

SANGAMO THERAPEUTICS, INC  
Form DEF 14A  
April 25, 2019

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

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

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

Preliminary Proxy Statement

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

Definitive Proxy Statement

Definitive Additional Materials

Soliciting Material Pursuant to §240.14a-12

**SANGAMO THERAPEUTICS, 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):



(4) Date Filed:

**SANGAMO THERAPEUTICS, INC.**

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS**

**To Be Held June 10, 2019**

**To the Stockholders of Sangamo Therapeutics, Inc.:**

NOTICE IS HEREBY GIVEN that the 2019 Annual Meeting of Stockholders of Sangamo Therapeutics, Inc., a Delaware corporation (referred to herein as the Company, Sangamo or we), will be held on Monday, June 10, 2019, at 9:00 a.m. Pacific Time at 7000 Marina Boulevard, Brisbane, California 94005, for the following purposes, as more fully described in the proxy statement accompanying this Notice:

1. to elect seven nominees for director named in the accompanying proxy statement to serve on the Board of Directors until the next annual meeting of stockholders to be held in 2020 or until their successors are duly elected and qualified;
2. to approve, on an advisory basis, the compensation of our named executive officers, as described in the accompanying proxy statement;
3. to ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm for the year ending December 31, 2019; and
4. to transact such other business as may properly come before the meeting.

In accordance with rules established by the Securities and Exchange Commission, we are providing you access to our proxy materials over the Internet. Accordingly, we plan to mail a Notice of Internet Availability of Proxy Materials, or the Notice, to our stockholders on or about April 29, 2019. The Notice will describe how to access and review our proxy materials, including our proxy statement and annual report on Form 10-K. The Notice as well as the printed copy of proxy cards will also describe how you may submit your proxy on the Internet or by telephone. If you received a Notice by mail and would like to receive a printed copy of our proxy materials, you should follow the instructions for requesting such materials included in the Notice. As a courtesy, we will also mail our registered stockholders a printed copy of all proxy materials.

Only stockholders of record at the close of business on April 18, 2019, are entitled to notice of and to vote at the annual meeting. Our stock transfer books will remain open between the record date and the date of the annual meeting. A list of stockholders entitled to vote at the annual meeting will be available for inspection at our executive offices. All stockholders are cordially invited to attend the annual meeting in person. To attend the annual meeting you will need a form of photo identification. If your shares are held in street name, you will also need to bring proof of your ownership of our common stock, such as your most recent brokerage statement. Whether or not you plan to attend the annual meeting, please vote as soon as possible.

Sincerely,

**Alexander D. Macrae**  
**President and Chief Executive Officer**

Richmond, California

April 25, 2019

**Important Notice Regarding the Availability of Proxy Materials**

**For the Stockholder Meeting to be Held on June 10, 2019**

**at 9:00 a.m. Pacific Time at 7000 Marina Boulevard, Brisbane, California 94005**

**The Proxy Statement, Proxy Card and Annual Report on Form 10-K for 2018 are available at:**

*[www.envisionreports.com/SGMO](http://www.envisionreports.com/SGMO)*

**YOUR VOTE IS VERY IMPORTANT**

**You are cordially invited to attend the meeting in person. Whether or not you expect to attend the meeting, please vote over the telephone or the Internet, or, if you receive a paper proxy card by mail, by completing, dating, signing and returning the proxy mailed to you, as promptly as possible in order to ensure your representation at the meeting. Even if you have voted by proxy, you may still vote in person if you attend the meeting. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.**

**SANGAMO THERAPEUTICS, INC.**

**501 Canal Boulevard**

**Richmond, California 94804**

**PROXY STATEMENT**

**FOR THE ANNUAL MEETING OF STOCKHOLDERS**

**To Be Held On June 10, 2019**

**QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING**

**Why did I receive a notice regarding the availability of proxy materials on the Internet?**

Pursuant to rules adopted by the Securities and Exchange Commission, or the SEC, we have elected to provide access to our proxy materials over the Internet. Accordingly, we have sent you a Notice of Internet Availability of Proxy Materials, or the Notice, because the Board of Directors (referred to herein as the Board of Directors or the Board) of Sangamo Therapeutics, Inc. (sometimes referred to herein as the Company, Sangamo or in the first person) is soliciting your proxy to vote at the 2019 Annual Meeting of Stockholders, or the Annual Meeting, including at any adjournments or postponements of such meeting. All stockholders will have the ability to access the proxy materials on the website referred to in the Notice or request to receive a printed set of the proxy materials. Instructions on how to access the proxy materials over the Internet or to request a printed copy may be found in the Notice.

We intend to mail the Notice on or about April 29, 2019 to all stockholders of record entitled to vote at the Annual Meeting.

**Will I receive any other proxy materials by mail?**

We may send you a proxy card, along with a second Notice, on or after May 9, 2019. We also intend to mail a full set of proxy materials to our stockholders of record on or about April 29, 2019.

**How do I attend the Annual Meeting?**

The meeting will be held on Monday, June 10 at 9:00 a.m. Pacific Time at 7000 Marina Boulevard, Brisbane, California 94005. Directions to the Annual Meeting may be found at [www.sangamo.com/about-us/contact](http://www.sangamo.com/about-us/contact). Information on how to vote in person at the Annual Meeting is discussed below.

**Who can vote at the Annual Meeting?**

Only stockholders of record at the close of business on April 18, 2019 will be entitled to vote at the Annual Meeting. On this record date, there were 115,158,847 shares of common stock outstanding and entitled to vote.

*Stockholder of Record: Shares Registered in Your Name*

If on April 18, 2019 your shares were registered directly in your name with our transfer agent, then you are a stockholder of record. As a stockholder of record, you may vote in person at the meeting or vote by proxy. Whether or not you plan to attend the meeting, we urge you to vote your shares electronically over the Internet or by telephone, or by completing and returning a printed proxy card that you may request or that we may elect to deliver at a later time,

to ensure your vote is counted.



*Beneficial Owner: Shares Registered in the Name of a Broker or Bank*

If on April 18, 2019 your shares were held, not in your name, but rather in an account at a brokerage firm, bank or other similar organization, then you are the beneficial owner of shares held in street name and the Notice is being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the Annual Meeting. As a beneficial owner, you have the right to direct your broker, bank or other agent regarding how to vote the shares in your account. You are also invited to attend the Annual Meeting. However, because you are not the stockholder of record, you may not vote your shares in person at the meeting unless you request and obtain a valid proxy from your broker, bank or other agent.

**What am I voting on?**

There are three matters scheduled for a vote:

election of seven directors (Proposal No. 1);  
advisory approval of the compensation of our named executive officers, or NEOs, as disclosed in this proxy statement, or the Proxy Statement, in accordance with SEC rules (Proposal No. 2); and  
ratification of the appointment of Ernst & Young LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2019 (Proposal No. 3).

**What if another matter is properly brought before the meeting?**

The Board knows of no other matters that will be presented for consideration at the Annual Meeting. If any other matters are properly brought before the meeting, it is the intention of the persons named in the accompanying proxy to vote on those matters in accordance with their best judgment.

**How do I vote?**

For each of the other matters to be voted on at the Annual Meeting, including each nominee for director, you may vote For or Against or abstain from voting.

The procedures for voting are fairly simple:

*Stockholder of Record: Shares Registered in Your Name*

If you are a stockholder of record, you may vote in person at the Annual Meeting, vote by proxy over the telephone, vote by proxy through the Internet or vote by proxy using a proxy card that you may request or that we may elect to deliver at a later time. Whether or not you plan to attend the meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the meeting and vote in person even if you have already voted by proxy.

To vote in person, come to the Annual Meeting and we will give you a ballot when you arrive.

To vote using the proxy card, simply complete, sign and date the proxy card that may be delivered and return it promptly in the envelope provided. If you return your signed proxy card to us before the Annual Meeting, we will vote your shares as you direct.

To vote over the telephone, dial toll-free 1-800-652-VOTE (8683) using a touch-tone phone and follow the recorded instructions. You will be asked to provide the company number and control number from the Notice. Your telephone vote must be received by 1:00 a.m. Eastern Time on June 10, 2019 to be counted.

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To vote through the Internet, go to <http://www.envisionreports.com/SGMO> to complete an electronic proxy card. You will be asked to provide the company number and control number from the Notice. Your Internet vote must be received by 1:00 a.m. Eastern Time on June 10, 2019 to be counted.

