) the termination the executive's employment for any other reason, in each case, assuming that the triggering event took place on December 31, 2014:

Name and Benefit	Change of Control (\$)	Termination Without Cause or for Good Reason Following a Change of Control (\$)	Termination Without Cause or for Good Reason (\$)	Termination Due to Death or Disability (\$)	Other Termination (\$)
John L. Knopf, Ph.D.					
Cash Severance	—	1,104,000	690,000	184,000	(1) —
Option Acceleration	2,697,027	6,619,179	2,420,750	5,394,054	—
Health Benefits	—	34,179	34,179	—	—
Accrued Vacation	23,221	23,221	23,221	23,221	23,221
280G Tax Gross-Up	—	904,879	—	—	—
Kevin F. McLaughlin					
Cash Severance	—	438,750	325,000	130,000	(1) —
Option Acceleration	208,005	832,019	233,748	832,019	—
Health Benefits	—	22,786	22,786	—	—
Accrued Vacation	25,105	25,105	25,105	25,105	25,105
280G Tax Gross-Up	—	—	—	—	—
Matthew L. Sherman, M.D.					
Cash Severance	—	529,200	392,000	156,800	(1) —
Option Acceleration	125,813	826,238	228,212	503,250	—
Health Benefits	—	1,994	1,994	—	—
Accrued Vacation	37,253	37,253	37,253	37,253	37,253
280G Tax Gross-Up	—	—	—	—	—
Steven D. Ertel					
Cash Severance	—	452,250	335,000	134,000	(1) —
Option Acceleration	259,201	1,036,805	311,223	1,036,805	—
Health Benefits	—	22,786	22,786	—	—
Accrued Vacation	28,132	28,132	28,132	28,132	28,132
280G Tax Gross-Up	—	—	—	—	—
John D. Quisel, J.D., Ph.D.					
Cash Severance	—	452,250	335,000	134,000	(1) —
Option Acceleration	168,169	1,041,694	233,928	672,676	—
Health Benefits	—	22,786	22,786	—	—

Accrued Vacation	27,702	27,702	27,702	27,702	27,702
280G Tax Gross-Up	—	—	—	—	—

Table of Contents

Cash severance represents 40% of the executive's salary paid by the Company in addition to 60% of the executive's (1) salary that is paid pursuant to the Company's long term disability insurance. This cash severance is paid by the Company only in the event of an executive's disability, and not in the event of an executive's death.

Change of Control. At the time of the consummation of a change of control, 50%, in the case of Dr. Knopf, and 25%, in the case of Drs. Sherman and Quisel and Messrs. McLaughlin and Ertel, of any unvested stock options then held by the executive that were granted on or prior to the effective date of the executive's amended and restated employment agreement (referred to as the amendment date of the employment agreement) will vest. Change of control is defined under the executives' employment agreements as (i) the acquisition of beneficial ownership, directly or indirectly by any individual or entity, of our securities representing a majority or more of the combined voting power of our then outstanding securities, other than an acquisition of securities for investment purposes pursuant to a bona fide financing; (ii) our merger or consolidation with any other corporation in which our holders of voting securities prior to the merger or consolidation do not own more than 50% of the total voting securities of the surviving corporation; or (iii) the sale or disposition of all or substantially all of our assets.

Termination of Employment Without Cause or for Good Reason Following a Change of Control. If, within one year after the consummation of a change of control, the executive's employment is terminated by us (or our successor) other than for cause or the executive terminates his employment for good reason (as such terms are defined in the executive's employment agreement): (1) we will pay the executive a lump sum payment equal to the product of 1.5 times, in the case of Dr. Knopf, or one times, in the case of Drs. Sherman and Quisel and Messrs. McLaughlin and Ertel, the sum of (x) executive's then-current annual base salary plus (y) 100% of the executive's target bonus for the year in which the termination occurs, (2) 100% of any unvested equity and equity-based awards held by the executive at the time of such termination will fully vest, and (3) if the executive elects under COBRA or any successor law to continue participation in our group health and/or dental plans in which the executive was participating prior to such termination, we will pay or, at our option reimburse the executive for, the full premium cost of that participation for 18 months, in the case of Dr. Knopf, or 12 months, in the case of Drs. Sherman and Quisel and Messrs. McLaughlin and Ertel, following the date the executive's employment terminates or, if earlier, until the date the executive becomes eligible to enroll in such plans of a new employer. We will also pay the executive any base salary earned but not paid and any vacation time accrued but not used, in each case as of the termination date.

