bluebird bio, Inc.
Form DEF 14A
April 24, 2015

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 x Filed by a party other than the Registrant o

Check the appropriate box:

¨ Preliminary Proxy Statement

¨ Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))

x Definitive Proxy Statement

¨ Definitive Additional Materials

¨ Soliciting Material Pursuant to §240.14a-12

bluebird bio, 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):

x No fee required.

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(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

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¨ Fee paid previously with preliminary materials.

¨ Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

April 24, 2015

Dear Stockholder:

You are cordially invited to attend the 2015 Annual Meeting of Stockholders of bluebird bio, Inc. The meeting will be held on June 4, 2015 at 8:30 a.m. EDT at the offices of the Company, located at 150 Second Street, Third Floor, Cambridge, Massachusetts.

Details regarding admission to the meeting and the business to be conducted are more fully described in the accompanying Notice of Annual Meeting and Proxy Statement.

At this Annual Meeting, the agenda includes the election of two (2) Class II directors for three-year terms, the ratification of the appointment of Ernst & Young LLP as bluebird's independent registered public accounting firm for the fiscal year ending December 31, 2015, the approval, by non-binding vote, of executive compensation and the recommendation, by non-binding vote, of the frequency of future, non-binding advisory votes on executive compensation.

Under Securities and Exchange Commission rules, the Company is providing access to the proxy materials for the Annual Meeting to shareholders via the Internet. Accordingly, you can access the proxy materials and vote at www.proxyvote.com. Instructions for accessing the proxy materials and voting are described below and in the Notice of Annual Meeting that you received in the mail. Your vote is very important. Whether or not you plan to attend the meeting, please carefully review the enclosed proxy statement and then cast your vote, regardless of the number of shares you hold. If you are a stockholder of record, you may vote over the Internet, by telephone, or, if you request to receive a printed set of the proxy materials, by completing, signing, dating and mailing the accompanying proxy card in the return envelope. Submitting your vote via the Internet or by telephone or proxy card will not affect your right to vote in person if you decide to attend the Annual Meeting. If your shares are held in street name (held for your account by a broker or other nominee), you will receive instructions from your broker or other nominee explaining how to vote your shares, and you will have the option to cast your vote by telephone or over the Internet if your voting instruction form from your broker or nominee includes instructions and a toll-free telephone number or Internet website to do so. In any event, to be sure that your vote will be received in time, please cast your vote by your choice of available means at your earliest convenience.

We hope that you will join us on June 4, 2015. Your continuing interest in bluebird is very much appreciated.

Sincerely,

Nick Leschly

President & Chief Executive Officer

NOTICE OF 2015 ANNUAL MEETING OF STOCKHOLDERS

Time	8:30 a.m., Eastern Time
Date	Thursday, June 4, 2015
Place	The Company's offices at 150 Second Street, Third Floor, Cambridge, Massachusetts
Purpose	To elect Daniel S. Lynch and John M. Maraganore as Class II members of the Board of Directors, to serve until the Company's 2018 Annual Meeting of Stockholders and until their successors are duly elected and qualified; To hold an advisory vote on the compensation paid to the Company's named executive officers; To hold an advisory vote to determine the frequency of future stockholder advisory votes on the compensation paid to the Company's named executive officers; To ratify the selection of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2015; and To transact any other business that may properly come before the meeting or any adjournment thereof.
Record Date	The Board of Directors has fixed the close of business on April 10, 2015 as the record date for determining stockholders entitled to notice of and to vote at the meeting.
Meeting Admission	All stockholders as of the record date, or their duly appointed proxies, may attend the meeting. If you attend, you will be asked to present valid picture identification such as a driver's license or passport. If your bluebird stock is held in a brokerage account or by a bank or other nominee, you are considered the beneficial owner of shares held in street name, and this proxy statement is being forwarded to you by your broker or nominee. As a result, your name does not appear on our list of stockholders. If your stock is held in street name, in addition to picture identification, you should bring with you a letter or account statement showing that you were the beneficial owner of the stock on the record date, in order to be admitted to the meeting.
Voting by Proxy	If you are a stockholder of record, please vote via the Internet or, for shares held in street name, please submit the voting instruction form you receive from your broker or nominee, as soon as possible so your shares can be voted at the meeting. You may submit your voting instruction form by mail. If you are a stockholder of record, you may also vote by telephone or by submitting a proxy card by mail. If your shares are held in street name, you will receive instructions from your broker or other nominee explaining how to vote your shares, and you may also have the choice of instructing the record holder as to the voting of your shares over the Internet or by telephone. Follow the instructions on the voting instruction form you received from your broker or nominee.

By order of the Board of Directors,

Jason F. Cole, Secretary

Cambridge, Massachusetts

April 24, 2015

Important Notice Regarding the Availability of Proxy Materials for the bluebird 2015 Annual Meeting of Stockholders to Be Held on June 4, 2015: The Notice of 2015 Annual Meeting of Stockholders, proxy statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2014, as amended, are available at www.bluebirdbio.com by following the link for "Investors & Media." To obtain directions to our offices in order to attend the annual meeting in person, please visit the "Investors & Media – Calendar of Events" section of our website at www.bluebirdbio.com or contact Investor Relations at (339) 499-9300.

BLUEBIRD BIO, INC.

150 SECOND STREET

THIRD FLOOR

CAMBRIDGE, MASSACHUSETTS 02141

PROXY STATEMENT

FOR THE 2015 ANNUAL MEETING OF STOCKHOLDERS

TO BE HELD ON JUNE 4, 2015

AT 8:30 AM EDT

GENERAL INFORMATION

When are this proxy statement and the accompanying material scheduled to be sent to stockholders?

We have elected to provide access to our proxy materials to our stockholders via the Internet. Accordingly, on or about April 24, 2015, we will begin mailing a Notice of Internet Availability of Proxy Materials, or Notice of Internet Availability, and the proxy materials, including the Notice of 2015 Annual Meeting of Stockholders, this proxy statement and accompanying proxy card or, for shares held in street name (held for your account by a broker or other nominee), voting instruction form, and the Annual Report on Form 10-K for the year ending December 31, 2014 will be made available to stockholders on the Internet on the same date.

Why did I receive a Notice of Internet Availability of Proxy Materials instead of a full set of proxy materials?

Pursuant to rules adopted by the Securities and Exchange Commission, or SEC, we are providing access to our proxy materials over the Internet rather than printing and mailing the proxy materials. We believe electronic delivery will expedite the receipt of materials and will help lower our costs and reduce the environmental impact of our annual meeting materials. Therefore, a Notice of Internet Availability will be mailed to holders of record and beneficial owners of our common stock starting on or around April 28, 2015. The Notice of Internet Availability will provide instructions as to how stockholders may access and review the proxy materials, including the Notice of Annual Meeting, proxy statement, proxy card and Annual Report on Form 10-K, on the website referred to in the Notice of Internet Availability or, alternatively, how to request that a copy of the proxy materials, including a proxy card, be sent to them by mail. The Notice of Internet Availability will also provide voting instructions. In addition, stockholders of record may request to receive the proxy materials in printed form by mail or electronically by e-mail on an ongoing basis for future stockholder meetings. Please note that, while our proxy materials are available at the website referenced in the Notice of Internet Availability, and our Notice of Annual Meeting, proxy statement and Annual Report on Form 10-K are available on our website, no other information contained on either website is incorporated by reference in or considered to be a part of this document.

Who is soliciting my vote?

The Board of Directors of bluebird bio, Inc. (the “Company” or “bluebird”) is soliciting your vote for the 2015 Annual Meeting of Stockholders.

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 10, 2015.

How many votes can be cast by all stockholders?

A total of 32,776,482 shares of common stock of the Company were outstanding on April 10, 2015 and 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. Access the website of the Company's tabulator, Broadridge, at: www.proxyvote.com, using the voter control number printed on the furnished proxy card. Your shares will be voted in accordance with your instructions. You must specify how you want your shares voted or your Internet vote cannot be completed and you will receive an error message. If you vote on the Internet, you may also request electronic delivery of future proxy materials.
- By Telephone. Call 1-800-690-6903 toll-free from the U.S., U.S. territories and Canada, and follow the instructions on the enclosed proxy card. Your shares will be voted in accordance with your instructions. You must specify how you want your shares voted or your telephone vote cannot be completed.
- By Mail. Complete and mail a proxy card in the enclosed postage prepaid envelope to Broadridge. 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 FOR the nominees named herein to the Company's Board of Directors, FOR the approval of compensation of the named executive officers and for holding an advisory vote on the compensation of the Company's named executive officers every THREE years, and FOR the ratification of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2015 and will be voted according to the discretion of the proxy holder upon any other business that may properly be brought before the meeting and at all adjournments and postponements thereof. If you are mailed or otherwise receive or obtain a proxy card or voting instruction form, and you choose to vote by telephone or by Internet, you do not have to return your proxy card or voting instruction form.
- 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 the two Class II directors (page 5)

Proposal 2: FOR the advisory resolution approving the compensation of the Company's named executive officers (page 15)

Proposal 3: FOR holding an advisory vote on the compensation of the Company's named executive officers every THREE years (page 16)

Proposal 4: FOR ratification of the selection of Ernst & Young LLP as the Company's independent registered public accounting firm (page 43)

Who pays the cost for soliciting proxies?

bluebird will pay the cost for the solicitation of proxies by the Board of Directors. The solicitation of proxies will be made primarily by mail and through internet access to materials. Proxies may also be solicited personally, by telephone, fax or e-mail by employees of bluebird without any remuneration to such individuals other than their regular compensation. bluebird will also reimburse brokers, banks, custodians, other nominees and fiduciaries for forwarding these materials to their principals to obtain the authorization for the execution of proxies.