*Beneficial Owner: Shares Registered in the Name of Broker or Bank*

If you are a beneficial owner of shares registered in the name of your broker, bank or other agent, you should have received a Notice containing voting instructions from that organization rather than from us. Simply follow the voting instructions in the Notice to ensure that your vote is counted. Alternatively, you may vote by telephone or over the Internet as instructed by your broker or bank. To vote in person at the Annual Meeting, you must obtain a valid proxy from your broker, bank or other agent. Follow the instructions from your broker, bank or other agent included with these proxy materials, or contact that organization to request a proxy form.

**Internet proxy voting may be provided to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your Internet access, such as usage charges from Internet access providers and telephone companies.**

**How many votes do I have?**

On each matter to be voted upon, you have one vote for each share of common stock you owned as of April 18, 2019.

**If I am a stockholder of record and I do not vote, or if I return a proxy card or otherwise vote without giving specific voting instructions, what happens?**

If you are a stockholder of record and do not vote through the Internet, by telephone, by completing a proxy card that may be delivered to you or in person at the Annual Meeting, your shares will not be voted.

If you return a signed and dated proxy card or otherwise vote without marking voting selections, your shares will be voted, For each of the proposals, including for each nominee for director. If any other matter is properly presented at the meeting, your proxyholder (one of the individuals named on your proxy card) will vote your shares using his or her best judgment.

**If I am a beneficial owner of shares held in street name and I do not provide my broker or bank with voting instructions, what happens?**

If you are a beneficial owner of shares held in street name and you do not instruct your broker, bank or other agent how to vote your shares, your broker, bank or other agent may still be able to vote your shares in its discretion. In this regard, under the rules of the New York Stock Exchange, or NYSE, brokers, banks and other securities intermediaries that are subject to NYSE rules may use their discretion to vote your uninstructed shares with respect to matters considered to be routine under NYSE rules, but not with respect to non-routine matters. In this regard, we believe that Proposal Nos. 1 and 2 are considered to be non-routine under NYSE rules meaning that your broker may not vote your shares on those proposals in the absence of your voting instructions. However, Proposal No. 3 is considered a routine matter under NYSE rules, meaning that if you do not return voting instructions to your broker by its deadline, your shares may be voted by your broker in its discretion on Proposal No. 3.

*If you are a beneficial owner of shares held in street name, to ensure your shares are voted in the way you would prefer, you must provide voting instructions to your broker, bank or other agent by the deadline provided in the materials you receive from your broker, bank or other agent.*

**Who is paying for this proxy solicitation?**

We will pay for the entire cost of soliciting proxies. In addition to these proxy materials, our directors and employees may also solicit proxies in person, by telephone, or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

### **What does it mean if I receive more than one Notice?**

If you receive more than one Notice, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions on the Notices to ensure that all of your shares are voted.

### **Can I change my vote after submitting my proxy?**

#### *Stockholder of Record: Shares Registered in Your Name*

Yes. You can revoke your proxy at any time before the final vote at the meeting. If you are the record holder of your shares, you may revoke your proxy in any one of the following ways:

You may grant a subsequent proxy by telephone or through the Internet.

You may submit another properly completed proxy card with a later date.

You may send a timely written notice that you are revoking your proxy to our Secretary at 501 Canal Boulevard, Richmond California 94804. Such notice will be considered timely if it is received at the indicated address by the close of business on Friday, June 7, 2019.

You may attend the Annual Meeting and vote in person. Simply attending the meeting will not, by itself, revoke your proxy.

Your most current proxy card or telephone or Internet proxy is the one that is counted.

#### *Beneficial Owner: Shares Registered in the Name of Broker or Bank*

If your shares are held by your broker, bank or other agent, you should follow the instructions provided by your broker, bank or other agent.

### **How are votes counted?**

Votes will be counted by the inspector of election appointed for the meeting, who will separately count votes For and Against, abstentions and, if applicable, broker non-votes.

### **What are broker non-votes?**

As discussed above, when a beneficial owner of shares held in street name does not give voting instructions to his or her broker, bank or other securities intermediary holding his or her shares as to how to vote on matters deemed to be non-routine under NYSE rules, the broker, bank or other such agent cannot vote the shares. These un-voted shares are counted as broker non-votes. Proposal Nos. 1 and 2 are considered to be non-routine under NYSE rules and we therefore expect broker non-votes to exist in connection with those proposals.

***As a reminder, if you are a beneficial owner of shares held in street name, to ensure your shares are voted in the way you would prefer, you must provide voting instructions to your broker, bank or other agent by the deadline provided in the materials you receive from your broker, bank or other agent.***



**How many votes are needed to approve each proposal? How are abstentions and broker non-votes treated?**

The following table summarizes the minimum vote needed to approve each proposal and the effect of abstentions and broker non-votes.

<b>Proposal Number</b>	<b>Proposal Description</b>	<b>Vote Required for Approval</b>	<b>Effect of Abstentions</b>	<b>Effect of Broker Non-Votes</b>
1	Election of Directors	For votes from the majority of the votes cast with respect to each respective nominee. Pursuant to our Third Amended and Restated Bylaws, as amended, or Bylaws, any incumbent director who does not receive the required majority votes at the Annual Meeting will promptly tender his or her resignation to the Board, and the Board, after considering the recommendation of the Nomination and Corporate Governance Committee regarding such resignation, shall determine whether to accept or reject the resignation. For a more detailed description of the majority voting process, see Proposal No. 1: Election of Directors General below.	No effect	No effect
2	Advisory approval of the compensation of our named executive officers	For votes from holders of a majority of the voting power of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote on the subject matter.	Against	No effect
3	Ratification of the appointment of Ernst & Young LLP as our independent registered public accounting firm for the year ending December 31, 2019	For votes from holders of a majority of the voting power of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote on the subject matter.	Against	Brokers have discretion to vote <sup>(1)</sup>

(1) This proposal is considered a routine matter under NYSE rules. Accordingly, if you hold your shares in street name and do not provide voting instructions to your broker, bank or other agent that holds your shares, your broker, bank or other agent has discretionary authority under NYSE rules to vote your shares on this proposal.

**What is the quorum requirement?**

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if stockholders holding at least a majority in voting power of the outstanding shares entitled to vote are present at the meeting in person or

represented by proxy. On the record date, there were 115,158,847 shares outstanding and entitled to vote.



Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee) or if you vote in person at the meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the Chair of the Board may adjourn the meeting to another date without a stockholder vote.

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

Preliminary voting results will be announced at the Annual Meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file 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 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.

**When are stockholder proposals and director nominations due for next year's Annual Meeting?**

To be considered for inclusion in next year's proxy materials, your proposal must be submitted in writing by December 27, 2019, to our Secretary at 501 Canal Boulevard, Richmond, California 94804, and you must comply with all applicable requirements of Rule 14a-8 promulgated under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Pursuant to our Bylaws, if you wish to bring a proposal before the stockholders or nominate a director at the 2020 Annual Meeting of stockholders, but you are not requesting that your proposal or nomination be included in next year's proxy materials, you must notify our Secretary, in writing, not later than the close of business on March 12, 2020 nor earlier than the close of business on February 11, 2020. However, if our 2020 Annual Meeting of stockholders is not held between May 11, 2020 and July 10, 2020, to be timely, notice by the stockholder must be received not later than the 10th day following the day on which the first public announcement of the date of the 2020 Annual Meeting is made or the notice of the meeting is mailed, whichever first occurs. You are also advised to review our Bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations.

The chair of the Annual Meeting may determine, if the facts warrant, that a matter has not been properly brought before the meeting and, therefore, may not be considered at the meeting. In addition, the proxy solicited by the Board for the 2020 Annual Meeting of Stockholders will confer discretionary voting authority with respect to any proposal (i) presented by a stockholder at that meeting for which we have not been provided with timely notice and (ii) made in accordance with our Bylaws, if (x) the 2020 proxy statement briefly describes the matter and how management's proxy holders intend to vote on it, and (y) the stockholder does not comply with the requirements of Rule 14a-4(c)(2) promulgated under the Exchange Act.

## PROPOSAL NO. 1:

### ELECTION OF DIRECTORS

#### General

Our Board currently consists of nine directors. However, each of Steven J. Mento, Ph.D. and Roger Jeffs, Ph.D. have determined not to stand for re-election at the Annual Meeting and their terms will expire as of the Annual Meeting. Accordingly, there are seven nominees for director this year. Proxies may not be voted for a greater number of persons than the number of nominees named in this Proxy Statement. Each director to be elected and qualified will serve until the next annual meeting of stockholders or until a successor for such director is duly elected and qualified, or until the death, resignation or removal of such director. The nominees for election have agreed to serve if elected, and management has no reason to believe that such nominees will be unavailable to serve. In the event the nominees are unable or decline to serve as directors at the time of the Annual Meeting, the proxies will be voted for any nominee who may be designated by the present Board of Directors to fill the vacancy. Unless otherwise instructed, the proxy holders will vote the proxies received by them FOR the nominees named below.