Termination of Employment Without Cause or for Good Reason. If the executive's employment is terminated by us other than for cause or the executive terminates his employment for good reason (as such terms are defined in the executive's employment agreement) under circumstances other than as described in the preceding paragraph: (1) we will continue to pay the executive his base salary for a period of 18 months, in the case of Dr. Knopf, or 12 months, in the case of Drs. Sherman and Quisel and Messrs. McLaughlin and Ertel, in accordance with our payroll policy, (2) any unvested stock option awards the executive holds at the time of such termination of employment that are subject to time-based vesting and that were granted on or prior to the amendment date of the employment agreement will vest to the extent such stock option awards would have otherwise vested over the next 12 months in the case of each of Dr. Knopf, nine months in the case of Dr. Sherman, or six months in the case of Dr. Quisel and Messrs. McLaughlin and Ertel, following such termination of employment, and (3) if the executive elects under COBRA or any successor law to continue participation in our group health and/or dental plans in which the executive was participating prior to such termination, we will pay or, at our option reimburse the executive for, the full premium cost of that participation for 18 months in the case of Dr. Knopf, or 12 months in the case of Drs. Sherman and Quisel and Messrs. McLaughlin and Ertel. We will also pay the executive any base salary earned but not paid and any vacation time accrued but not used, in each case as of the termination date.

Termination of Employment Due to Death or Disability. If the executive's employment terminates due to the executive's death or disability, all unvested stock options then held by the executive that were granted on or prior to the amendment date of the employment agreement will vest as of the date of termination. In the event of such a termination of employment due to disability, to the extent we do not maintain a disability plan providing for continuation of the executive's base salary for one year following the date of such termination, during this period we will pay the executive, at the time the executive's base salary would otherwise have been paid, an amount equal to the excess of 100% of the executive's base salary over the disability insurance benefits, if any, actually paid to the

executive. We will also pay the executive any base salary earned but not paid and any vacation time accrued but not used, in each case as of the termination date.

Other Termination of Employment. If the executive's employment is terminated for any reason other than by us without cause, by the executive for good reason, or due to the executive's death or disability, the executive will only be entitled to receive earned but unpaid base salary and any accrued but not used vacation as of the termination date.

Severance Subject to Release of Claims and Compliance With Restrictive Covenants. Our obligation to provide the executive with any severance payments or other benefits under the employment agreement is conditioned on the executive signing an effective release of claims in our favor and the executive's continued full performance of his obligations under the Employee Confidentiality, Non-Compete and Proprietary Information Agreement relating to confidentiality, noncompetition and nonsolicitation.

Table of Contents

280G Gross-up. In the event that a change in ownership or control of the company under Section 280G of the Internal Revenue Code of 1986, as amended, or the Code, and the regulations thereunder, occurs on or before the second anniversary of the amendment date of the executive's employment agreement, if any portion of the payments made pursuant to the executive's employment agreement or otherwise constitutes an "excess parachute payment" within the meaning of Section 280G of the Code, we will pay the executive an additional amount that, after the imposition of all taxes with respect to such gross-up payment equals the excise tax with respect to the excess parachute payment. If the change in ownership or control occurs after the second anniversary of the amendment date of such employment agreement and any portion of the payments made pursuant to the employment agreement or otherwise constitutes an excess parachute payment, the executive will be entitled to receive an amount of such payments reduced so that no portion of the payments would constitute an excess parachute payment, or the amount otherwise payable to the executive under the employment agreement or otherwise reduced by all applicable taxes, including the excise tax, whichever amount results in the greater amount payable to the executive.

Director Compensation

Our non-employee director compensation policy is designed to provide a total compensation package that enables us to attract and retain, on a long-term basis, high caliber non-employee directors. Under the policy, all non-employee directors are paid cash compensation as set forth below:

	Annual Retainer
Board of Directors:	
All non-employee members	\$ 35,000
Additional retainer for Chair of the Board of Directors	\$ 35,000
Additional retainer for Lead Independent Director	\$ 15,000
Audit Committee:	
Chair	\$ 15,000
Non-Chair members	\$ 7,500
Compensation Committee:	
Chair	\$ 10,000
Non-Chair members	\$ 5,000
Nominating and Corporate Governance Committee:	
Chair	\$ 7,500
Non-Chair members	\$ 3,750