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.

What vote is required to approve each item?

The two nominees for election as Class II directors who receive a plurality of the votes cast for election of directors shall be elected directors (Proposal 1). A majority of votes cast is necessary for the approval of the advisory resolution on the compensation of the Company's named executive officers (Proposal 2). A plurality of votes casts is necessary for the approval of the advisory vote on the frequency of advisory votes on the compensation of the Company's named executive officers (Proposal 3). This means that the option that receives the most votes will be recommended by the stockholders to the Board of Directors. Abstentions and broker non-votes are not counted for the advisory vote on frequency of advisory votes on the Company's executive compensation and, therefore, will have no effect on the outcome of the proposal. A majority of votes cast is necessary for ratification of the selection of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2015
(Proposal 4).

If there are insufficient votes to approve Proposal(s) 1, 2, 3, or 4, your proxy may be voted by the persons named in the proxy to adjourn the Annual Meeting in order to solicit additional proxies in favor of the approval of such proposal. 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. Your proxy may be voted in this manner even though it may have been voted on the same or any other matter at a previous session of the Annual Meeting.

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. Shares held of record by stockholders or brokers, bankers or other nominees who do not return a signed and dated proxy or attend the Annual Meeting in person will not be considered present or represented at the Annual Meeting and will not be counted in determining the presence of a quorum. 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), if any, will be counted for purposes of determining whether a quorum is present for the transaction of business at the meeting.

How is the vote counted?

Votes cast by proxy or in person at the Annual Meeting will be counted by the persons appointed by bluebird to act as tabulators for the meeting. The tabulators will count all votes "for," "against," to "withhold," frequency and abstentions and broker non-votes (i.e., where a broker has not received voting instructions from the beneficial owner and for which the broker does not have discretionary power to vote on a particular matter), as applicable, for each matter to be voted on at the Annual Meeting. Shares represented by proxies that withhold authority to vote for a nominee for election as a director will not be counted as votes "for" a director. Shares properly voted to "abstain" on a particular matter and broker non-votes are treated as having not voted on the particular matter and will therefore not affect the outcome of Proposals 1 and 3, but will be the same as a vote "against" Proposals 2 and 4.

Under the rules that govern brokers holding shares for their customers, brokers who do not receive voting instructions from their customers have the discretion to vote uninstructed shares on routine matters, but do not have discretion to vote such uninstructed shares on non-routine matters. Only Proposal 4, the ratification of the selection of Ernst & Young LLP, is considered a routine matter where brokers are permitted to vote shares held by them without instruction. If your shares are held through a broker, those shares will not be voted in Proposals 1, 2 and 3 unless you affirmatively provide the broker instructions on how to vote on these non-routine matters.

Could other matters be decided at the Annual Meeting?

bluebird 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.

How can I find out the results of the voting at the Annual Meeting?

Preliminary voting results will be announced at the annual meeting. Final voting results will be published in a Current Report on Form 8-K, or Form 8-K, that we expect to file with the SEC within four business days after the annual meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the annual meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

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.

Who should I call if I have any additional questions?

If you hold your shares directly, please call Jason F. Cole, Secretary of the Company, at (339) 499-9300. 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.

PROPOSAL 1: ELECTION OF DIRECTORS

In accordance with Delaware law and the Company's certificate of incorporation and By-laws, 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. Daniel S. Lynch and John M. Maraganore are the directors whose terms expire at this Annual Meeting and each of Mr. Lynch and Dr. Maraganore 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 until the 2018 Annual Meeting and until his successor is duly elected. Pursuant to the By-laws, the Board of Directors has fixed the number of directors at eight (8) as of the date of this year's Annual Meeting of Stockholders.

It is intended that, unless you give contrary instructions, shares represented by proxies solicited by the Board of Directors will be voted for the election of the two nominees listed below as director nominees. The vote of a plurality of the votes cast at the meeting will be required for the election of the Class II director nominees. Broker non-votes and votes withheld will not be treated as votes cast for this purpose and, therefore, will not affect the outcome of the election. bluebird has no reason to believe that any nominee will be unavailable for election at the Annual Meeting. 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 bluebird, principal occupation and other biographical material is shown below.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE

FOR

EACH OF THESE NOMINEES FOR CLASS II DIRECTOR

(PROPOSAL 1 ON YOUR PROXY CARD)

DIRECTOR BIOGRAPHIES

The following table sets forth information concerning our directors as of April 24, 2015. The biographical description of each director includes the specific experience, qualifications, attributes and skills that the Board of Directors would expect to consider if it were making a conclusion currently as to whether such person should serve as a director.

CLASS II DIRECTOR NOMINEES	AGE	DIRECTOR SINCE
Daniel S. Lynch – Mr. Lynch is a Class II director who has served as chairman of our board of directors since May 2011. Since October 2007, Mr. Lynch has advised and served as executive chair or member of the board of directors for a number of private biopharmaceutical companies, which include Stromedix, Inc. (until its acquisition by Biogen Idec in February 2012), Avila Therapeutics, Inc. (until its acquisition by Celgene Corporation in February 2012), Nimbus Discovery, LLC, Edimer Pharmaceuticals and Ember Therapeutics, Inc. He serves on the board of directors of BIND Biosciences, Inc., Eleven Biotherapeutics, Inc., RaNA Therapeutics, Inc., and Blueprint Medicines, Inc. Mr. Lynch joined Third Rock Ventures, L.P., or Third Rock, as an entrepreneur-in-residence in May 2011, and became a Venture Partner in May 2013. Previously, Mr. Lynch served as chief executive and chief financial officer of ImClone Systems Corporation, or ImClone. As ImClone's chief executive officer, he led ImClone through a significant turnaround, helping to restore the company's reputation and to secure FDA approval of ERBITUX (Cetuximab), a novel cancer treatment. As its chief financial officer, Mr. Lynch led negotiations to form the major partnership between ImClone and Bristol-Myers Squibb. Earlier in his career, he served in various financial positions at Bristol-Myers Squibb over a 15-year tenure. He served on the board of directors and the audit committee of U.S. Oncology, Inc. for five years until December 2010, when it was acquired by McKesson. Mr. Lynch received his B.A. in mathematics from Wesleyan University and his M.B.A. from the Darden Graduate School of Business Administration at the University of Virginia. We believe that Mr. Lynch's experience as chief executive officer and chief financial officer of a public pharmaceutical company and as executive chairman and director for many other life science companies, qualify him to serve as a member of our board of directors.	57	May 2011
John M. Maraganore, Ph.D. – Dr. Maraganore is a Class II director who has served as a member of our board of directors since January 2012. Since December 2002, Dr. Maraganore has served as the chief executive officer and as a director of Alnylam Pharmaceuticals, Inc. From December 2002 to December 2007, Dr. Maraganore served as president of Alnylam. From April 2000 to December 2002, Dr. Maraganore served as senior vice president, strategic product development with Millennium Pharmaceuticals, Inc. (now a subsidiary of Takeda) where he was responsible for the company's product franchises in Oncology and Cardiovascular, Inflammatory and Metabolic Diseases. He was previously Vice President, Strategic Planning and M&A and prior to that he was general manager of Millennium Bio Therapeutics, Inc. a former subsidiary of Millennium. Before Millennium, he served as director of molecular biology and director of market and business development at Biogen, Inc. (now Biogen Idec, Inc.). Prior to Biogen, Dr. Maraganore was a scientist at ZymoGenetics, Inc., and The Upjohn Company. Dr. Maraganore is also a director for Agios Pharmaceuticals and was previously a director of Regulus Therapeutics, Inc. (through May 2014). In addition, he	52	January 2012

serves as a Venture Partner at Third Rock Ventures, LLC. Dr. Maraganore is a member of the Biotechnology Industry Organization (BIO) Board and the BIO Executive Committee. Dr. Maraganore holds a B.A. in biological sciences from the University of Chicago and an M.S. and a Ph.D. in biochemistry and molecular biology from the University of Chicago. We believe that Dr. Maraganore's experience as chief executive officer and president of a public pharmaceutical company and as a board member of other public pharmaceutical companies qualify him to serve as a member of our board of directors.