Each of the seven nominees other than Karen L. Smith, M.D., Ph.D., has been previously elected by the stockholders. Dr. Smith's candidacy was recommended to the Nominating and Corporate Governance Committee by our Chief Executive Officer and another current director. While the Nominating and Corporate Governance Committee and the Board chose to nominate Alexander D. Macrae, our Chief Executive Officer, for election to the Board for the reasons set forth in his biography below, Dr. Macrae's employment agreement also provides that the Board shall nominate Dr. Macrae for election as a member of the Board at each annual meeting of stockholders occurring while Dr. Macrae's employment agreement is in effect.

Each of the seven nominees set forth in this Proxy Statement will be elected by the majority of the votes cast with respect to such nominee, which shall mean that the number of For votes a nominee's election exceeds the number of Against votes (with abstentions and broker non-votes not counted as either a For or Against vote for that nominee's election). If an incumbent director does not receive the required majority vote, the director shall promptly tender his or her resignation to the Board. Within 90 days after the Annual Meeting, the Nominating and Corporate Governance Committee of the Board will make a recommendation to the Board of Directors as to whether to accept or reject the resignation. The Board will act by taking into account such committee's recommendation. If the Board does not accept the resignation, the Board is required to publicly disclose its decision and the rationale behind the decision.

The following includes a brief biography of each nominee for director, including their respective ages as of April 25, 2019. Each biography includes information regarding the specific experience, qualifications, attributes or skills that led the Nominating and Corporate Governance Committee and the Board to determine that the applicable nominee should serve as a member of the Board as of the date of this proxy statement.

#### Nominees

*Alexander D. Macrae, M.B., Ch.B., Ph.D.*, age 56, has served as our President and Chief Executive Officer and as a member of our Board of Directors since June 2016. He has over twenty years of experience in the pharmaceutical industry most recently serving as the Global Medical Officer of Takeda Pharmaceuticals, from 2012 to March 2016, where he established and led the Global Medical Office, which encompasses medical affairs, regulatory affairs, pharmacovigilance, outcomes research and epidemiology, quantitative sciences and knowledge and informatics. From 2001 to 2012, Dr. Macrae held roles of increasing responsibility at GlaxoSmithKline, including Senior Vice President, Emerging Markets Research and Development, or R&D, from 2009 to 2012. In that position, he provided expertise and resources to create a first-of-its-kind group to expand GSK's global reach by providing R&D strategies, clinical development and regulatory resources to enter emerging markets and Asia-Pacific. From 2007 to 2008, he was Vice

President, Business Development. In that

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position, he was responsible for scientific assessment and business development project leadership for the neurology, psychiatry, cardiovascular and metabolic therapeutic areas. Earlier in his career, he worked for SmithKline Beecham, where he was responsible for clinical development in the therapeutic areas of neurology and gastroenterology. Dr. Macrae received his B.Sc. in pharmacology and his M.B., Ch.B. with honors from Glasgow University. He is a member of the Royal College of Physicians. Dr. Macrae also earned his Ph.D. in molecular genomics at King's College, Cambridge. The Nominating and Corporate Governance Committee and the Board believe that Dr. Macrae's day-to-day leadership and intimate knowledge of our business and operations, as well as our relationships with partners, collaborators and investors, provides the Board with an in-depth understanding of the Company.

*Robert F. Carey*, age 60, has served as a member of our Board of Directors since June 2016. Mr. Carey has been executive vice president, chief business officer for Horizon Pharma plc, a biopharmaceutical company, since March 2014. Prior to that, he served as managing director and head of the healthcare investment banking group at JMP Securities LLC, a full-service investment bank from March 2003 to March 2014. Prior to JMP, Mr. Carey was a managing director in the healthcare groups at Dresdner Kleinwort Wasserstein and Vector Securities International, Inc. He has also held roles at Shearson Lehman Hutton and Ernst & Whinney. Mr. Carey has served on the board of directors of Argos Therapeutics, Inc., a life science company, since September 2015. Mr. Carey received his B.S. in accounting from the University of Notre Dame. The Nominating and Corporate Governance Committee and the Board believe that Mr. Carey's extensive experience and knowledge in the healthcare investment banking industry, particularly with financings, global expansion and other strategic transactions by life-science companies, as well as his role in business development for a public biopharmaceutical company, provides the Board with valuable insight and contribution.

*Stephen G. Dilly, M.B.B.S., Ph.D.*, age 59, has served as a member of our Board of Directors since March 2010. Since May 2014, Dr. Dilly has served as Chief Executive Officer and a member of the board of directors of Aimmune Therapeutics, Inc. (formerly Allergen Research Corporation), a biotechnology company developing treatments for food allergies. From January 2012 to December 2012, he was Chief Executive Officer of PhotoThera, Inc., a medical device company. From 2006 to December 2011, he served as President and Chief Executive Officer and a member of the board of directors of APT Pharmaceuticals, Inc., a drug development company. From 2007 to 2009, he served as a member of the board of directors of Avigen, Inc., a biopharmaceutical company that merged with MediciNova, Inc. in December 2009. From 2003 to 2006, he served as Chief Medical Officer and Senior Vice President of Development of Chiron BioPharma, a biotechnology company that was later acquired by Novartis International AG. From 1998 to 2003, he held various management positions at Genentech, Inc., including Vice President of Development Sciences from 2002 to 2003 and Vice President of Medical Affairs from 1998 to 2001. From 1988 to 1998, Dr. Dilly held various management positions in drug development with SmithKline Beecham in the U.K. During his career, Dr. Dilly has been closely associated with the development and launch of marketed drugs for many therapeutic areas, including Kytril, Paxil, Kredex, Requip, TNKase, Xolair, Avastin, Raptiva, Tarceva, Lucentis and Cubicin. In 1982 Dr. Dilly received an M.B.B.S., the equivalent of an M.D. in the United States, from the University of London in the U.K. and a Ph.D. in cardiac physiology from University of London in 1988. Dr. Dilly brings medical expertise and significant drug development experience to our Board. The Nominating and Corporate Governance Committee and the Board believe that Dr. Dilly's extensive experience in all stages of drug development, from project prioritization through clinical trial design and data analysis to product launch, provides the Board with valuable insight into this process as the Company continues to advance and develop our pipeline of novel genomic and cell therapy assets.

*H. Stewart Parker*, age 63, has been a member of our Board of Directors since June 2014, and has been Chair since June 2017. Ms. Parker has over 30 years of experience in the biotechnology industry. Prior to focusing on boards and consulting, she served as the Chief Executive Officer of The Infectious Disease Research Institute (IDRI), a not-for-profit global health Research institute from March 2011 to December 2013. In 1992, Ms. Parker founded Targeted Genetics Corporation, a publicly traded Seattle-based biopharmaceutical company formed to develop gene-based treatments for acquired and inherited diseases that became a world leader in AAV



gene therapy. She held the position of President and Chief Executive Officer and was a member of its board of directors from the company's inception until November 2008. Prior to founding Targeted Genetics, Ms. Parker served in various capacities at Immunex from August 1981 through December 1991, most recently as Vice President, Corporate Development. From February 1991 to January 1993, Ms. Parker served as President and a Director of Receptech Corporation, a company formed by Immunex in 1989 to accelerate the development of soluble cytokine receptor products. She has served on the board of directors and the executive committee of BIO, the primary trade organization for the biotechnology industry. She currently serves as a member of the board of directors for several for-profit companies including C3J Therapeutics (formerly C3 Jian Inc), Achieve Life Sciences, Inc., StrideBio Inc. and Nexgenia and on the advisory boards of the University of Washington Foundation and College of Arts & Sciences. Ms. Parker received her B.A. and M.B.A. from the University of Washington. The Nominating and Corporate Governance Committee and the Board believe that Ms. Parker's senior executive experience in AAV gene therapy and biotechnology drug development provides valuable operational, commercial assessment and management skills to the Board.