Under our non-employee director compensation policy, each person who is initially appointed or elected to the Board of Directors is eligible to receive a grant of stock options to purchase 20,000 shares of our common stock under our 2013 Equity Incentive Plan on the date he or she first becomes a non-employee director, which will vest quarterly in equal installments over a three-year period. In addition, each continuing non-employee director is eligible to receive an annual option grant to purchase 10,000 shares of our common stock, which will vest in full on the first anniversary of the grant date. The annual option grant is prorated when granted to any non-employee director that becomes a non-employee director during the fiscal year, based on the portion of the fiscal year that the director served on the Board of Directors. The options are granted with an exercise price equal to the fair market value of a share of our common stock on the date of grant.

We also reimburse each member of our Board of Directors who is not an employee for reasonable travel and other expenses in connection with attending meetings of the Board of Directors.

The following table sets forth information concerning the compensation earned by our directors during 2014.

Dr. Knopf, as an employee-director, and Dr. Golumbeski, pursuant to policy of Celgene Corporation, each receive no additional compensation for service as a director, and, consequently, are not included in this table. The compensation received by Dr. Knopf as an employee during 2014 is included in the "Summary Compensation Table" under "Executive Officer and Director Compensation" included in this proxy statement. For fiscal year 2014, our Compensation Committee deferred annual equity grants to the members of our Board of Directors, as well as to all of our executive officers and employees, to January 2015 instead of providing for such grants in December 2014. As a

result, no equity awards were granted to the members of our Board of Directors in fiscal year 2014, except those grants made to the new directors joining us in fiscal year 2014. In January 2015, pursuant to our non-employee director compensation policy, each of our non-employee directors, other than Mr. Kearney and Dr. Nader, received an option to purchase 10,000 shares of our common stock in respect of services performed in 2014. Due to joining the Board of Directors during fiscal year 2014, Mr. Kearney and Dr. Nader received a prorated grant of options

Table of Contents

to purchase 4,665 and 576 shares of our common stock, respectively, for their annual stock option grant. All stock options granted to members of our Board of Directors in January 2015 will vest in full on the first anniversary of the grant date.

Such options granted to members of our Board of Directors, other than Mr. Kearney and Dr. Nader, each had a grant date fair value of \$237,366, and stock options grant to Mr. Kearney and Dr. Nader had a grant date fair value of \$110,731 and \$13,672, respectively. These values were determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, Compensation-Stock Compensation.

Name	Fees Paid in Cash \$(4)	Option Awards \$(5)(6)	Total (\$)
Anthony B. Evnin, Ph.D.(1)	13,438	—	13,438
Jean M. George	50,000	—	50,000
Edwin M. Kania, Jr.	45,000	—	45,000
Terrence C. Kearney(2)	23,322	360,844	384,166
Tom Maniatis, Ph.D.	40,000	—	40,000
Terrance G. McGuire	43,569	—	43,569
Francois Nader, M.D.(3)	—	504,284	504,284
Richard F. Pops	35,000	—	35,000
Joseph S. Zakrzewski	51,748	—	51,748

(1) Dr. Evnin resigned from the Board of Directors effective as of February 27, 2014.

(2) Mr. Kearney was appointed to the Board of Directors on July 14, 2014.

(3) Dr. Nader was appointed to the Board of Directors on December 11, 2014.

(4) Amounts represent annual cash compensation for services rendered by each member of the Board of Directors.

As of December 31, 2014, our directors and former director held the following aggregate number of stock options:

(5) Ms. George, 20,000; Mr. Kania, 20,000; Mr. Kearney, 20,000; Mr. McGuire, 20,000; Dr. Nader, 20,000; Dr. Maniatis, 47,500; Mr. Pops, 70,000; and Mr. Zakrzewski, 38,750. Dr. Evnin and Dr. Golumbeski did not hold any stock options or other stock awards as of December 31, 2014.

Amounts shown reflect the grant date fair value of options awarded during fiscal 2014 determined in accordance

(6) with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718,

Compensation—Stock Compensation. These amounts exclude the value of estimated forfeitures.