CURRENT DIRECTORS NOT STANDING FOR ELECTION AT THE ANNUAL MEETING	AGE	DIRECTOR SINCE
Wendy L. Dixon, Ph.D. – Dr. Dixon is a Class III director who has served as a member of our board of directors since April 2013. In 2012, Dr. Dixon was a principal at Great Meadow Consulting LLC and in 2010, she served as senior advisor at The Monitor Group. Since 2005, Dr. Dixon has advised and consulted and in some instances served as a member of the board of director for a number of biopharmaceutical companies, including Alkermes PLC, Eleven Biotherapeutics, Incyte Corporation, Orexigen Therapeutics Inc. and Edimer Pharmaceuticals Inc. Dr. Dixon was formerly on the board of Ardea Biosciences, Inc. (sold to AstraZeneca PLC in 2012), Dentsply International, and Furiex Pharmaceuticals Inc. (sold to Actavis in 2014). Dr. Dixon also served as Chief Marketing Officer and President of Global Marketing for Bristol-Myers Squibb and as a member of the CEO's Executive Committee from 2001 to 2009. She has had an over 30-year career in the pharmaceutical and biotechnology business, combining a technical background and experience in drug development and regulatory affairs with commercial responsibilities in building and leading organizations and launching and growing more than 20 pharmaceutical products including Tagamet, Fosamax, Singulair, Plavix, Abilify, Reyataz and Baraclude. From 1996 to 2001, she was Senior Vice President Marketing at Merck and prior to that she held executive management positions at West Pharmaceuticals, Osteotech and Centocor, and various positions at SmithKline and French (now GlaxoSmithKline) in marketing, regulatory affairs, project management and as a biochemist. Dr. Dixon received her B.Sc., M.Sc. and Ph.D. from the University of Cambridge (UK). We believe that, among other experience, qualifications, attributes and skills, Dr. Dixon's technical background in drug development, commercialization, marketing and regulatory affairs qualify her to serve as a member of our board of directors.	59	April 2013
Steven Gillis, Ph.D. – Dr. Gillis is a Class I director who has served as a member of our board of directors since April 2011. Since 2005, Dr. Gillis has been a managing director at ARCH Venture Partners, a venture capital firm. From 1994 to 2005, Dr. Gillis served as chief executive officer and chairman of the board of directors of Corixa Corporation, which he co-founded in October 1994. Previously, Dr. Gillis served as a director, head of research and development, chief scientific officer and acting chief executive officer of Immunex Corporation, which he co-founded. As a former director and chairman of Trubion Pharmaceuticals, Inc., Dr. Gillis led its acquisition by Emergent BioSolutions in the fall of 2010. Dr. Gillis currently serves as a director of Shire plc, Accelerator Corporation, Oncofactor Corp., Pulmatrix, Inc., and serves as director and chairman of Faraday Pharmaceuticals, Inc., VentiRX Pharmaceuticals, Inc., Theraclone Sciences, Inc., Lycera Corp., PhaseRx, Inc., and VBI Vaccines, Inc. Dr. Gillis received his B.A. in biology and English from Williams College and his Ph.D. in biological science from Dartmouth College. We believe that Dr. Gillis's experience in the venture capital industry, particularly with biotech and pharmaceutical companies, combined with his experience in molecular and tumor immunology, qualify him to serve as a member of our board of directors.	63	April 2011
Nick Leschly – Mr. Leschly is a Class I director who has served as our president and chief executive officer since September 2010. Previously, he served as our interim chief executive officer from March 2010 to September 2010. Formerly a partner of Third Rock Ventures,	42	March 2010

L.P. since its founding in 2007, Mr. Leschly played an integral role in the overall formation, development and business strategy of several of Third Rock's portfolio companies, including Agios Pharmaceuticals, Inc. and Edimer Pharmaceuticals, Inc. Prior to joining Third Rock, he worked at Millennium Pharmaceuticals, Inc., leading several early-stage drug development programs and served as the product and alliance leader for VELCADE. Mr. Leschly also founded and served as chief executive officer of MedXtend Corporation. He received his B.S. in molecular biology from Princeton University and his M.B.A. from Wharton Business School. We believe that Mr. Leschly's operation and historical experience with our Company gained from serving as our president, chief executive officer and member of the board of directors, combined with his experience in the venture capital industry and drug research and development qualify him to serve as a member of our board of directors.

CURRENT DIRECTORS NOT STANDING FOR ELECTION AT THE ANNUAL MEETING	AGE	DIRECTOR SINCE
James Mandell, M.D. – Dr. Mandell is a Class III director who has served as a member of our board of directors since January 2014. Dr. Mandell became Chief Executive Officer of Boston Children's Hospital and Children's Medical Center on October 1, 2000, retiring from the position in October 2013. During his tenure, Dr. Mandell was a member of the Board of Trustees and Professor of Surgery at Harvard Medical School. Prior to joining Children's, he served as Dean of Albany Medical College and Professor of Surgery and Pediatrics. Dr. Mandell was promoted from Chief of Urology to Dean of Albany Medical College in l996. He also served as Executive Vice President for Health Affairs at Albany Medical Center and Executive Medical Director of Albany Medical Center Hospital. Prior to his tenure at Albany Medical College, he was a member of the medical staff at Children's Hospital for nine years, advancing to an associate in surgery with an associate professor appointment at Harvard Medical School. Dr. Mandell serves on the Board of the Franciscan's Hospital for Children, the Board of Beth Israel Deaconess Medical Center, and as Chair of the Board of the Harvard Risk Management Company. Dr. Mandell continues to practice Pediatric Urology at Children's and is the Robert and Dana Smith Distinguished Professor at Harvard Medical School. In addition to a medical degree from the University of Florida College of Medicine, Dr. Mandell holds a Master's in Health Systems Management from Union College, New York. We believe that, among other experience, qualifications, attributes and skills, Dr. Mandell's background as a physician focused on pediatric diseases, and experience as the chief executive officer of a major hospital and medical center, including interactions with payers, qualifies him to serve as a member of our board of directors.	70	January 2014
David P. Schenkein, M.D. – Dr. Schenkein is a Class III director who has served as a member of our board of directors since April 2013. Since August 2009, Dr. Schenkein has served as the chief executive officer of Agios Pharmaceuticals. From April 2006 to July 2009, Dr. Schenkein served as senior vice president of oncology development of Genentech. Dr. Schenkein is also a director at Agios Pharmaceuticals, Inc. and Foundation Medicine, Inc. Dr. Schenkein received his B.A. in chemistry from Wesleyan University and his M.D. from Upstate Medical School. We believe that Dr. Schenkein's experience as chief executive officer of Agios Pharmaceuticals and his membership on the board of directors of a number of biopharmaceutical companies qualify him to serve as a member of our board of directors.	57	April 2013
Mark Vachon. – Mr. Vachon is a Class I director who has served as a member of our board of directors since July 2014. Mr. Vachon assumed a variety of leadership positions across the General Electric organization over 30 years and was a company officer beginning in 1999 and a member of GE's Corporate Executive Council. Mr. Vachon was President and CEO of GE Healthcare Americas from 2009 and 2010, and prior to that he was President and CEO of Global Diagnostics Imaging, GE Healthcare, between 2006 and 2009. Between 2003 and 2006, Mr. Vachon was Executive Vice President and CFO of GE Healthcare. Mr. Vachon serves on the board of trustees of Northeastern University and the board of directors of Numotion. Mr. Vachon holds a B.S. in Finance from Northeastern University and plans to graduate with an M.A. from Boston College in May 2015. We believe that Mr. Vachon's experience in financial and executive operating roles and in the healthcare field on a global	56	July 2014

basis qualify him to serve as a member of our board of directors.

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EXECUTIVE OFFICERS

The following table sets forth information regarding our executive officers, as of April 24, 2015:

Name	Age	Position(s)
Executive Officers:		
Nick Leschly(1)	42	President, Chief Executive Officer and Director
Jeffrey T. Walsh	49	Chief Operating Officer
Mitchell H. Finer, Ph.D.	56	Chief Scientific Officer
David Davidson, M.D.	51	Chief Medical Officer
James M. DeTore	50	Chief Financial Officer and Treasurer (Principal Financial Officer)
Jason F. Cole, Esq.	42	Senior Vice President, General Counsel and Secretary
Eric Sullivan	35	Senior Director, Finance (Principal Accounting Officer)

(1) Nick Leschly is also a director of the Company and his biographical information appears on page 8.

Jeffrey T. Walsh – Mr. Walsh has served as our Chief Operating Officer since May 2011. Mr. Walsh has over 25 years of experience in executive leadership positions with responsibility for finance, business development, commercial and business operations, strategic planning and legal functions with established and emerging public and private life sciences companies. From November 2008 to February 2011, Mr. Walsh served as chief business officer of Taligen Therapeutics, Inc. where he played a key role in the growth of the company and the ultimate sale of Taligen Therapeutics, Inc. to Alexion Pharmaceuticals, Inc. in January 2011. Mr. Walsh started his career at SmithKline Beecham Corporation in finance and worldwide business development roles. He subsequently held senior business development, finance and operations roles at PathoGenesis Corp. (acquired by Chiron Corporation), Allscripts Healthcare Solutions Inc., EXACT Sciences Corporation and Inotek Pharmaceuticals Corp. Mr. Walsh received his B.A. in sociology and economics from Yale University and his M.B.A. from the Kellogg Graduate School of Management at Northwestern University.

Mitchell H. Finer, Ph.D. – Dr. Finer has served as our Chief Scientific Officer since March 2010. Prior to joining us, Dr. Finer served as senior vice president of development and operations for Novocell, Inc. (now ViaCyte, Inc.), a stem cell engineering company researching treatments for diabetes and other chronic diseases from November 2008 through March 2010. From July 2005 through November 2008, Dr. Finer served as chief executive officer of Intracel Holdings LLC. From June 2003 to June 2005, he held the position of president and chief executive officer of Genteric Inc., or Genteric, which filed a voluntary petition for reorganization under Chapter 11 of the U.S. bankruptcy code in August 2004. Previously, he had served as Genteric's chief scientific officer from November 2002 to June 2003 and as vice president of research and development for the Gencell division of Aventis Pharma (now Sanofi) from April 2002 to November 2002. He was also a founder and vice president of research for Cell Genesys Inc., and a founder of Abgenix, Inc. and Avalanche Biotechnologies, Inc. Dr. Finer received his B.A. in biochemistry and bacteriology from the University of California at Berkeley and his Ph.D. in biochemistry and molecular biology from Harvard University. He completed a postdoctoral fellowship at the Whitehead Institute for Biomedical Research.