*Saira Ramasastry*, age 43, has served as a member of our Board of Directors since June 2012. Since April 2009, she has served as Managing Partner of Life Sciences Advisory, LLC, a company that she founded to provide strategic advice, business development solutions and innovative financing strategies for the life science industry. From August 1999 to March 2009, Ms. Ramasastry was an investment banker with Merrill Lynch & Co., Inc. where she helped establish the biotechnology practice and was responsible for origination of mergers and acquisitions, or M&A, strategic and capital markets transactions. Prior to joining Merrill Lynch she served as a financial analyst in the M&A group at Wasserstein Perella & Co., an investment banking firm, from July 1997 to September 1998. Ms. Ramasastry currently serves on the Industry Advisory Board of the Michael J. Fox Foundation for Parkinson's Research, the board of directors of Pain Therapeutics, Inc., and lead business advisor for the European Prevention of Alzheimer's Dementia consortium. Ms. Ramasastry received her B.A. in economics with honors and distinction and an M.S. in management science and engineering from Stanford University, as well as an M. Phil. in management studies from the University of Cambridge where she is a guest lecturer for the Bioscience Enterprise Programme and serves on the Cambridge Judge Business School Advisory Council. Ms. Ramasastry is also a Health Innovator Fellow of the Aspen Institute and a member of the Aspen Global Leadership Network. The Nominating and Corporate Governance Committee and the Board believe that Ms. Ramasastry's extensive experience in global healthcare investment banking and strategic advisory consulting provides valuable financial, commercial assessment and business development skills to the Board and her thorough understanding of our technology and programs provides the Board with valuable insight in the development of our novel genomic and cell therapy assets.

*Karen L. Smith, M.D., Ph.D., M.B.A., L.L.M.*, age 51, has served on our Board of Directors since June 2018. Since June 2018, Dr. Smith has served as Chief Executive Officer of Eliminate Cancer, Inc. From April 2015 to May 2018, she served as the Global Head of Research & Development and Chief Medical Officer of Jazz Pharmaceuticals plc. From January 2011 to March 2015, she was Senior Vice President, Global Medical Affairs and Global Therapeutic Area Head (Dermatology) for Allergan, Inc., a multi-specialty health care company. Dr. Smith received a B.App.Sci in biotechnology and a B.Sc. in haematology from Curtin University of Technology, an M.D. from the University of Warwick, a Ph.D. in oncology molecular genetics from the University of Western Australia, an M.B.A. from the University of New England (Australia) and an L.L.M. in medical law from the University of Salford. Dr. Smith has served on the Boards of Forward Pharma and Sucampo Pharmaceuticals and currently serves on the boards of Acceleron Pharma, Inc. and Antares Pharma, Inc. The Nominating and Corporate Governance Committee and the Board believe that Dr. Smith's extensive executive experience in global research and development, combined with tenure on prior public company boards provides us with access to a valuable skill-set as we translate our science into genomic medicines using our platform technologies in gene editing, gene therapy, gene regulation and cell therapy.

*Joseph S. Zakrzewski*, age 56, has served as a member of our Board of Directors since June 2017. Mr. Zakrzewski has over 25 years of experience in the biopharmaceutical industry with senior leadership experience in R&D, supply chain and manufacturing operations, business development and commercialization.



Prior to focusing on serving on boards and investments, from 2010 through 2013, he was Chairman and Chief Executive Officer of Amarin Corporation PLC (formerly Amarin Pharmaceuticals, Inc.), where he led the development and commercialization of the company's first product, Vascepa. Mr. Zakrzewski previously served as a Venture Partner with Orbimed Advisors LLC, a venture capital firm, and as Chairman, President and Chief Executive Officer of Xcellerex, Inc., a privately held company focused on the commercialization of its proprietary manufacturing technology for biotherapeutics and vaccines. Earlier, he served as Chief Operating Officer of Reliant Pharmaceuticals, Inc. before its acquisition by GlaxoSmithKline in 2007 and held various executive positions at Eli Lilly & Company in the areas of R&D, manufacturing, finance and business development. Mr. Zakrzewski currently serves as a member of the board of directors of various public and private companies, including Acceleron Pharma, Inc., Amarin and Onxeo SA where he serves as Chairman. Mr. Zakrzewski received a B.S. in Chemical Engineering and an M.S. in Biochemical Engineering from Drexel University, and an M.B.A. in Finance from Indiana University. The Nominating and Corporate Governance Committee and the Board believe that Mr. Zakrzewski's significant experience as a Chief Executive Officer and leading a variety of functional areas including supply and manufacturing operations provides the Board with an important set of skills to assist in the oversight of the development of our novel genomic and cell therapy assets.

### **Recommendation of the Board of Directors**

**The Board of Directors recommends that the stockholders vote FOR the election of each the nominees listed above.**

### **Stockholder Engagement and Responsiveness**

A priority for our Board of Directors is soliciting and listening to the views of our stockholders on a variety of topics, including our business and growth strategy, corporate governance practices and executive compensation matters. In this regard, we regularly engage with our institutional investors, and since our 2018 annual meeting of stockholders, we reached out to investors representing over 25% of our outstanding shares. Our discussions with our investors have been productive and informative, and have provided valuable feedback to our Board of Directors to help ensure that our Board's decisions are aligned with stockholder objectives.

Our Board of Directors is also committed to being responsive to the concerns of our stockholders. At our 2018 annual meeting of stockholders, Dr. Roger Jeffs was elected to the Board at the 2018 annual meeting of stockholders with the support of approximately 71.5% of the votes cast in favor of his election. While this was an overall strong expression of support, it was lower than the level of support received by our other nominees in 2018 and as a result, we determined that further stockholder engagement was necessary to determine the reason for such result. Through a combination of our outreach to the institutional investors who we believe did not vote in favor of Dr. Jeffs' election and our review of the published voting guidelines and policies of those institutional investors, we believe that the lower level of support for Dr. Jeffs' election vis-à-vis our other nominees was primarily due to concerns about overboarding, which refers to the situation where a director serves on more than a prescribed number of public company boards.

In April 2019, Dr. Jeffs notified us of his decision to not stand for re-election at the Annual Meeting and will be resigning from the Board effective as of the Annual Meeting. Dr. Jeffs indicated to us that his decision not to stand for re-election and his resignation from the Board was due to his other professional commitments, including his other public company directorships.

Our Board of Directors is also focused on overboarding concerns and strongly believes that all members of our Board of Directors should have sufficient time and attention to devote to Board duties and to otherwise fulfill the responsibilities required of directors. Prior to recommending a candidate as a nominee for director, the Nominating and Corporate Governance Committee reviews the candidate's professional commitments, including the number of



boards on which the candidate serves and considers whether those commitments may limit the ability of the candidate to devote sufficient time and attention to Board duties. Although Dr. Jeffs was deemed

overboarded based on the criteria adopted by certain of our institutional investors, neither the Nominating and Corporate Governance Committee nor our Board of Directors believed that Dr. Jeffs' outside board or other professional commitments ever limited his ability to devote sufficient time and attention to Board duties.

### **Board Independence**

The Board of Directors has determined that each of its current and nominated directors is, independent under applicable listing standard of Nasdaq Stock Market LLC, or Nasdaq, except for Dr. Macrae, who is our Chief Executive Officer. There are no family relationships between any of our directors and any of our executive officers.

### **Board Committees and Meetings**

The Board of Directors held eight meetings and acted once by unanimous written consent in lieu of a meeting during 2018. The Board of Directors has an Audit Committee, a Compensation Committee, and a Nominating and Corporate Governance Committee. Each director attended or participated in 75% or more of the aggregate of (i) the total number of meetings of the Board of Directors and (ii) the total number of meetings held by all committees of the Board on which such director served during 2018, in each case held during the period for which each respective director was serving as a director.

### **Audit Committee**

The Audit Committee consists of three directors: Mr. Carey, Ms. Ramasastry, and Mr. Zakrzewski. Mr. Carey serves as the Chairman of this committee. Our Board of Directors has determined that each member of the Audit Committee is independent under the applicable listing standard of Nasdaq and SEC rules. The Board of Directors has determined that Mr. Carey is an audit committee financial expert as defined under SEC rules and has the requisite financial sophistication in accordance with the applicable Nasdaq listing standards. The Audit Committee held four meetings during 2018.

The Audit Committee assists the Board of Directors in its oversight of the integrity of our financial statements, the risk management and our internal controls and our compliance with legal and regulatory requirements. The Audit Committee interacts directly with, and evaluates the performance of, the independent registered public accounting firm, including determining whether to engage or dismiss the independent registered public accounting firm and to monitor the independent registered public accounting firm's qualifications and independence. The Audit Committee also pre-approves all audit services and permissible non-audit services provided by the independent registered public accounting firm. The Audit Committee Report is included herein on page 60. The Audit Committee has a written c h a r t e r , w h i c h i s a v a i l a b l e o n o u r w e b s i t e a t <https://investor.sangamo.com/corporate-governance/governance-overview>.

### **Compensation Committee**

The Compensation Committee consists of three directors: Drs. Mento and Jeffs and Ms. Parker, each of whom is independent under applicable Nasdaq and SEC rules. Dr. Mento serves as Chairman of this committee. After the conclusion of the Annual Meeting, the Compensation Committee will be reconstituted to reflect Drs. Mento's and Jeffs' departures from the Board, including all of its committees. The Board has appointed, effective at the time of the completion of the Annual Meeting, each of Mr. Zakrzewski and Dr. Smith to serve on the Compensation Committee, with Mr. Zakrzewski serving as Chairman of this committee.