The following table sets forth the aggregate number of exercisable and unexercisable option awards outstanding held by our non-employee directors as of December 31, 2014:

Name	Option Awards	
	Exercisable (#)	Unexercisable (#)
Anthony B. Evnin, Ph.D.(1)	—	—
Jean M. George	8,333	11,667
Edwin M. Kania, Jr.	8,333	11,667
Terrence C. Kearney(2)	1,667	18,333
Tom Maniatis, Ph.D.	35,833	11,667
Terrance G. McGuire	8,333	11,667
Francois Nader, M.D.(3)	—	20,000
Richard F. Pops	58,333	11,667
Joseph S. Zakrzewski	27,083	11,667

(1) Dr. Evnin resigned from the Board of Directors effective as of February 27, 2014.

(2) Mr. Kearney was appointed to the Board of Directors on July 14, 2014.

(3) Dr. Nader was appointed to the Board of Directors on December 11, 2014.

Equity Compensation Plan Information

The following table provides certain aggregate information with respect to all of our equity compensation plans in effect as of December 31, 2014:

35

Table of Contents

Plan category	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights	(b) Weighted-average exercise price of outstanding options, warrants and rights	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))	
Equity compensation plans approved by security holders (1)	3,209,860	\$9.57	2,217,608	(2)
Equity compensation plans not approved by security holders	—	—	—	
Total				

These plans consist of our 2013 Equity Incentive Plan, or our 2013 Plan, and our 2003 Stock Option and Restricted Stock Plan, or our 2003 Plan. Our 2013 Plan was adopted in September 2013 and our 2003 Plan expired in (1) December 2013, and thereafter no further stock options were granted under the 2003 Plan. All outstanding stock options granted under the 2003 Plan as of the 2003 Plan expiration date remained outstanding and subject to their terms and the terms of the 2003 Plan.

Represents 1,942,608 shares of common stock available for future issuance under our 2013 Plan and 275,000 shares of common stock available for future issuance under our 2013 Employee Stock Purchase Plan. Our 2013 Plan contains an "evergreen provision" which allows for an annual increase in the number of shares available for (2) issuance under the plan on the first day of each of our fiscal years during the period beginning on January 1, 2014 and ending on the January 1, 2023. The annual increase in the number of shares shall be equal to the lowest of (i) 3,150,000 shares; (ii) 4% of our outstanding shares on the first day of the fiscal year; and (iii) an amount determined by our Board of Directors.

Table of Contents

AUDIT COMMITTEE REPORT

The Audit Committee has reviewed the audited consolidated financial statements of Acceleron for the year ended December 31, 2014 and has discussed these statements with management and Ernst & Young LLP, or Ernst & Young, the Company's independent registered public accounting firm. Acceleron management is responsible for the preparation of the Company's financial statements and for maintaining an adequate system of disclosure controls and procedures and internal control over financial reporting for that purpose. The independent registered public accounting firm audits the annual consolidated financial statements prepared by management, expresses an opinion as to whether those consolidated financial statements present fairly the consolidated financial position, results of operations and cash flows of Acceleron Pharma Inc. in conformity with U.S. generally accepted accounting principles and discusses any issues they believe should be raised with us. The Audit Committee is responsible for providing independent, objective oversight of the Company's accounting functions and internal controls. The Audit Committee also reviewed management's report on its assessment of the effectiveness of the Company's internal control over financial reporting and the independent registered public accounting firm's report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2014.

The Audit Committee also received from, and discussed with, Ernst & Young the written disclosures and other communications that the Company's independent registered public accounting firm is required to provide to the Audit Committee, including the matters required to be discussed by Statement on Auditing Standards No. 61, as amended (Communication with Audit Committees), as adopted by the Public Company Accounting Oversight Board, or PCAOB, in Rule 3200T, which we refer to as SAS 61.

Ernst & Young also provided the Audit Committee with the written disclosures and the letter required by Rule 3526 of the PCAOB. PCAOB Rule 3526 requires independent registered public accounting firms annually to disclose in writing all relationships that in their professional opinion may reasonably be thought to bear on independence, to confirm their perceived independence and engage in a discussion of independence. The Audit Committee has reviewed this disclosure and has discussed with Ernst & Young their independence from Acceleron.

Based on its discussions with management and our independent registered public accounting firm, and its review of the representations and information provided by management and our independent registered public accounting firm, the Audit Committee recommended to the Board of Directors that the audited consolidated financial statements be included in the Acceleron Annual Report on Form 10-K for the year ended December 31, 2014, for filing with the Securities and Exchange Commission.