David Davidson, M.D. – Dr. Davidson has served as our Chief Medical Officer since February 2012. Prior to joining us, Dr. Davidson served as a senior medical director at Genzyme Corporation, or Genzyme, where he led clinical research for programs in Phases I through IV across a wide range of therapeutic areas for more than a decade. Most recently, Dr. Davidson was the medical leader for Genzyme's gene therapy and Pompe disease enzyme replacement therapy programs. In addition to Dr. Davidson's translational medicine experience, he has also worked on a number of commercial products, including Fabrazyme and Myozyme/Lumizyme, and was integral in crafting the new drug application that resulted in the approval of Welchol. Prior to Genzyme, Dr. Davidson was a medical director at GelTex Pharmaceuticals Inc. Previously, he completed clinical and research fellowships in infectious diseases at the

Harvard Longwood Combined Infectious Diseases Program. Dr. Davidson received his B.A. from Columbia University and his M.D. from New York University School of Medicine. In addition, he completed an internal medicine internship, residency training and an endocrinology research fellowship at the University of Chicago Hospitals.

James M. DeTore – Mr. DeTore has served as our Chief Financial Officer and treasurer since November 2014. Prior to joining us, Mr. DeTore served as Vice President, Corporate Finance of Ironwood Pharmaceuticals, Inc. from February 2010 to November 2014, as Vice President, Finance from June 2006 to January 2010 and as Corporate Controller of Microbia, Inc. (Ironwood's predecessor company) from October 2003 to May 2006. From May 1995 through September 2003, Mr. DeTore held financial positions of increasing responsibility at Genzyme Corporation. Mr. DeTore received both his B.S. in finance and MBA from Northeastern University.

Jason F. Cole, Esq. – Mr. Cole has served as our Senior Vice President, General Counsel and Secretary since March 2014. Prior to joining us, Mr. Cole served as Executive Vice President, Corporate Development and General Counsel at Zalicus Inc. from September 2011 through March 2014, and as Senior Vice President, General Counsel of Zalicus and its predecessor company CombinatoRx, Incorporated from January 2006 to September 2011. From 1999 to 2006, Mr. Cole was a corporate and securities attorney at Ropes & Gray LLP. Mr. Cole received an A.B. in government from Dartmouth College and a J.D. from Columbia University School of Law.

Eric Sullivan – Mr. Sullivan has served as our Senior Director of Finance since November 2013. Previously, Mr. Sullivan served as Corporate Controller of Merrimack Pharmaceuticals from January 2011 to November 2013 and as Assistant Controller of Merrimack Pharmaceuticals from September 2008 to December 2010. Prior to Merrimack Pharmaceuticals, Mr. Sullivan held positions at NSTAR and PricewaterhouseCoopers LLP. Mr. Sullivan received his B.S. in accountancy from Bentley University (formerly known as Bentley College) and is a Certified Public Accountant in Massachusetts.

THE BOARD OF DIRECTORS AND ITS COMMITTEES

Board Composition

We currently have eight directors and the terms of office of the directors are divided into three classes:

- Class I, whose term will expire at the annual meeting of stockholders to be held in 2017;
- Class II, whose term will expire at the annual meeting of stockholders to be held in 2015; and
- Class III, whose term will expire at the annual meeting of stockholders to be held in 2016.

Class I consists of Dr. Gillis, Mr. Leschly and Mr. Vachon, Class II consists of Mr. Lynch and Dr. Maraganore and Class III consists of Dr. Dixon, Dr. Mandell and Dr. Schenkein. At each annual meeting of stockholders, the successors to directors whose terms will then expire shall serve from the time of election and qualification until the third annual meeting following election and until their successors are duly elected and qualified. A resolution of the board of directors may change the authorized number of directors. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. This classification of the board of directors may have the effect of delaying or preventing changes in control or management of our company.

Board Independence

Our board of directors has determined, upon the recommendation of our nominating and corporate governance committee, that each of our directors, except for Nick Leschly, who serves as our President and Chief Executive Officer, has no relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and is independent within the meaning of the director independence standards of the Nasdaq Stock Market, or Nasdaq, rules and the SEC. At least annually, our board of directors will evaluate all relationships between us and each director in light of relevant facts and circumstances for the purposes of determining whether a material relationship exists that might signal a potential conflict of interest or otherwise interfere with such director’s ability to satisfy his or her responsibilities as an independent director. Based on this evaluation, our board of directors will make an annual determination of whether each director is independent within the meaning of Nasdaq, and the SEC independence standards.

Board Meetings and Attendance

Our board of directors held six meetings during the fiscal year ended December 31, 2014. Each of the directors attended at least 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 fiscal 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). bluebird encourages its directors to attend the Annual Meeting of Stockholders.

Board Committees

Our board of directors has established three standing committees: the audit committee, the compensation committee and the nominating and corporate governance committee, each of which is comprised solely of independent directors, and is described more fully below. Each of the audit, compensation and nominating and corporate governance committee operates pursuant to a written charter and each committee reviews and assesses the adequacy of its charter and submits its charter to the Board for approval. The charters for the audit, compensation and nominating and corporate governance committees are all available on our website (www.bluebirdbio.com) under “Investors & Media” at “Corporate Governance.”

Audit Committee

Our audit committee is currently composed of Dr. Dixon, Mr. Lynch, and Mr. Vachon, with Mr. Vachon serving as chairman of the committee. Dr. Gillis served on the audit committee until November 2014. 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 Mr. Lynch and Mr. Vachon are "audit committee financial experts" within the meaning of the SEC regulations and applicable listing standards of Nasdaq. During the fiscal year ended December 31, 2014, the Audit Committee met four times. The report of the Audit Committee is included in this Proxy Statement under "Report of the Audit Committee." The audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- 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 the integrity of our financial statements and 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 Securities and Exchange Commission, or SEC, to be included in our annual proxy statement;
- reviewing all related party transactions for potential conflict of interest situations and approving all such transactions; and
- reviewing quarterly earnings releases and scripts.

Compensation Committee

Our compensation committee is currently composed of Dr. Dixon, Dr. Maraganore and Mr. Lynch, with Mr. Lynch serving as chairman of the committee. Dr. Bob Tepper served on the compensation committee until July 2014. Our board of directors has determined each member of the compensation committee is "independent" as defined under the applicable listing standards of Nasdaq. In addition, each member qualifies as an "outside director" within the meaning of Section 162(m) of the Internal Revenue Code of 1986, as amended. During the fiscal year ended December 31, 2014, the compensation committee met eight times. The compensation committee's responsibilities include:

- annually reviewing and approving corporate goals and objectives relevant to the compensation of our chief executive officer;
- evaluating the performance of our chief executive officer in light of such corporate goals and objectives and determining 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 compensation and similar plans;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and making recommendations to the board of directors with respect to director compensation;
- reviewing and discussing with management the compensation discussion and analysis to be included in our annual proxy statement or Annual Report on Form 10-K; and
- reviewing and discussing with the board of directors corporate succession plans for the chief executive officer and other key officers.

Historically, our compensation committee has made most of the significant adjustments to annual compensation, determined bonus and equity awards and established new performance objectives at one or more meetings held during the last quarter of the year. However, our compensation committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of the Company's compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, the compensation committee's process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year. For executives other than the chief executive officer, our compensation committee solicits and considers evaluations and recommendations submitted to the compensation committee by the chief executive officer. In the case of the chief executive officer, the evaluation of his performance is conducted by the compensation committee, which determines any adjustments to his compensation as well as awards to be granted. For all executives and directors as part of its deliberations, the compensation committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, tax and accounting information, tally sheets that set forth the total compensation that may become payable to executives in various hypothetical scenarios, executive and director stock ownership information, company stock performance data, analyses of historical executive compensation levels and current Company-wide compensation levels and recommendations of our Vice President, Human Resources, including analyses of executive and director compensation paid at a peer group of other companies approved by our compensation committee.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee is composed of Dr. Gillis, Dr. Mandell and Dr. Schenkein, with Dr. Schenkein serving as chairman of the 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. During fiscal year ended December 31, 2014, the nominating and corporate governance committee met three times. 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 guidelines; and
- overseeing the evaluation of the board of directors and management. Our board of directors may establish other committees from time to time.

Identifying and Evaluating Director Nominees

Our board of directors is responsible for selecting its own members. The Board delegates the selection and nomination process to the nominating and corporate governance committee, with the expectation that other members of the Board, and of management, will be requested to take part in the process as appropriate.

Generally, our nominating and corporate governance committee identifies candidates for director nominees in consultation with management, through the use of search firms or other advisors, through the recommendations submitted by stockholders or through such other methods as the nominating and corporate governance committee deems to be helpful to identify candidates. Once candidates have been identified, our nominating and corporate governance committee confirms that the candidates meet all of the minimum qualifications for director nominees established by the nominating and corporate governance committee. The nominating and corporate governance committee may gather information about the candidates through interviews, detailed questionnaires, background checks or any other means that the nominating and corporate governance committee deems to be appropriate in the evaluation process. The nominating and corporate governance committee then meets as a group to discuss and evaluate the qualities and skills of each candidate, both on an individual basis and taking into account the overall composition and needs of our board of directors. Based on the results of the evaluation process, the nominating and corporate governance committee recommends candidates for the Board's approval as director nominees for election to the Board.