The Compensation Committee's responsibilities include (i) adopting, administering and reviewing compensation plans and programs for our executive officers, including incentive and equity plans and programs; (ii) approving compensation arrangements for our executive officers; (iii) evaluating the performance of our executive officers;

(iv) adjusting compensation arrangements as appropriate based upon performance;

(v) reviewing, considering and approving compensation programs applicable to non-employee members of the Board of Directors; (vi) reviewing and monitoring management development and succession plans and activities and (vii) administering, concurrently with the Board of Directors, the Sangamo Therapeutics Inc. 401(k) Profit Sharing Plan and Trust, originally effective on January 1, 1998, and as most recently amended and restated as of June 24, 2015, or the 401(k) Plan.

The Compensation Committee may delegate any responsibility or authority of the Compensation Committee under its charter to one or more members of the Compensation Committee, as appropriate and as consistent with applicable laws and rules. Further, the Compensation Committee may delegate to one or more employees or one or more other members of the Board, the authority to grant awards of equity securities pursuant to our equity incentive plans, in each case to any persons who are not executive officers or key employees in accordance with such guidelines as may be established by the Compensation Committee. The Compensation Committee may also form and delegate authority to a committee composed solely of our employees to serve as an administrative and/or investment committee, with fiduciary responsibilities under the Employee Retirement Income Security Act of 1974, or ERISA, with respect to one or more of our plans that are subject to ERISA. The Compensation Committee may also form and delegate authority to a subcommittee composed solely of at least two members of the Compensation Committee who are non-employee directors under Rule 16b-3 to grant awards of equity securities and to take such other actions as may be necessary or appropriate to qualify transactions in our equity securities under the Rule 16b-3 exemptions.

The Compensation Committee is authorized to engage, oversee and terminate independent compensation consultants and other professionals to assist in the design, formulation, analysis and implementation of compensation programs for our executive officers and other key employees. The Compensation Committee retained the services of Radford, a part of Aon plc, or Radford, in order to (i) assess compensation levels and mix of elements for our executive officers and vice presidents for 2018, (ii) review the peer group criteria and to recommend specific companies, (iii) assess the compensation of the non-employee directors and (iv) advise the committee on executive compensation and governance trends based on peer group trends and market practices.

The Compensation Committee held nine meetings and acted once by unanimous written consent in lieu of a meeting during 2018. The Compensation Committee has a written charter, which is available on our website at <https://investor.sangamo.com/corporate-governance/governance-overview>. For information regarding our processes and procedures for the consideration and determination of executive and director compensation, please see Executive Compensation Compensation Discussion and Analysis and Director Compensation, respectively.

### **Compensation Committee Interlocks and Insider Participation**

During 2018, Drs. Mento and Jeffs and Ms. Parker served on the Compensation Committee. None of our Compensation Committee members has been an officer or employee of Sangamo at any time. None of our executive officers serves on the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of our Board or our Compensation Committee.

### **Nominating and Corporate Governance Committee**

The Nominating and Corporate Governance Committee consists of three directors: Dr. Dilly, Ms. Parker and Dr. Jeffs, each of whom is independent under applicable Nasdaq listing standards. Dr. Jeffs serves as the Chairman of the Nominating and Corporate Governance Committee. After the conclusion of the Annual Meeting, the Nominating and Corporate Governance Committee will be reconstituted to reflect Dr. Jeffs' departure from the Board, including all of its committees. The Board has appointed, effective at the time of the completion of the Annual Meeting, each of Dr. Dilly and Ms. Parker to serve on the Nominating and Corporate Governance Committee. The Nominating and Corporate Governance Committee considers and periodically reports on matters relating to the size, identification, selection and qualification of the Board of Directors and candidates nominated



for the Board of Directors and its committees, and develops and recommends governance principles and policies applicable to the Company.

The Nominating and Corporate Governance Committee held two meetings and acted once by unanimous written consent in lieu of a meeting during 2018. The Nominating and Corporate Governance Committee has a written c h a r t e r , w h i c h i s a v a i l a b l e o n o u r w e b s i t e a t <https://investor.sangamo.com/corporate-governance/governance-overview>. The Nominating and Corporate Governance Committee considers properly submitted stockholder recommendations for candidates for membership on the Board of Directors as described below under Identification and Evaluation of Nominees for Directors. In evaluating such recommendations, the Nominating and Corporate Governance Committee seeks to achieve a balance of knowledge, experience and capability on the Board of Directors and to address the membership criteria set forth below under Director Qualifications.

#### *Director Qualifications*

The Nominating and Corporate Governance Committee will use a variety of criteria to evaluate the qualifications and skills necessary for members of our Board of Directors. The Nominating and Corporate Governance Committee may assess character, judgment, business acumen and scientific expertise, and familiarity with issues affecting the biotechnology and pharmaceutical industries. Other qualifications will be determined on a case-by-case basis, depending on whether the Nominating and Corporate Governance Committee desires to fill a vacant seat or increase the size of the Board to add new directors. In addition, the Nominating and Corporate Governance Committee may also evaluate whether a potential director nominee's skills are complementary to existing Board members' skills or meet the Board's need for operations, management, commercial, financial or other expertise. While the Nominating and Corporate Governance Committee does not prescribe specific diversity standards, as a matter of practice, the committee considers diversity in the context of the Board as a whole and takes into account the personal characteristics and experiences of current and prospective directors that reflect a broad range of perspectives in the Board's decision-making process.

#### *Identification and Evaluation of Nominees for Directors*

The Nominating and Corporate Governance Committee utilizes a variety of methods for identifying and evaluating nominees for director. The Nominating and Corporate Governance Committee assesses the appropriate size of the Board of Directors, and whether any vacancies on the Board of Directors are expected due to retirement or otherwise. In the event that vacancies are anticipated, or otherwise arise, the Nominating and Corporate Governance Committee considers various potential candidates for director. Candidates may come to the attention of the Nominating and Corporate Governance Committee through current members of the Board of Directors or senior management, executive recruiting firms, stockholders or other persons. These candidates are evaluated at regular or special meetings of the Nominating and Corporate Governance Committee, and may be considered at any point during the year. The Nominating and Corporate Governance Committee considers properly submitted stockholder recommendations for candidates for the Board of Directors. Stockholder nominees will receive the same consideration that nominees of the Board receive. Any stockholder recommendations proposed for consideration by the Nominating and Corporate Governance Committee must provide all information requested by the Nominating and Corporate Governance Committee relating to such recommendation, including the candidate's name and qualifications for membership on the Board of Directors and should be addressed to Investor Relations at the following address:

Investor Relations Department

Sangamo Therapeutics, Inc.

501 Canal Boulevard

Richmond, CA 94804

In evaluating such recommendations, the Nominating and Corporate Governance Committee applies the qualifications standards discussed above and seeks to achieve a balance of knowledge, experience and capability on the Board of Directors.

### **Leadership Structure of the Board**

Under our Bylaws, the Board is not required to appoint our Chief Executive Officer as the Chair of the Board, and the Board does not have a policy on whether or not the roles of Chief Executive Officer and Chair of the Board should be separate. Currently two individuals serve in these two positions. Ms. Parker currently serves as the Chair of the Board. Ms. Parker has extensive knowledge and experience in the life science industry and an in-depth understanding of our business strategies and day-to-day operations, which makes her well suited to set the agenda and lead the discussions at Board meetings as the Chair. The Chair is responsible for chairing Board meetings and meetings of stockholders, setting the agenda for Board meetings and providing information to the Board members in advance of meetings and between meetings. In addition, our Chief Executive Officer, Dr. Macrae, also serves as a director on our Board. The Board believes that Dr. Macrae's membership as a director provides the Board with an in-depth understanding of our business operations because of his extensive experiences and knowledge of the day-to-day management of all aspects of our operations. This also facilitates communications between the Board and management by ensuring a regular flow of information, thereby enhancing the Board's ability to make informed decisions on critical issues facing our company.

Of the seven directors on the Board following the Annual Meeting, six directors are independent under applicable Nasdaq corporate governance rules. The Board believes that this establishes a strong independent board that provides effective oversight of the Company. Moreover, in addition to feedback provided during the course of Board meetings, the independent directors conduct regular executive sessions without the presence of Dr. Macrae or any other members of management. We believe that our leadership structure of the Board is appropriate given the nature and size of our business, because it provides both effective independent oversight and expertise in the complexity and management of our operations as a life sciences company.