Members of the Acceleron Pharma Inc. Audit Committee

Terrence C. Kearney, Chair

Jean M. George

Joseph S. Zakrzewski

Table of Contents

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our executive officers and directors and persons who own more than 10% of a registered class of our equity securities to file initial reports of ownership and reports of changes in ownership with the SEC. Such persons are required by regulation of the SEC to furnish us with copies of all Section 16(a) forms they file. Based solely on our review of the copies of such forms or written representations from certain reporting persons received by us with respect to fiscal year 2014, we believe that our executive officers and directors and persons who own more than 10% of a registered class of our equity securities have complied with all applicable filing requirements, other than a late filed Form 4/A that was filed on December 15, 2014 by Terrance McGuire, Polaris Venture Management Co. IV, L.L.C., Polaris Venture Partners Entrepreneurs Fund IV, L.P., and Polaris Venture Partners IV, L.P. to amend a Form 4 filed on June 4, 2014 that omitted Terrance McGuire as a reporting person in connection with a distribution of 198,005 shares of common stock by Polaris Venture Partners IV, L.P. and Polaris Venture Partners Entrepreneurs Fund IV, L.P. to their partners.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Except as described below, there have been no transactions since January 1, 2014 in which we were a party, the amount involved exceeded or will exceed \$120,000, and in which any related person had a direct or indirect material interest.

Indemnification Agreements

We have entered into indemnification agreements with each of our directors and executive officers. These agreements will require us to indemnify these individuals and, in certain cases, affiliates of such individuals, to the fullest extent permissible under Delaware law against liabilities that may arise by reason of their service to us or at our direction, and to advance expenses incurred as a result of any proceeding against them as to which they could be indemnified.

Registration Rights Agreement

In connection with our Series F preferred stock financing, on December 22, 2011, we entered into an amended and restated registration rights agreement with the holders of all of our then-outstanding shares of preferred stock including certain of our named executive officers and entities with which certain of our directors are affiliated. The agreement provides that these holders, for so long as they may hold registrable securities, as defined in the agreement, have the right to demand that we file a registration statement with respect to the common stock issued upon conversion of our preferred stock. These holders may also request that shares of common stock held by them be included in certain registration statements that we are otherwise filing.

Related Party Transactions Policy

We have adopted a related party transactions policy that governs the review and approval of related party transactions. Pursuant to this policy, if we want to enter into a transaction with a related party or an affiliate of a related party, our General Counsel will review the proposed transaction to determine, based on applicable NASDAQ and SEC rules, if such transaction requires pre-approval by the Audit Committee and/or Board of Directors. If pre-approval is required, such matters will be reviewed at the next regular or special Audit Committee and/or Board of Directors meeting. We may not enter into a related party transaction unless our General Counsel has either specifically confirmed that no further reviews are necessary or that all requisite corporate reviews have been obtained.

Table of Contents

PROPOSAL NO. 1—ELECTION OF DIRECTORS

In accordance with the Company's certificate of incorporation and bylaws, the Board of Directors is divided into three classes of approximately equal size. The members of each class are elected to serve a three-year term with the term of office of each class ending in successive years. John L. Knopf, Ph.D., Terrance G. McGuire and Terrence C. Kearney are the Class II directors whose terms expire at the Company's 2015 Annual Meeting of stockholders. Each of Dr. Knopf and Messrs. McGuire and Kearney has been nominated for and has agreed to stand for re-election to the Board of Directors to serve as a Class II director of the Company for three years and until their successors are duly elected and qualified or until their earlier death, resignation or removal.

The three nominees for director with the highest number of affirmative votes will be elected as directors. It is intended that, unless you give contrary instructions, shares represented by proxies will be voted for the election of the three nominees listed above as director nominees. Acceleron has no reason to believe that any nominee will be unable to serve. In the event that one or more nominees is unexpectedly not available to serve, proxies may be voted for another person nominated as a substitute by the Board of Directors, or the Board of Directors may reduce the number of directors to be elected at the Annual Meeting. Information relating to each nominee for election as director and for each continuing director, including his or her period of service as a director of Acceleron, principal occupation and other biographical material is shown earlier in this proxy statement.