Minimum Qualifications

Our nominating and corporate governance committee will consider, among other things, the following qualifications, skills and attributes when recommending candidates for the Board's selection as nominees for the Board and as candidates for appointment to the Board's committees. The nominee shall have the highest personal and professional integrity, shall have demonstrated exceptional ability and judgment, and shall be most effective, in conjunction with the other nominees to the Board, in collectively serving the long-term interests of the stockholders.

In evaluating proposed director candidates, our nominating and corporate governance committee may consider, in addition to the minimum qualifications and other criteria for board membership approved by the Board from time to time, all facts and circumstances that it deems appropriate or advisable, including, among other things, diversity and is not limited to race, gender or national origin, the skills of the proposed director candidate, his or her depth and breadth of professional experience or other background characteristics, his or her independence and the needs of the Board. We have no formal policy regarding board diversity. Our nominating and corporate governance committee's priority in selecting board members is identification of persons who will further the interests of our company through his or her established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, and professional and personal experiences and expertise relevant to our growth strategy. The nominating and corporate governance committee will consider candidates recommended by stockholders. The policy adopted by the nominating and corporate governance committee provides that candidates recommended by stockholders are given appropriate consideration in the same manner as other candidates.

Non-Management Director Meetings

In addition to the meetings of the committees of the board of directors described above, in connection with the board of directors meetings, the non-management directors met four times in executive session during the fiscal year ended December 31, 2014. The Chairman of the board of directors presides at these executive sessions. The audit committee and the board of directors have established a procedure whereby interested parties may make their concerns known to non-management directors, which is described on our website.

Leadership structure and risk oversight

Our board of directors is currently chaired by Mr. Lynch. As a general policy, our board of directors believes that separation of the positions of chairman and chief executive officer reinforces the independence of the board of directors from management, creates an environment that encourages objective oversight of management's performance and enhances the effectiveness of the board of directors as a whole. As such, Mr. Leschly serves as our president and chief executive officer while Mr. Lynch serves as our chairman of the board of directors but is not an officer.

Our board of directors oversees the management of risks inherent in the operation of our business and the implementation of our business strategies. Our board of directors performs this oversight role by using several different levels of review. In connection with its reviews of the operations and corporate functions of our company, our board of directors addresses the primary risks associated with those operations and corporate functions. In addition, our board of directors reviews the risks associated with our company's business strategies periodically throughout the year as part of its consideration of undertaking any such business strategies.

Each of our board committees also oversees the management of our company's risk that falls within the committee's areas of responsibility. In performing this function, each committee has full access to management, as well as the ability to engage advisors. Our chief financial officer, general counsel and principal accounting officer all periodically provide reports to the audit committee and are responsible for identifying, evaluating and implementing risk management controls and methodologies to address any identified risks. In connection with its risk management role, our audit committee meets privately with representatives from our independent registered public accounting firm. The audit committee oversees the operation of our risk management program, including the identification of the primary risks associated with our business and periodic updates to such risks, and reports to our board of directors regarding these activities.

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."

PROPOSAL NO. 2—ADVISORY VOTE ON EXECUTIVE COMPENSATION

The Board of Directors of the Company is committed to excellence in governance. As part of that commitment, and as required by Section 14A(a)(1) of the Exchange Act, the Board of Directors is providing the stockholders with an opportunity to provide an advisory vote related to the compensation of the Company's named executive officers.

As described below under "Executive Compensation—Compensation Discussion and Analysis," we have developed a compensation policy that is designed to attract and retain key executives responsible for our success and motivate management to enhance long-term stockholder value. We believe our compensation policy strikes an appropriate balance between the implementation of responsible, measured compensation practices and the effective provision of incentives for our named executive officers to exert their best efforts for our success.

For the reasons discussed above, the Board of Directors unanimously recommends that stockholders vote in favor of the following resolution:

"RESOLVED, that the Company's stockholders hereby approve, on an advisory basis, the compensation of the named executive officers, as disclosed in the Company's proxy statement for the 2015 annual meeting of stockholders pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the Compensation Discussion and Analysis, Summary Compensation Table and the other compensation related tables and disclosure."

As this vote is advisory, it will not be binding upon the Board of Directors or the Compensation Committee and neither the Board of Directors nor the Compensation Committee will be required to take any action as a result of the outcome of this vote. However, the Compensation Committee will carefully consider the outcome of this vote when considering future executive compensation policies.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE

FOR

THE ADVISORY RESOLUTIONS APPROVING THE COMPANY'S EXECUTIVE COMPENSATION

(PROPOSAL 2 ON YOUR PROXY CARD)

PROPOSAL NO. 3—ADVISORY VOTE ON THE FREQUENCY OF ADVISORY VOTES ON

EXECUTIVE COMPENSATION

As part of the Board's commitment to excellence in corporate governance, and as required by the Section 14A(a)(2) of the Exchange Act, the Board of Directors is providing the Company's stockholders with an opportunity to provide an advisory vote to determine whether the stockholder vote on the compensation of the Company's named executive officers should occur every one, two or three years.

Consistent with the Company compensation philosophy, the Company's executive compensation program promotes both short and long term incentives, especially given the long timelines and risks inherent in the Company's business of pharmaceutical research and development.

We believe that setting a three (3) year period (triennial) for holding this stockholder vote will provide our stockholders with sufficient time to evaluate the effectiveness of our named executive officer compensation program, and its short- and long-term elements, and the related business results of our company. As described below in our Compensation Discussion and Analysis, our named executive officer compensation program is comprised of a balance of short-term and long-term incentives, with a significant part being based on long-term performance that is designed to support long-term value creation and is thus aligned with our stockholders' interests. As a significant portion of our named executive officer compensation program is derived from equity compensation that rewards long-term performance, as is typical of companies in the biotechnology industry, we also believe that a triennial vote would align more closely with the long-term period that we use to reward long-term performance through our named executive officer compensation program, which is more appropriately reflected with a three (3) year timeframe. From our perspective, such a triennial period for an advisory vote will enhance stockholder communication by providing a clear, simple means for our company to obtain information on investor sentiment about our named executive officer compensation program. Similarly, we believe that a three (3) year vote cycle would give our board of directors and compensation committee sufficient time to thoughtfully understand and consider the results of our non-binding stockholder advisory vote and to implement any corresponding changes to our executive officer compensation program.

For the reasons discussed above, the Board of Directors recommends that stockholders vote to hold the advisory vote on executive compensation every three years. Stockholders are not voting, however, to approve or disapprove of this particular recommendation. The proxy card provides for four choices and stockholders are entitled to vote on whether the advisory vote on executive compensation should be held every one, two, or three years, or to abstain from voting.

As this vote is advisory, it will not be binding upon the Board of Directors and the Board of Directors may decide that it is in the best interest of our stockholders to hold an advisory vote on executive compensation more or less frequently than the frequency receiving the most votes cast by our stockholders. However, the Board of Directors will carefully consider the outcome of this vote when considering the frequency of future advisory votes on executive compensation.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE

TO

HOLD THE ADVISORY VOTE ON EXECUTIVE COMPENSATION EVERY THREE YEARS

(PROPOSAL 3 ON YOUR PROXY CARD)

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EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

Compensation Discussion and Analysis

Our compensation committee is responsible for overseeing the total compensation of our senior management team, which is comprised of our executive officers and two other senior managers. In this capacity, our compensation committee designs, implements, reviews and approves all compensation for our chief executive officer and our other named executive officers. This section discusses the principles underlying our policies and decisions with respect to the compensation of our executive officers who are named in the Summary Compensation Table below, or our "named executive officers," and all material factors relevant to an analysis of these policies and decisions. Our named executive officers are:

- Nick Leschly, our President and Chief Executive Officer;
- Jeffrey T. Walsh, our Chief Operating Officer;
- Mitchell H. Finer, Ph.D., our Chief Scientific Officer;
- David Davidson, M.D., our Chief Medical Officer;
- James M. DeTore, our Chief Financial Officer, Treasurer and Principal Financial Officer; and
- Jason F. Cole, Esq., our Senior Vice President, General Counsel and Secretary.

Executive Summary and Corporate Background

We are a clinical-stage biotechnology company committed to developing potentially transformative gene therapies for severe genetic and rare diseases and in the field of T cell-based immunotherapy. With our lentiviral-based gene therapy and gene editing capabilities, we have built an integrated product platform with broad potential application in these areas.

The goal of our compensation committee is to ensure that our compensation programs are aligned with the interests of our stockholders and our business goals and that the total compensation paid to each of our named executive officers is fair, reasonable and competitive. Key elements of our compensation programs include:

- base salary, to enable us to attract and retain the talent needed to continue to drive our business successfully;
- an annual cash incentive program, tied to the achievement of pre-determined quantitative and qualitative corporate performance goals; and
- equity incentive compensation, which is provided to all employees, is typically subject to multi-year vesting based on continued service and is primarily in the form of stock options, the value of which depends on the performance of our common stock price, in order to align employee interests with those of our stockholders over the longer-term.

We target total cash compensation for our executives at or of 35% of the market median and total equity incentive compensation of 75% of the market median, in each case compared to compensation paid to similarly situated executives of the companies in our peer group, however, because we have a pay-for-performance philosophy, actual compensation levels are correlated to the achievement of corporate and individual goals.