### **Oversight of Risk Management by the Board**

Our Board of Directors is generally responsible for the oversight of corporate risk in its review and deliberations relating to our activities and has determined that our principal source of risk falls into two categories: (1) financial and (2) product development and testing. The Audit Committee oversees management of risks associated with our financial and accounting systems, public financial reporting, investment strategies and policy, and certain other matters delegated to the Audit Committee, including risks associated with our information technology systems (including cybersecurity risks). Our Board of Directors regularly reviews information regarding our cash position, liquidity and operations, as well as the risks associated with each. The Board regularly reviews plans, results and potential risks related to our lead therapeutic development programs and other preclinical programs as well as financial and strategic risk related to our operations.

In addition, the Nominating and Corporate Governance Committee monitors the effectiveness of our corporate policies and manages risks associated with the independence of the Board of Directors and potential conflicts of interest. Our Compensation Committee oversees risk management as it relates to our compensation plans, policies and practices for all employees, including executives, particularly whether our compensation programs may create incentives for our employees to take excessive or inappropriate risks that could have a material adverse effect on the Company. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, the entire Board of Directors is regularly informed through committee reports about such risks.

### **Annual Meeting Attendance**



Although we do not have a formal policy regarding attendance by members of the Board of Directors at our annual meetings of stockholders, directors are encouraged to attend annual meetings of our stockholders. All of our then current directors attended the 2018 annual meeting of stockholders.

## Communications with the Board of Directors

Although we do not have a formal policy regarding communications with the Board of Directors, stockholders may communicate with the Board of Directors, including the non-management directors, by sending a letter to the Sangamo Board of Directors, c/o Investor Relations, 501 Canal Boulevard, Richmond, California 94804. Stockholders who would like their submission directed to a particular member of the Board of Directors may so specify.

## Code of Business Conduct and Ethics

The Board of Directors has adopted a Code of Business Conduct and Ethics, which is applicable to all employees and directors of the Company. A copy of our Code of Business Conduct and Ethics is available on our website at <https://investor.sangamo.com/corporate-governance/governance-overview> in the Investors & Media Section under Corporate Governance. In the event that we make any amendments to or grant any waivers of, a provision of the Code of Business Conduct and Ethics that applies to the principal executive officer, principal financial officer, or principal accounting officer that requires disclosure under applicable SEC rules, we intend to disclose such amendment or waiver and the reasons therefore, on our website.

## Director Compensation

The following table sets forth certain information regarding the compensation of each non-employee director for service as a member of the Board of Directors during 2018.

Name	Fees Earned or	Option Awards	Stock Awards	Total
	Paid in Cash	(\$)(2)(3)(5)	(\$)(4)(5)	
	(\$)(1)	(6)		(\$)
Robert F. Carey	60,000	151,145	39,125	250,270
Stephen G. Dilly	45,000	151,145	39,125	235,270
Roger Jeffs (7)	55,361	151,145	39,125	245,631
Steven J. Mento (7)	55,000	151,145	39,125	245,270
H. Stewart Parker	87,500	151,145	39,125	277,770
Saira Ramasastry	50,000	151,145	39,125	240,270
Karen L. Smith (8)	20,000	302,289	78,250	400,539
Joseph S. Zakrzewski	50,000	151,145	39,125	240,270

- (1) Consists of the annual retainer fee for service as a member of the Board of Directors or any Board committee. For further information concerning such fees, see the section below entitled **Director Annual Retainer and Meeting Fees**.
- (2) Represents the grant date fair value of the awards computed in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification Topic 718, *Compensation - Stock Compensation*, or ASC 718.

- (3) Pursuant to the automatic grant program in effect under our 2018 Equity Incentive Plan, or the 2018 Plan, Mr. Carey, Dr. Dilly, Dr. Jeffs, Dr. Mento, Ms. Parker, Ms. Ramasastry, and Mr. Zakrezewski each received an option to purchase 15,000 shares of common stock with an exercise price per share of \$15.65 on the date of the 2018 annual meeting of stockholders, and each such option had an aggregate grant date fair value of \$151,145. On June 26, 2018, Dr. Smith received an option to purchase 30,000 shares of common stock with an exercise price per share of \$15.65 in connection with her appointment to the Board of Directors on June 26, 2018 and such option had an aggregate grant date fair value of \$302,289.
- (4) Pursuant to the automatic grant program in effect under the 2018 Plan, Mr. Carey, Dr. Dilly, Dr. Jeffs, Dr. Mento, Ms. Parker, Ms. Ramasastry, and Mr. Zakrezewski each received an award of 2,500 restricted stock units, or RSUs, on the date of the 2018 annual meeting of stockholders. On June 26, 2018, Dr. Smith received an award of 5,000 RSUs in connection with her appointment to the Board of Directors.

- (5) Aggregate grant date fair values are calculated in accordance with ASC 718 using the Black-Scholes option valuation model and without taking into account any estimated forfeitures. The assumptions used in the calculation of such grant date fair values are described in Note 4 of the Notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 1, 2019.
- (6) As of December 31, 2018, the following non-employee directors held options to purchase the following number of shares of our common stock: Mr. Carey, 55,000 shares; Dr. Dilly, 135,000 shares; Mr. Jeffs, 45,000 shares; Dr. Mento, 55,000 shares; Ms. Parker, 95,000 shares; Ms. Ramasastry, 65,000 shares; Dr. Smith, 30,000 shares; and Mr. Zakrzewski 45,000 shares.
- (7) Drs. Mento and Jeffs are not standing for reelection to the Board of Directors at the Annual Meeting.
- (8) Dr. Smith was appointed as a non-employee member of the Board of Directors on June 26, 2018; accordingly, her retainer fees were pro-rated over her period of service in 2018.

*Processes and Procedures for Determining Director Compensation.*

The charter of the Compensation Committee provides the Compensation Committee with the responsibility for reviewing, considering and approving compensation programs applicable to non-employee directors. It is the practice of the Compensation Committee to seek input from outside compensation consultants, including Radford, our Compensation Committee's compensation consultant, as it deems appropriate.

*Director Annual Retainer and Meeting Fees*

Each non-employee member of the Board of Directors receives an annual cash retainer of \$40,000. To the extent the Board of Directors meets more than 10 times in any year, each non-employee member of the Board of Directors will receive, for each meeting in excess of 10, a per meeting fee of \$1,000 if attended in person and \$500 if attended by video or telephone conference. The Chair of the Board of Directors receives an additional annual cash retainer of \$35,000. In addition, the non-employee members of the Board of Directors serving as the Chairman of the Audit Committee, the Chairman of the Compensation Committee and the Chairman of the Nominating and Corporate Governance Committee receive an additional annual cash retainer of \$20,000, \$15,000 and \$10,000, respectively. Each non-employee member of the Board of Directors serving as a member of the Audit Committee, the Compensation Committee and the Nominating and Corporate Governance Committee, other than the Chairman, receives an additional annual cash retainer of \$10,000, \$7,500 and \$5,000, respectively. All retainer fees are subject to pro-ration for directors who join or leave the Board of Directors or the respective committee or begin or cease to serve as Chair of the Board or the respective committee, during the year.

*Equity Incentives Granted Under 2018 Stock Incentive Plan*

Under the automatic grant program under the 2018 Plan, on the date of each annual stockholders meeting, each individual serving as a non-employee Board member at that time, who has served on our Board for at least six months, and who will continue serving as a non-employee Board member immediately after such stockholders meeting will automatically be granted a nonqualified stock option, or NSO, to purchase 15,000 shares of common stock and a RSU in respect of 2,500 shares of common stock under the 2018 Plan. The shares subject to each annual 15,000 share automatic NSO grant made to a continuing Board member will vest in 12 successive equal monthly installments upon such director's completion of each month of Board service over the 12-month period measured from the grant date. The shares subject to each 2,500 share automatic RSU grant will fully vest on the earlier of (x) the first anniversary of the

date of grant or (y) the day prior to the next annual stockholders meeting, subject to the director's continued service on the Board through the applicable vesting date.

Under the automatic grant program under the 2018 Plan, each non-employee Board member who is initially appointed or elected to the Board will automatically be granted an NSO to purchase 30,000 shares of common

stock and a RSU award in respect of 5,000 shares of common stock under the 2018 Plan. The shares subject to each initial 30,000 share automatic NSO grant made to a newly appointed Board member will vest in 36 successive equal monthly installments upon such director's completion of each month of Board service over the 36-month period measured from the grant date. The shares subject to each 5,000 share automatic RSU grant will vest with respect to 1/3<sup>rd</sup> of the shares in three equal annual installments over the three-year period measured from the date of grant.