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE FOR EACH OF THESE NOMINEES FOR CLASS II DIRECTOR, AND PROXIES SOLICITED BY THE BOARD WILL BE VOTED IN FAVOR THEREOF UNLESS A STOCKHOLDER HAS INDICATED OTHERWISE ON THE PROXY.
(PROPOSAL 1 ON YOUR PROXY CARD)**

Table of Contents

PROPOSAL NO. 2—ADVISORY VOTE ON APPROVAL OF THE FREQUENCY OF HOLDING AN ADVISORY VOTE ON THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS

We are seeking your input with regard to the frequency of holding future stockholder advisory votes on the compensation of our named executive officers. In particular, we are asking whether the advisory vote on the compensation of our named executive officers should occur every year, every two years or every three years. Because your vote is advisory, it will not be binding on our Compensation Committee or our Board of Directors. However, the Compensation Committee and the Board will review the voting results and take them into consideration when making future decisions regarding how frequently it should present the advisory vote on the compensation of our named executive officers to our stockholders.

The proxy card provides stockholders with the opportunity to choose among four options (holding the vote every one, two or three years, or abstaining) and, therefore, stockholders will not be voting to approve or disapprove the Board's recommendation. The affirmative vote of a majority of the shares voted for this proposal - every year, every two years or every three years - will be the frequency approved, on an advisory basis, by our stockholders. However, because the vote on the frequency of holding future advisory votes on the compensation of our named executive officers is not binding, if none of the frequency options receives a majority vote, the option receiving the greatest number of votes will be considered the frequency preferred by our stockholders.

After careful consideration of this proposal, our Board has determined that an advisory vote on executive compensation that occurs every year is the most appropriate alternative for Acceleron, and therefore our Board recommends that you vote for a one-year interval for the advisory vote on executive compensation.

In formulating its recommendation, our Board considered that an annual advisory vote on executive compensation will allow our stockholders to provide us with their direct input on our compensation philosophy, policies and practices as disclosed in the proxy statement every year. Additionally, an annual advisory vote on executive compensation is consistent with our policy of seeking input from, and engaging in discussions with, our stockholders on corporate governance matters and our executive compensation philosophy, policies and practices. We understand that our stockholders may have different views as to what is the best approach for Acceleron, and we look forward to hearing from our stockholders on this proposal.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE TO APPROVE, ON AN ADVISORY BASIS, THE FREQUENCY OF HOLDING A VOTE ON THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS EVERY YEAR, AND PROXIES SOLICITED BY THE BOARD WILL BE VOTED IN FAVOR OF SUCH FREQUENCY UNLESS A STOCKHOLDER HAS INDICATED OTHERWISE ON THE PROXY.

(PROPOSAL 2 ON YOUR PROXY CARD)

Table of Contents**PROPOSAL NO. 3—RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We are asking our stockholders to ratify the Audit Committee's selection of Ernst & Young LLP, or Ernst & Young, as our independent registered public accounting firm for the fiscal year ending December 31, 2015. Ernst & Young has served as our independent registered public accounting firm since 2006.

The Audit Committee annually reviews the independent registered public accounting firm's independence, including reviewing all relationships between the independent registered public accounting firm and us and any disclosed relationships or services that may impact the objectivity and independence of the independent registered public accounting firm, and the independent registered public accounting firm's performance. Although ratification is not required by our bylaws or otherwise, the Board of Directors is submitting the selection of Ernst & Young to our stockholders for ratification as a matter of good corporate practice. If the selection is not ratified, the Audit Committee will consider whether it is appropriate to select another independent registered public accounting firm. Even if the selection is ratified, the Audit Committee in its discretion may select a different registered public accounting firm at any time during the year if the committee determines that such a change would be in the best interests of the Company and our stockholders.

We expect that a representative of Ernst & Young will attend the Annual Meeting and the representative will have an opportunity to make a statement if he or she so chooses. The representative will also be available to respond to appropriate questions from stockholders.

Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Registered Public Accounting Firm

The Audit Committee pre-approves all auditing services, internal control related services and permitted non-audit services (including the fees and terms thereof) to be performed by Ernst & Young, subject to the de minimis exception for non-audit services that are approved by the Audit Committee prior to the completion of an audit. The Audit Committee may delegate pre-approval authority to one or more members of the Audit Committee consistent with applicable law and listing standards, provided that the decisions of such Audit Committee member or members must be presented to the full Audit Committee at its next scheduled meeting.