In addition to our direct compensation elements, the following compensation program features are designed to align our executive team with stockholder interests and market best practices:

- We do not offer any tax gross-up payments to our executive team for any change-of-control payments;
- We prohibit our executive team from engaging in hedging transactions with our securities or pledging our securities; and
- We do not offer our executive team any substantially enhanced benefits or perquisites when compared to our overall employee population.

As described below, during 2014, we made significant progress on our clinical development and business goals, including:

- Initiating our Northstar study in the US, Australia and Thailand and enrolling our Starbeam and HGB-205 clinical trials and reporting positive preliminary clinical data from the Northstar and HGB-205 clinical trials at two major medical meetings;
- Advancing our CAR-T oncology research program and nominating an initial candidate for clinical development;
- Scaling up our global vector and drug product manufacturing capabilities and infrastructure and quality systems and controls;

- Developing global regulatory and development acceleration plans for Lenti-D and LentiGlobin;
- Acquiring Precision Genome Engineering, Inc. in June 2014 to access a leading gene editing technology platform;
- Completing two equity financings for approximately $353 million in net proceeds to bluebird; and
- Hiring over 50 new employees and adding two new experienced Board members.

In addition, as a result of positive clinical results and strong business progress, our stock price appreciated over 437% during 2014. Based on our performance during 2014, our board determined that we achieved 130% of our corporate goals for 2014, which allows us to focus our efforts and further advance our programs and business goals in 2015.

Determining and Setting Executive Compensation

We develop our compensation programs after reviewing publicly available compensation data and subscription survey data for our peer group, provided by Radford Consulting, or Radford, a compensation consulting firm engaged by our compensation committee. Our compensation committee has assessed the independence of Radford consistent with NASDAQ listing standards and has concluded that the engagement of Radford does not raise any conflict of interest.

Defining and Comparing Compensation to Market Benchmarks

In evaluating the total compensation of our named executive officers, our compensation committee, using information provided by Radford, establishes a peer group of publicly traded, national and regional companies in the biopharmaceutical and biotechnology industries that is selected based on a balance of the following criteria:

- companies whose number of employees, stage of development and market capitalization are similar, though not necessarily identical, to ours;
- companies with similar executive positions to ours;
- companies against which we believe we compete for executive talent; and
- public companies based in the United States whose compensation and financial data are available in proxy statements or through widely available compensation surveys.

Based on these criteria, our peer group for 2014, referred to as our 2014 peer group, was approved by our compensation committee and was comprised of the following companies:

ACADIA Pharmaceuticals, Inc.	Dynavax Technologies, Inc.	Portola Pharmaceuticals, Inc.
Acceleron Pharma, Inc.	Epizyme, Inc.	PTC Therapeutics, Inc.
AcelRx Pharmaceuticals, Inc.	Kythera Biopharmaceuticals, Inc.	Sangamo Biosciences, Inc.
Agios Pharmaceuticals, Inc.	Lexicon Pharmaceuticals, Inc.	Sunesis Pharmaceuticals, Inc.
Anacor Pharmaceuticals, Inc.	MacroGenics, Inc.	Tesaro, Inc.
Celldex Therapeutics, Inc.	Merrimack Pharmaceuticals, Inc.	ZIOPHARM Oncology, Inc.
Clovis Oncology, Inc.	New Link Genetics, Inc.	

We believe that the compensation practices of our 2014 peer group provided us with appropriate compensation benchmarks for evaluating the compensation of our named executive officers during 2014. Notwithstanding the similarities of the 2014 peer group to bluebird, due to the nature of our business, we compete for executive talent with many public companies that are larger and more established than we are or that possess greater resources than we do, or with smaller private companies that may be able to offer greater equity compensation potential, as well as with prestigious academic and non-profit institutions. Accordingly, in 2014, our compensation committee generally targeted compensation for our executive officers as follows:

- base salaries at approximately the 35th percentile of the salaries in our 2014 peer group;
- annual cash incentive award opportunities at approximately the 50th percentile of our 2014 peer group;
- total annual equity incentive awards, provided entirely in the form of stock options with value tied to stock price appreciation, at or above the 75th percentile of our 2014 peer group; and

- total compensation for our executives is targeted at the 50th percentile of compensation paid to similarly situated executives of the companies in our 2014 peer group.

Our compensation committee may consider other criteria, including market factors, the experience level of the executive and the executive's performance against established corporate goals, in determining variations to this general target range.

Other Key Performance Factors in Determining Executive Compensation

As the biopharmaceutical industry is characterized by a very long product development cycle, including a lengthy research and development period and a rigorous approval phase involving human testing and governmental regulatory approval, many of the traditional benchmarking metrics, such as product sales, revenues and profits are inappropriate for a development-stage biopharmaceutical company, such as bluebird. Instead, the specific performance factors our compensation committee considers when determining the compensation of our named executive officers include:

- key research and development achievements, including advances in our gene therapy and CAR-T technology platforms;
- initiation and progress of clinical trials for our product candidates;
- expansion of our manufacturing and operational capabilities on a global basis;
- achievement of regulatory milestones;
- establishment and maintenance of key strategic relationships and new business initiatives including financings; and
- development of organizational capabilities and managing our growth.

These performance factors are considered by our compensation committee in connection with our annual performance reviews described below and are a critical component in the determination of annual cash and equity incentive awards for our executives.

Annual Performance Reviews

Our compensation committee conducts an annual performance review of our named executive officers and approves the compensation of each member of our senior management team. By the first quarter of each year, annual corporate goals and individual performance objectives are determined and set forth in writing. After the end of each year, our compensation committee determines executive compensation levels after carefully reviewing overall corporate performance and performing an evaluation of each named executive officer's annual performance against established corporate goals, as well as each individual executive officer's contributions to achievement of the corporate goals and, in the case of executive officers other than our chief executive officer, the achievement of individual performance objectives. In addition, our compensation committee may apply its discretion, as it deems appropriate, in determining executive compensation.

Annual corporate goals are proposed by our senior management team and approved by our board. For 2014, our chief executive officer's bonus was entirely on performance relative to corporate goals and the bonus of our other named executive officers was based 90% on corporate goals and 10% on individual objectives. Individual objectives for 2014 for our senior management team focused on individual contributions that were intended to drive achievement of the corporate goals and were proposed by each member of senior management, with review and input from our chief executive officer. Any merit increases in base salary and any annual stock option awards or cash awards made under our 2014 annual incentive program were based on the achievement of these corporate and individual performance goals and objectives. In 2014, our compensation committee established the cash bonus opportunity for each member of our senior management team under the 2014 annual incentive program, representing a percentage of each individual's base salary.

During the last quarter of each year, our senior management team evaluates our corporate performance and each executive officer's individual performance, as compared to the corporate goals and, as applicable, the individual objectives for that year. Based on this evaluation, our chief executive officer recommends to our compensation committee any increases in base salary and any annual stock option awards and/or cash awards under our annual incentive program. Our compensation committee, with input from the board of directors, evaluates our chief executive officer's individual performance and determines whether to change his base salary, grant him an annual stock option award and/or grant him a cash award under our annual incentive program. Our compensation committee typically grants annual stock option awards, and determines changes in base salary and the amount of any cash incentive payments, at its first regularly scheduled meeting of the new year. Our compensation committee may also review the compensation of our executive officers throughout the course of the year. With respect to year-end reviews, any changes in base salary are effective at the beginning of the following year. The cash incentive payments awarded under our 2014 annual incentive program were paid in February 2015.

Compensation Objectives and Philosophy

Our compensation programs are designed to attract, motivate and retain qualified and talented executives, motivating them to achieve our business goals and rewarding them for superior short- and long-term performance. In particular, our compensation programs are intended to reward the achievement of specified pre-determined quantitative and qualitative individual and corporate performance goals and objectives and to align the interests of our senior management team with those of our stockholders in order to attain our ultimate objective of increasing stockholder value.

We award annual merit-based increases in base salary based upon an assessment of each executive's performance and the scope of his or her responsibilities. Our 2014 annual incentive program was designed to reward annual achievements as measured against pre-determined quantitative and qualitative corporate performance goals, and, with respect to members of our senior management team other than our chief executive officer, individual objectives. We awarded cash incentive payments to our named executive officers and the other members of our senior management team under our 2014 annual incentive program, which is described in more detail below.

We typically grant stock options to our executive officers upon commencement of their employment, annually following a review of their individual performance and in connection with a promotion. With the exception of our 2014 annual cash incentive program, we do not have any pre-established targets for allocations or apportionment by type of compensation. The mix of compensation components is designed to reward annual results as well as drive long-term company performance and create stockholder value.

Base Salary

We provide base salaries to our named executive officers to compensate them with a fair and competitive base level of compensation for services rendered during the year. Our compensation committee typically determines the base salary for each executive based on the executive's responsibilities, experience and, if applicable, the base salary level of the executive prior to joining bluebird. In addition, our compensation committee reviews and considers the level of base salary paid by companies in our peer group for similar positions. Generally, our compensation committee believes our executives' base salaries should be targeted at approximately the 35^{th} percentile of the salaries in our peer group.

Merit-based increases in base salary for all of our executive officers, other than our chief executive officer, are determined by our compensation committee based upon a written summary of the executive officer's performance and a recommendation from our chief executive officer. Any merit-based increase in base salary for our chief executive officer is based upon an assessment of his performance by our compensation committee, input from the board or directors and a review by our compensation committee of the base salary of chief executive officers in our peer group.