Each automatic NSO grant will have an exercise price per share equal to the fair market value per share of our common stock on the grant date and will have a term of 10 years, subject to earlier termination following the optionee's cessation of Board service. Each NSO option grant will be immediately exercisable for all of the option shares; however, we may repurchase, at the lower of the exercise price paid per share or the fair market value per share, any shares purchased under the NSO that are not vested at the time of the optionee's cessation of Board service. The shares subject to each automatic NSO grant and each automatic RSU grant will immediately vest in full upon the director's death or disability or upon the occurrence of a change in control or hostile takeover (as such terms are defined in the 2018 Plan) in each subject to the director's continued Board service through such date.

Pursuant to the automatic grant program under the 2018 Plan, on the date of the 2018 annual meeting of stockholders, Mr. Carey, Dr. Dilly, Dr. Jeffs, Dr. Mento, Ms. Parker, Ms. Ramasastry and Mr. Zakrzewski each received an option to purchase 15,000 shares of common stock with an exercise price per share of \$15.65, and a RSU award of 2,500 shares.

Under the terms of the automatic grant program under the 2018 Plan, Dr. Smith was awarded an initial option to purchase 30,000 shares of our common stock on June 26, 2018, with an exercise price per share equal to the closing price per share of our common stock on that date. The option will vest in 36 successive equal monthly installments over the 36-month period measured from the grant date, subject to Dr. Smith's continued service as a member of the Board on each monthly vesting date. Also on June 26, 2018, Dr. Smith received a RSU award of 5,000 shares of common stock pursuant to the automatic grant program under the 2018 Plan, which will vest with respect to 1/3<sup>rd</sup> of the shares in three equal annual installments over the three-year period measured from the grant date, subject to Dr. Smith's continued service as a member of the Board on each annual vesting date. The remaining terms of her options and RSU award are similar to the terms of the annual grants under the automatic grant program.

**PROPOSAL NO. 2:**

**ADVISORY VOTE ON EXECUTIVE COMPENSATION**

**General**

Under Section 14A(a)(1) of the Exchange Act, our stockholders are entitled to vote to approve, on a non-binding advisory basis, the compensation of our named executive officers as disclosed in this Proxy Statement in accordance with SEC rules (commonly referred to as a “say-on-pay” vote).

This vote is not intended to address any specific item of compensation, but rather the overall compensation of our named executive officers and the philosophy, policies and practices described in this Proxy Statement. Based on the voting results from the 2017 annual meeting of stockholders, our stockholders voted “For,” and we have adopted an annual advisory vote on the compensation of the named executive officers in our proxy materials, which will remain in effect until the next required vote on the frequency of stockholder votes on the compensation of named executive officers. Although the vote is non-binding, the Board of Directors and the Compensation Committee value the opinions of our stockholders and will consider the outcome of the vote when making future compensation decisions affecting our executive officers.

We encourage stockholders to read closely the “Executive Compensation” section of this Proxy Statement, beginning with the Compensation Discussion and Analysis, or CD&A, on page 28, which describes in detail our executive compensation programs, policies and practices with respect to the compensation of our named executive officers in the year ended December 31, 2018.

Our overarching compensation goal is to create a positive relationship between our compensation program and our corporate performance.

We design our executive compensation program to implement our core objectives of attracting and retaining highly qualified executives with extensive industry or scientific experience, rewarding executives for success in meeting our annual clinical development and other research and operational goals, aligning the interests of our executives with those of our stockholders and recognizing executives’ individual performance and, for executives other than our Chief Executive Officer, achieving their individual goals and those of the functional organizations that they manage.

The Compensation Committee established the 2018 compensation program and the associated Company goals in accordance with the foregoing goals and philosophy. During 2018, we continued to maximize the application and value of our four technology platforms, as we work towards becoming a sustainable, fully integrated biopharmaceutical company. Our goal is to develop, manufacture and commercialize novel, proprietary genomic medicines that leverage our technical expertise, and strategically collaborate with industry partners when appropriate. In 2018, we formed new collaborations in central nervous system diseases and oncology with leading biopharmaceutical companies, acquired complementary technologies to enhance our *ex vivo* cell therapy capabilities in immunology and autoimmune diseases, made strong progress enrolling five active clinical trials, advanced additional preclinical assets toward an investigational new drug, or IND, application, and presented early data from the first *in vivo* genome editing clinical trials in humans. The highlights of our business successes in 2018 are summarized under the heading “2018 and Early 2019 Performance Highlights” in the CD&A. The Board of Directors believes our executive compensation program uses appropriate structures and sound pay practices that are effective in achieving our core objectives.

**Resolution**

The Board is asking our stockholders to indicate their support for the compensation of our named executive officers, as described in this Proxy Statement, by casting a non-binding advisory vote FOR the following resolution:

**Resolved that the Company's stockholders hereby approve, on an advisory basis, the compensation of the Company's named executive officers as disclosed in this Proxy Statement pursuant to the**



**compensation disclosure rules of the SEC, including the Compensation Discussion and Analysis, the various compensation tables and the accompanying narrative discussion and any related material included in this Proxy Statement.**

Advisory approval of this Proposal No. 2 requires votes **FOR** from holders of a majority in voting power of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote on this subject matter.

**Recommendation of the Board of Directors**

**The Board of Directors recommends an advisory vote FOR the resolution to approve, on an advisory basis, the compensation of the named executive officers as disclosed in this Proxy Statement pursuant to the compensation disclosure rules of the SEC.**

**PROPOSAL NO. 3:****RATIFICATION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Audit Committee has appointed Ernst & Young LLP, our independent registered public accounting firm during 2018, to serve in the same capacity for the year ending December 31, 2019, and is asking the stockholders to ratify this appointment.

Neither our Bylaws nor other governing documents or law require stockholder ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm. However, the Audit Committee is submitting the selection of Ernst & Young LLP to the stockholders for ratification as a matter of good corporate practice. In the event the stockholders fail to ratify the appointment, the Audit Committee will reconsider its selection. Even if the selection is ratified, the Audit Committee in its discretion may direct the appointment of a different independent registered public accounting firm at any time during the year if the Audit Committee believes that such a change would be in the best interests of Sangamo and its stockholders.

A representative of Ernst & Young LLP is expected to be present at the Annual Meeting and will have the opportunity to make a statement if he or she desires to do so, and will be available to respond to appropriate questions.

**Principal Accounting Fees and Services**

The following table presents fees for professional audit services rendered by Ernst & Young LLP for the audit of our annual financial statements for 2018 and 2017, and fees billed for other services rendered by Ernst & Young LLP during 2018 and 2017:

	<b>2018</b>	<b>2017</b>
Audit fees and expenses (1)	\$ 2,205,461	\$ 1,415,280
Audit - related fees	-	-
Tax fees (2)	46,350	43,350
All other fees	-	-
<b>Total</b>	<b>\$ 2,251,811</b>	<b>\$ 1,458,630</b>

(1) Includes fees and expenses for the audit of our annual financial statements included in our annual reports on Form 10-K and the related audit of internal control over financial reporting, review of interim financial statements included in our quarterly reports on Form 10-Q, consultations regarding accounting and auditing matters, fees in connection with our potential future public offering of shares of our common stock under the at the market agreement, fees in connection with the filing of our registration statements on Form S-3 and Form S-8 and related amendments and services normally provided in connection with statutory and regulatory filings.

(2) Consists of fees billed for professional services for tax compliance, tax advice and tax planning.

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

Under its charter, the Audit Committee must pre-approve all engagements of the independent registered public accounting firm for the performance of all audit and non-audit services that are not prohibited and the fees for such services. The Audit Committee has delegated to its Chairman the authority to evaluate and approve service engagements on behalf of the full committee in the event a need arises for specific pre-approval between committee meetings. If the Chairman approves any such engagements, he will report such approval to the full Audit Committee not later than the next committee meeting.

The Audit Committee has determined that the rendering of other professional services for tax compliance and tax advice by Ernst & Young LLP is compatible with maintaining their independence. The Audit Committee has established a policy governing our use of Ernst & Young LLP for non-audit services. Under the policy, management may use Ernst & Young LLP for non-audit services that are permitted under SEC rules and regulations, provided that management obtains the Audit Committee's approval before such services are rendered.

The services provided by Ernst & Young LLP in 2018 were pre-approved in accordance with this policy.

Approval of this Proposal No. 3 requires votes FOR from holders of a majority in voting power of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote on this subject matter.