Principal Accountant Fees and Services

We regularly review the services and fees of our independent registered public accounting firm. These services and fees are also reviewed by the Audit Committee on an annual basis. The aggregate fees billed for the fiscal years ended December 31, 2013 and 2014 for each of the following categories of services are as follows (in thousands):

Fee Category	2013	2014
Audit Fees	\$ 1,144	\$ 837
Audit-Related Fees	\$ —	\$ —
Tax Fees	\$ 45	\$ 81
All Other Fees	\$ —	\$ —
Total Fees	\$ 1,189	\$ 918

Audit Fees. Consist of aggregate fees for professional services provided in connection with the annual audit of our consolidated financial statements and the effectiveness of our internal control over financial reporting, the review of our quarterly condensed consolidated financial statements, consultations on accounting matters directly related to the audit, and comfort letters, consents and assistance with and review of documents filed with the SEC.

Audit-Related Fees. Consist of aggregate fees for accounting consultations and other services that were reasonably related to the performance of audits or reviews of our consolidated financial statements and were not reported above under "Audit Fees."

Tax Fees. Consist of aggregate fees for tax compliance, tax advice and tax planning services including the review and preparation of our federal and state income tax returns.

All Other Fees. Consist of aggregate fees billed for products and services provided by the independent registered public accounting firm other than those disclosed above. These fees consisted of an amount paid for the use of an online accounting research tool.

The Audit Committee pre-approved all services performed since the pre-approval policy was adopted.

Table of Contents

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR" THE RATIFICATION OF THE APPOINTMENT OF ERNST & YOUNG LLP AS THE COMPANY'S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM, AND PROXIES SOLICITED BY THE BOARD WILL BE VOTED IN FAVOR OF SUCH RATIFICATION UNLESS A STOCKHOLDER HAS INDICATED OTHERWISE ON THE PROXY.

(PROPOSAL 3 ON YOUR PROXY CARD)

Table of Contents

GENERAL MATTERS

Code of Business Conduct and Ethics and Corporate Governance Guidelines

We have adopted a Code of Business Conduct and Ethics for our directors, officers and employees, including our Chief Executive Officer and President and our Chief Financial Officer. A copy of our Code of Business Conduct and Ethics may be accessed free of charge by visiting our website at www.acceleronpharma.com and going to the "Investors & Media—Corporate Governance" section, or by requesting a copy in writing from our Secretary at our Cambridge, Massachusetts office. We intend to post on our website any amendment to, or waiver under, a provision of the Code of Business Conduct and Ethics that applies to our directors and certain of our executive officers within four business days following the date of such amendment or waiver.

A copy of the Corporate Governance Guidelines may also be accessed free of charge by visiting the website at www.acceleronpharma.com and going to the "Investors & Media—Corporate Governance" section or by requesting a copy in writing from our Secretary at our Cambridge, Massachusetts office.

Availability of Certain Documents

A copy of our 2015 Annual Report on Form 10-K has been posted on the Internet along with this proxy statement. Upon written request, we will mail, without charge, a copy of our 2015 Annual Report on Form 10-K excluding exhibits. Please send a written request to our Corporate Secretary at:

Acceleron Pharma Inc.
128 Sidney Street
Cambridge, MA 02139
Attention: Secretary

SEC rules concerning the delivery of annual disclosure documents allow us or your broker to send a single Notice or, if applicable, a single set of our proxy materials to any household at which two or more of our stockholders reside, if we or your broker believe that the stockholders are members of the same family, unless we have received contrary instructions from one or more of the stockholders. This practice, referred to as "householding," benefits both you and us. It reduces the volume of duplicate information received at your household and helps to reduce our expenses. The rule applies to our Notices, annual reports, proxy statements and information statements.

We will undertake to deliver promptly, upon written or oral request, a separate copy to a stockholder at a shared address to which a single copy of the Notice or proxy materials was delivered. You may make a written or oral request by sending a written notification to our Secretary at the address above, providing your name, your shared address, and the address to which we should direct the additional copy of the Notice or proxy materials. Multiple stockholders sharing an address who have received one copy of a mailing and would prefer us to mail each stockholder a separate copy of future mailings should contact us at our principal executive offices. Additionally, if current stockholders with a shared address received multiple copies of a mailing and would prefer us to mail one copy of future mailings to stockholders at the shared address, notification of that request may also be made through our principal executive offices. Stockholders who participate in householding will continue to have access to and utilize separate proxy voting instructions.