With respect to Mr. Leschly, our chief executive officer, at the beginning of 2014, our compensation committee reviewed Mr. Leschly's overall compensation and determined, based on his accomplishments during the year and the comparison to the base salary of chief executive officers in our peer group, to increase his annual base salary to $425,000 from $390,000.

At the beginning of 2014, our compensation committee approved merit increases in base salary for each of our other named executive officers serving at that time, based upon the company's performance against the 2013 corporate goals, as well as each executive officer's achievement of individual goals. The table below sets forth the adjustments to base salary, in dollars and as a percentage, for each of our named executive officers serving at the beginning of 2014:

Base Salary Adjustments

Name	2013 Base Salary	2014 Base Salary	Increase (%)
Nick Leschly	$390,000	$425,000	9.0%
Jeffrey T. Walsh	$320,000	$328,000	2.5%
Mitchell H. Finer, Ph.D.	$306,000	$316,000	3.25%
David Davidson, M.D.	$315,000	$330,000	4.75%

In March 2014, Mr. Jason F. Cole, Esq. joined bluebird as Senior Vice President, General Counsel and Secretary, and based on his experience and an assessment of base salaries of General Counsels at our peer and similar companies, his annual base salary was set at $315,000 and he was provided a one-time signing bonus of $35,000. In November 2014, Mr. James DeTore joined bluebird as Chief Financial Officer and Treasurer, and based on his experience and an assessment of base salaries of Chief Financial Officers at our peer and similar companies, his annual base salary was set at $320,000 and he was provided a one-time signing bonus of $50,000.

2014 Annual Incentive Program

Our compensation committee aims to determine an appropriate mix of cash payments and equity incentive awards to meet short- and long-term goals and objectives. In February 2014, our compensation committee approved the annual incentive program for 2014, including the opportunity for eligible participants to achieve incentive awards above established bonus targets based on the company's performance against 2014 corporate goals.

The table below shows the target award under the incentive program as a percentage of each named executive officer's annual base salary in 2014, the maximum cash award opportunity in dollars for 2014 and the actual cash bonus payments to our named executive officers for 2014 performance, which were paid in February 2015, as well as the actual bonus payment as a percentage of the maximum award opportunity. Mr. DeTore is not in the table below because he was not eligible to participate in the 2014 annual incentive program due to his employment start date in November 2014. The details regarding the determination of these cash bonus awards are discussed below.

2014 Annual Incentive Program

Name	2014 Target Award (% of Base Salary)	2014 Target Award Opportunity ($)	2014 Actual Bonus Payment	2014 Actual Bonus Payment (% of Target Award Opportunity)
Nick Leschly	50%	$ 231,000	$ 303,875	132%
Jeffrey T. Walsh	40%	$ 128,000	$ 173,184	135%
Mitchell H. Finer, Ph.D.	35%	$ 110,600	$ 141,568	128%
David Davidson, M.D.	35%	$ 115,500	$ 149,573	130%
Jason F. Cole, Esq.(1)	35%	$ 91,875	$ 117,600	128%

(1) Mr. Cole's 2014 award opportunity and actual award payment were prorated based on his employment start date in March 2014.

Under the 2014 annual incentive program, bonus awards were determined by first establishing a bonus pool. The bonus pool was calculated by aggregating the maximum awards for all eligible plan participants and then multiplying that sum by a modifier established by our compensation committee based on our performance as measured against the 2014 corporate goals. The bonus pool was then allocated among all of the plan participants in accordance with the terms of the 2014 annual incentive program. For 2014, our chief executive officer's bonus was entirely based on performance relative to corporate goals and the bonus of our other named executive officers was based 90% on corporate goals and 10% on individual objectives. In addition, our compensation committee had the discretion under the 2014 annual incentive program to adjust upward or downward any bonus award and/or the bonus pool as it deemed appropriate.

In making its determination regarding awards under the 2014 annual incentive program, our compensation committee considered our success against our 2014 corporate goals. The 2014 corporate goals approved by our board, the relative weightings assigned to each goal at the beginning of the year, and management's recommendation regarding our actual achievement during the performance period as a percentage of target and the weighted performance against these corporate goals for 2014, were as follows:

2014 Corporate Goals	Relative Weighting	Actual Achievement For 2014 (as a % of target)	Weighted Performance
• Maximize number of clinical subjects treated and advancement of pipeline	45%	105%	47.25%
• Maximize number of treated subjects in new and active clinical trials, including:			
• Starbeam Study of Lenti-D product candidate for CCALD			
• Northstar, HGB-205 and HGB-206 studies of LentiGlobin product candidate for - Thalassemia and Severe Sickle Cell disease			
• Two presentations or posters of LentiGlobin clinical data at a major medical meeting			
• Nominate first CAR-T product candidate for development			
• Expand core capabilities to support rapid transition to pivotal or commercial development, including:	25%	100%	25%
• Scale up of LentiGlobin vector manufacturing			
• Treatment and follow up of clinical subjects from around the world			
• Develop global regulatory and development acceleration plans and establish core infrastructure			
• Continue to validate and leverage our platform and expertise to develop gene therapies for new indications, including by:	20%	150%	30%
• Completing a major platform or technology transaction focused on new product opportunities			

• Raising additional capital through equity financings or business development transactions			
• Staying in front of our growth by executing on our hiring plans and managing regrettable turnover	10%	125%	12.5%
Approved 2014 Corporate Performance Level	100%		114.75

Specifically, during 2014, we made significant progress on our clinical development and business goals, including:

- Initiating our Northstar study in the US, Australia and Thailand and enrolling our Starbeam and HGB-205 clinical trials and reporting positive preliminary clinical data from the Northstar and HGB-205 clinical trials at two major medical meetings;
- Advancing our CAR-T oncology research program and nominating an initial candidate for clinical development;
- Scaling up our global vector and drug product manufacturing capabilities and infrastructure and quality systems and controls;
- Developing global regulatory and development acceleration plans for Lenti-D and LentiGlobin;
- Acquiring Precision Genome Engineering, Inc. in June 2014 to access a leading gene editing technology platform;
- Completing two equity financings for approximately $353 million in net proceeds to bluebird; and
- Hiring over 50 new employees, including a new Chief Financial Officer and General Counsel and adding two new experienced Board members.

In addition, as a result of positive clinical results and strong overall business progress, our stock price appreciated over 437% during 2014. Based on our overall performance during 2014 and the value created for our stockholders, our board utilized its discretion to determine that we achieved 130% of our corporate goals for 2014, which allows us to focus our efforts and further advance our programs and business goals in 2015.

Equity Awards

Our equity awards program is designed to:

- reward demonstrated leadership and performance;
- align our executive officers' interests with those of our stockholders;
- retain our executive officers through the term of the awards;
- maintain competitive levels of executive compensation; and
- motivate our executive officers for outstanding future performance.

The market for qualified and talented executives in the biopharmaceutical industry is highly competitive and we compete for talent with many companies that have greater resources than we do. Accordingly, we believe equity compensation is a crucial component of any competitive executive compensation package we offer.

Historically, our equity awards have generally taken the form of stock options. We typically grant stock options to each of our executive officers upon commencement of employment, annually in conjunction with our review of individual performance, in connection with a promotion or as a special incentive.

All stock option awards to our executive officers are approved by our compensation committee and, other than stock option awards to new hires, are typically granted at our compensation committee's regularly scheduled meeting at the beginning of the year. Stock option awards vary among our executive officers based on their positions and annual performance assessments. In addition, our compensation committee reviews all components of the executive's compensation to ensure that his or her total compensation is aligned with our overall philosophy and objectives. All stock options granted to our executives have exercise prices equal to the fair market value of our common stock on the date of grant, so that the recipient will not earn any compensation from his or her options unless our share price increases above the exercise price on the date of grant. Accordingly, this portion of our executive officers' compensation is at risk and is directly aligned with stockholder value creation.

In addition, the stock options granted to our executive officers typically vest over four years, which we believe provides an incentive to our executives to add value to the company over the long-term and to remain with bluebird. Typically, the stock options we grant to our executives have a ten-year term and vest as to 25% of the shares on the first anniversary of their hire date or January 1 of the year of grant and then monthly thereafter until the fourth anniversary of such date. Vesting of option grants to employees ceases upon termination of employment and exercise rights typically cease three months following termination of employment, except in the case of death or disability. Prior to the exercise of an option, the stock option holder does not have any rights as a stockholder with respect to the shares subject to such option, including voting rights and the right to receive dividends or dividend equivalents.

We do not have any equity ownership guidelines for our executive officers or directors. Our insider trading policy expressly prohibits short sales and derivative transactions of our stock by our named executive officers, directors and specified other employees, including short sales of our securities, including short sales "against the box"; purchases or sales of puts, calls or other derivative securities of the company or any derivative securities that provide the economic equivalent of ownership of any of our securities or an opportunity, direct or indirect, to profit from any change in the value of our securities; or other hedging or monetization transactions accomplished through the use of prepaid variable forwards, equity swaps, collars and exchange funds. In addition, our insider trading policy expressly prohibits our named executive officers, directors and specified other employees from purchasing our securities on margin, borrowing against company securities held in a margin account, or pledging our securities as collateral for a loan.