Stockholder Proposals and Nominations

Requirements for Stockholder Proposals to be Considered for Inclusion in our Proxy Materials. To be considered for inclusion in next year's proxy statement, stockholder proposals must be received by our Secretary at our principal executive offices no later than the close of business on January 9, 2016.

Requirements for Stockholder Proposals to be Brought Before an Annual Meeting. Our bylaws provide that, for stockholder nominations to the Board of Directors or other proposals to be considered at an annual meeting, the stockholder must have given timely notice thereof in writing to the Secretary at Acceleron Pharma Inc., 128 Sidney Street, Cambridge, MA 02139. To be timely for the 2016 annual meeting, the stockholder's notice must be delivered to or mailed and received by us not earlier than the close of business on the 120th day nor later than the close of business on the 90th day prior to the anniversary date of the prior year's annual meeting, except that if the annual meeting is set for a date that is not within 30 days before or after such anniversary date, we must receive the notice not later than the close of business on the tenth day following the day on which we first provide notice or public disclosure of the date of the meeting. Assuming the date of our 2015 annual meeting is not so advanced or delayed,

stockholders who wish to make a proposal at the 2015 annual meeting must notify us no earlier than February 5, 2016 and no later than March 6, 2016. Such notice must provide the information required by our bylaws with respect to each matter the stockholder proposes to bring before the 2015 annual meeting.

Table of Contents

Contacting the Board of Directors

Stockholders wishing to communicate with our Board of Directors may do so by writing to the Board or to the non-employee members of the Board as a group, at:

Acceleron Pharma Inc.
128 Sidney Street
Cambridge, MA 02139
Attention: Secretary

The communication must prominently display the legend "BOARD COMMUNICATION" in order to indicate to the Secretary that it is a communication for the Board. Upon receiving such a communication, the Secretary will promptly forward the communication to the relevant individual or group to which it is addressed. Certain items that are unrelated to the Board's duties and responsibilities may be excluded, such as spam, junk mail and mass mailings, resumes and other forms of job inquiries, surveys and business solicitations or advertisements. The Secretary will not forward any communication determined in his or her good faith belief to be frivolous, unduly hostile, threatening, illegal or similarly unsuitable.

Other Matters

As of the date of this proxy statement, the Board of Directors does not intend to present any matters other than those described herein at the Annual Meeting and is unaware of any matters to be presented by other parties. If other matters are properly brought before the meeting for action by the stockholders, proxies will be voted in accordance with the recommendation of the Board or, in the absence of such a recommendation, in accordance with the judgment of the proxy holder.

Directions to Annual Meeting

Directions to the 2015 Annual Meeting of Stockholders, to be held at Ropes & Gray LLP, Prudential Tower, 800 Boylston Street, Boston, MA 02199 are set forth below:

From North of Boston: From Route 93 take exit 26, Leverett Connector/Storrow Drive, and follow to the Copley Square exit on the left. Take a right onto Beacon Street and follow to Exeter Street. Take a left onto Exeter Street and follow 11 blocks. Take a right on Huntington Avenue. The Prudential Center Garage will be on the right.

From West of Boston: Follow the Mass Pike eastbound into Boston (the Mass Pike is accessible from Route 128/I-95). Get off at exit 22, Copley Square/Prudential Center. Follow signs for Prudential Center. This will take you directly to the Prudential Center Garage entrance, which will be on your right.

From South of Boston: From Route 93 take exit 18, Massachusetts Avenue. Follow sign to Massachusetts Avenue and turn right. Follow Massachusetts Avenue for about 2 miles to Huntington Avenue. Take a right on Huntington Avenue. Take a left on Belvidere Street. The Prudential Center garage entrance will be on your right before Sovereign Bank.

From Logan Airport: Access Boston via the Sumner Tunnel and exit onto Route 93 North. Take exit 26, Leverett Connector/Storrow Drive, and follow to the Copley Square exit on the left. Take a right onto Beacon Street and follow to Exeter Street. Take a left onto Exeter Street and follow 11 blocks. Take a right on Huntington Avenue. The Prudential Center Garage will be on the right.

Parking: The Prudential Tower is best accessed via the South Garage, which has two entrances on Huntington Avenue, one on Dalton Street and one on Belvedere Street. The Red and Yellow levels are both part of the South Garage. Attendant parking is available on both levels at no additional charge.

By Order of the Board of Directors

John L. Knopf, Ph.D.
Chief Executive Officer, President and Director
April 17, 2015