In connection with the annual review of each executive officer's individual performance and consistent with our compensation philosophy, in February 2014, our compensation committee approved annual equity incentive awards for our named executive officers serving at that time. The annual incentive awards granted to our named executive officers serving at that time are set forth in the table below:

2014 Annual Equity Incentive Awards

Name	Option Award
Nick Leschly	165,000
Jeffrey T. Walsh	50,000
Mitchell H. Finer, Ph.D.	55,000
David Davidson, M.D.	65,000

In March 2014, Mr. Cole joined bluebird as Senior Vice President, General Counsel and Secretary, and based on his experience and an assessment of equity compensation of General Counsels at our peer and similar companies, in April 2014 he was granted a stock option award for 100,000 shares of our common stock. In November 2014, Mr. DeTore joined bluebird as Chief Financial Officer and Treasurer, and based on his experience and an assessment of equity compensation of Chief Financial Officers at our peer and similar companies, in December 2014 he was granted a stock option award for 100,000 shares of our common stock.

In May 2014, Mr. Walsh and Dr. Finer were each granted a stock option award exercisable for 10,000 shares of our common stock, with performance-based vesting criteria based on the timely completion of certain business development activities. These activities were not completed in 2014 as required for vesting, so these stock options were cancelled in accordance with their terms during 2014 and do not appear in the Outstanding Equity Awards at December 31, 2014 table below.

The number of stock options granted to our named executive officers during 2014, and the grant date fair value of those awards determined in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718, are shown in the 2014 Grants of Plan-Based Awards table below.

Benefits and Other Compensation

Other compensation to our executives consists primarily of the broad-based benefits we provide to all full-time employees in the United States, including medical, dental and vision insurance, group life and disability insurance, an employee stock purchase plan and a 401(k) plan. Pursuant to our 401(k) plan, employees may elect to reduce their current compensation by up to the statutorily prescribed annual limit (which was $17,500 in 2014), with additional salary deferrals not to exceed $5,500 available to those employees 50 years of age or older, and to have the amount of this reduction contributed to our 401(k) plan. We do not provide significant perquisites or personal benefits to our named executive officers.

Base Salary Compensation for Our Named Executive Officers in 2015

With respect to Mr. Leschly, our chief executive officer, at the beginning of 2015, our compensation committee reviewed Mr. Leschly's overall compensation and determined, based on his accomplishments during the year and the comparison to the base salary of chief executive officers in our peer group, to increase his annual base salary to $460,000 from $425,000.

At the beginning of 2015, our compensation committee approved merit increases in base salary for each of our remaining named executive officers serving at that time, based upon the company's performance against the 2014 corporate goals, each executive officer's achievement of individual goals and the comparison to the base salary of similar executive officers in our peer group. The table below sets forth the adjustments to base salary, in dollars and as a percentage, for each of our named executive officers serving at the beginning of 2015:

Base Salary Adjustments

Name	2014 Base Salary	2015 Base Salary	Increase (%)
Nick Leschly	$ 425,000	$ 460,000	8.25%
Jeffrey T. Walsh	$ 328,000	$ 350,000	6.7%
Mitchell H. Finer, Ph.D.	$ 316,000	$ 335,000	6.0%
David Davidson, M.D.	$ 330,000	$ 360,000	9.0%

James M. DeTore (1)	$ 320,000	$ 320,000	0%
Jason F. Cole, Esq. (2)	$ 315,000	$ 323,000	2.5%

(1) Mr. DeTore’s 2015 base salary was not adjusted because of his employment start date in November 2014.
(2) Mr. Cole’s 2015 base salary adjustment was prorated based on his employment start date in March 2014.

Cash Incentive Compensation for Our Named Executive Officers in 2015

In February 2015, our compensation committee approved the annual incentive program for 2015. The terms of the 2015 annual incentive program are substantially the same as the 2014 annual incentive program. The 2015 annual incentive program includes an opportunity for eligible participants to achieve their target award percentage based on the achievement of our 2015 corporate goals. This potential upside achievement allows us to better align our cash incentive awards with market practice while reflecting our commitment to closely managing our cash reserves.

The table below shows the target award under the incentive program as a percentage of each named executive officer's annual base salary in 2015, as well as the target cash award opportunity in dollars for 2015. Dr. Mitchell Finer, our Chief Scientific Officer is not an eligible participant in our 2015 annual incentive program due to his planned transition of employment in July 2015.

2015 Annual Incentive Program

Name	2015 Target Award (% of Base Salary)	2015 Target Award Opportunity ($)
Nick Leschly	55%	$ 253,000
Jeffrey T. Walsh	40%	$ 140,000
David Davidson, M.D.	35%	$ 126,000
James M. DeTore	35%	$ 112,000
Jason F. Cole, Esq.	35%	$ 113,050

In determining the 2015 cash incentive compensation for our named executive officers under the 2015 annual incentive program, our compensation committee will review the performance of the company during 2015. Our compensation committee retains the discretion under the 2015 annual incentive program to adjust upward or downward any bonus award or the bonus pool as it deems appropriate. We expect to pay any cash incentive awards made under our 2015 annual incentive program in February 2016.

Compliance with IRS Code Section 162(m)

Section 162(m) of the Internal Revenue Code of 1986, as amended, generally disallows a tax deduction to public companies for compensation in excess of $1 million per person paid to a company's chief executive officer and its three other officers (other than the chief/principal financial officer) whose compensation is required to be disclosed to stockholders pursuant to the Exchange Act by reason of being among the company's most highly compensated officers. Qualified performance-based compensation is not subject to the deduction limitation if specified requirements are met. We periodically review the potential effects of Section 162(m) and we consider whether to structure the performance-based portion of our executive compensation to comply with exemptions in Section 162(m), so that the compensation remains tax deductible to us. However, our compensation committee may, in its judgment, authorize compensation payments that do not comply with the exemptions in Section 162(m) when it believes that such payments are appropriate to attract, motivate and retain executive talent and are in our best interest and that of our stockholders.

Stock Option Granting Practices

Delegation to Our Chief Executive Officer

Currently, all of our employees, including our named executive officers, are eligible to participate in our 2013 Stock Option and Incentive Plan, or the 2013 Plan. All new full-time employees are granted stock options when they start employment and all continuing employees are eligible for stock option awards on an annual basis based on performance and upon promotions to positions of greater responsibility. Our compensation committee has delegated to Mr. Leschly, our chief executive officer, the authority to make stock option awards under our 2013 Plan to new hires and in connection with promotions, other than grants to vice presidents and executive officers. The number of stock options he may grant to any one individual must be within the range specifically set by our compensation committee for these awards. The exercise price of such stock options must be equal to the closing price of our common stock on The NASDAQ Global Market on the first business day of the calendar month following the date of hire or promotion. With respect to stock option awards to new hires other than vice presidents and executive officers, Mr. Leschly approves the award prior to the employee's first date of employment with such authority and provides that the award is to be granted to the new hire on the first business day of the calendar month following the date of his or her first date of regular employment. With respect to stock option awards made in connection with promotions other than of vice presidents and executive officers, Mr. Leschly approves the award in connection with such promotion and provides that the award is to be granted on the first business day of the calendar month following the date of such promotion. Mr. Leschly is required to maintain a list of stock options granted pursuant to such delegated authority and report to our compensation committee regarding such awards.

Compensation Risk Assessment

We believe that our executive compensation program does not encourage excessive or unnecessary risk taking. This is primarily due to the fact that our compensation programs are designed to encourage our executive officers and other employees to remain focused on both short-term and long-term strategic goals, in particular in connection with our pay-for-performance compensation philosophy. As a result, we do not believe that our compensation programs are reasonably likely to have a material adverse effect on us.

Report of the Compensation Committee on Executive Compensation

Our compensation committee has reviewed and discussed the "Compensation Discussion and Analysis" required by Item 402(b) of Regulation S-K with management. Based upon such review and discussions, our compensation committee recommended to our board that such section be included in this proxy statement and incorporated by reference in our Annual Report on Form 10-K for the year ended December 31, 2014, which was filed with the SEC on February 25, 2015.

By the compensation committee of the board of directors of bluebird bio,

Daniel Lynch, Chair

Wendy Dixon, Ph.D.

John Maraganore, Ph.D.

Robert Tepper, M.D. (through July 2014)

Executive Compensation

Summary Compensation Table

The following table sets forth the compensation earned during the fiscal years ended December 31, 2014, December 31, 2013 and December 31, 2012 for our chief executive officer and our next five highest-paid executive officers as of December 31, 2014. We refer to these officers as our named executive officers.

Name and Principal Position	Year	Salary ($)	Option Awards ($) (1)	Bonus ($)	Non-equity incentive plan compensation ($)	Total ($)
Nick Leschly	2014	440,404	2,875,111	—	303,875 (2)	3,619,390
President and	2013	392,538	1,844,454	—	234,000 (2)	2,470,992
Chief Executive Officer	2012	346,085	130,738	—	124,200 (4)	601,023
				—		
Jeffrey T. Walsh	2014	340,400	1,014,046	—	173,184 (2)	1,527,630
Chief Operating Officer	2013	321,692	395,790	—	147,840 (2)	865,322
	2012	300,758	—	—	108,000 (4)	408,758
				—		
Mitchell H. Finer, Ph.D.	2014	327,885	1,101,170	—	141,568 (2)	1,570,623
Chief Scientific Officer(5)	2013	307,177	640,435	—	126,378 (2)	1,073,990
				—		
David Davidson, M.D.	2014	342,289	1,132,620	—	149,573 (2)	1,624,482
Chief Medical Officer	2013	315,000	395,790	—	132,300 (3)	843,090
	2012	260,456	223,857			