**Recommendation of the Board of Directors**

**The Board of Directors recommends that the stockholders vote FOR the ratification of the appointment of Ernst & Young LLP to serve as our independent registered public accounting firm for the year ending December 31, 2019.**

**OTHER MATTERS**

The Board knows of no other matters that will be presented for consideration at the Annual Meeting. If any other matters properly come before the Annual Meeting, it is the intention of the persons named in the accompanying proxy to vote the shares they represent in accordance with their best judgment. Discretionary authority with respect to such other matters is granted by the execution of your proxy card.

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**EXECUTIVE OFFICERS**

The following table sets forth information regarding our executive officers as of April 25, 2019:

<b>Name</b>	<b>Age</b>	<b>Position</b>
Alexander D. Macrae, M.B., Ch.B., Ph.D.	56	President, Chief Executive Officer and Director
Kathy Y. Yi	48	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)
Stéphane Boissel	51	Executive Vice President, Corporate Strategy
Adrian Woolfson, Ph.D.	54	Executive Vice President, Research and Development

*Alexander D. Macrae.* Biographical information regarding Dr. Macrae is set forth under Proposal No. 1: Election of Directors.

*Kathy Y. Yi* has served as our Executive Vice President and Chief Financial Officer since December 2018, and joined our company as Senior Vice President and Chief Financial Officer in February 2017. Ms. Yi has over 18 years of experience in corporate finance, including financial analysis in support of M&A transactions, licensing and other business development activities. Prior to joining us, Ms. Yi served as Head of Finance for Global Inhalation Technical Research & Development at Novartis Pharmaceutical Corporation since 2014. From 2007 to 2014, Ms. Yi held various financial management positions of increasing seniority at Life Technologies Corporation, a Nasdaq-listed life science company that was acquired by Thermo Fisher Scientific in 2014, including Finance Leader, Corporate FP&A from 2012 to 2014, Director of Finance, M&A/Corporate Development from 2010 to 2012, and Director of Finance, Global Manufacturing Operations from 2007 to 2010. From 2001 to 2007, Ms. Yi held increasing roles of responsibilities in Corporate Finance at Intel Corporation. Ms. Yi began her career as a process engineer for Bechtel Corporation. Ms. Yi received a B.S. in Chemical Engineering at the University of California at Berkeley and an M.B.A. from Columbia University.

*Stéphane Boissel* has served as our Executive Vice President of Corporate Strategy since October 2018. Prior thereto, since April 2015, Mr. Boissel served as Chief Executive Officer of TxCell S.A. which we acquired in October 2018. Prior to TxCell S.A., Mr. Boissel served as Chief Executive Officer of Genclis, a molecular diagnostics company from 2014 to April 2015. From 2010 to 2014, Mr. Boissel served as Executive Vice President and Chief Financial Officer of Trangene S.A., and from 2002 to 2010, he served as Chief Financial Officer and then Executive Vice President and Chief Financial Officer of Innate Pharma S.A. Earlier in his career, Mr. Boissel worked in investment banking for Lazard, where he focused on principal investment in France, Singapore and Hong Kong. Mr. Boissel completed his undergraduate work in management and finance at the University of Lyon and Paris-Dauphine in France and received his M.B.A. from the University of Chicago.

*Adrian Woolfson, B.M., B.Ch., Ph.D.* has served as our Executive Vice President of Research and Development since January 2019. Dr. Woolfson has over a decade of biopharmaceutical industry experience in drug discovery, medical affairs and early and late stage clinical development. Most recently, from January 2018 to November 2018, he served as Chief Medical Officer at Nouscom AG, a genetic cancer vaccine biotechnology company based in Basel, Switzerland, where he led the development of the company's off-the-shelf and personalized neoantigen vaccine and oncolytic virus strategy. Prior to Nouscom, Dr. Woolfson served as Global Clinical Leader, Early and Late Stage Immuno-Oncology/Hematology at Pfizer, Inc. in New York from January 2015 to January 2018, and was responsible for defining Pfizer's hematology immune-oncology strategy and building its immune-oncology hematological malignancies portfolio. Prior to that, he was the Global Lead from July 2013 to January 2018 for Pfizer's smoothed, or SMO, inhibitor glasdegib, which received FDA approval in 2018. From 2007 to 2013, Dr. Woolfson held roles of increasing responsibility at Bristol-Myers Squibb, including Global Medical Lead for a first-in-human CDC7 inhibitor and selective JAK2 inhibitor. Dr. Woolfson completed his post-graduate training in internal medicine at

Addenbrooke's Hospital, Cambridge in the United Kingdom. He holds a B.M. B.Ch. degree in Clinical Medicine from Oxford University and completed his

Ph.D. in molecular immunology at Cambridge University. He was the Charles and Katherine Darwin Research Fellow at Darwin College, Cambridge and a Wellcome Trust Clinical Research Fellow. He completed his doctoral and post-doctoral work in the laboratory of Nobel Prize winner and inventor of monoclonal antibodies, Dr. Cesar Milstein in the Division of Protein and Nucleic Acid Chemistry at the MRC Laboratory of Molecular Biology in Cambridge, United Kingdom.



## SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information known to Sangamo with respect to the beneficial ownership of our common stock as of April 18, 2019, except as noted, by (i) all persons who were beneficial owners of five percent (5%) or more of our common stock based on 115,158,847 shares outstanding as of April 18, 2019, (ii) each current director and each nominee for director, (iii) the executive officers named in the Summary Compensation Table of the Executive Compensation of this Proxy Statement, and (iv) all current directors and executive officers as a group. Unless otherwise indicated, the principal address of each of the stockholders below is c/o Sangamo Therapeutics, Inc., 501 Canal Boulevard, Richmond, CA 94804. Except as otherwise indicated or to the extent authority may be shared by both spouses under applicable law, and subject to applicable community property laws, we believe the persons named in the table have sole voting and investment power with respect to all shares of common stock held by them.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
BlackRock, Inc. (1) 55 East 52 <sup>nd</sup> Street  New York, NY 10055	8,430,838	7.3%
Vanguard Group Inc. (2)  100 Vanguard Blvd.  Malvern, PA 19355	7,595,252	6.6%
State Street Corporation (3)  State Street Financial Center  One Lincoln Street  Boston, MA 02111	5,910,152	5.1%
Alexander D. Macrae (4)	804,526	*
Stéphane Boissel	-	-
Robert F. Carey (5)	57,500	*
Edward R. Conner, M.D. (6)	64,458	*
Stephen G. Dilly, M.B.B.S., Ph.D. (7)	137,500	*
Roger Jeffs (8)	54,908	*
Steven J. Mento, Ph.D. (9)	101,546	*
H. Stewart Parker (10)	102,500	*
Saira Ramasastry (11)	67,500	*
Karen L. Smith (12)	30,000	*
Heather D. Turner (13)	54,166	*
Kathy Y. Yi (14)	63,429	*
Joseph S. Zakrzewski (15)	47,500	*
All current directors and executive officers as a group (12 persons) (16)	1,490,589	1.3%

\* Less than one percent.

- (1) This information is based solely on information contained in the Schedule 13G/A filed with the SEC on February 6, 2019 by BlackRock, Inc., or BlackRock. BlackRock, as a parent holding company or control person, may be deemed to beneficially own the indicated shares and has sole dispositive power over 8,430,838 shares and sole voting power over 8,139,917 shares. BlackRock reported its beneficial ownership on behalf of itself and the following: BlackRock International Limited, BlackRock Advisors, LLC, BlackRock (Netherlands) B.V., BlackRock Institutional Trust Company, National Association, BlackRock Asset Management Ireland Limited, BlackRock Financial Management, Inc., BlackRock Japan Co., Ltd., BlackRock Asset Management Schweiz AG, BlackRock Investment Management, LLC, BlackRock Investment Management (UK) Limited, BlackRock Asset Management Canada Limited, BlackRock

(Luxembourg) S.A., BlackRock Investment Management (Australia) Limited and BlackRock Fund Advisors. The Schedule 13G/A provides information only as of December 31, 2018 and, consequently, the beneficial ownership of the above-mentioned entities may have changed between December 31, 2018 and April 18, 2019.

- (2) This information is based solely on information contained in the Schedule 13G/A filed with the SEC on February 13, 2019 by The Vanguard Group, Inc., or Vanguard. Vanguard may be deemed to beneficially own the indicated shares and has sole dispositive power over 7,387,528 shares, shared dispositive power over 207,724 shares, sole voting power over 211,134 shares and shared voting power over 7,045 shares. Vanguard reported its beneficial ownership on behalf of itself and the following: Vanguard Fiduciary Trust Company and Vanguard Investments Australia, Ltd., each a wholly owned subsidiary of Vanguard. The Schedule 13G/A provides information only as of December 31, 2018 and, consequently, the beneficial ownership of the above-mentioned entities may have changed between December 31, 2018 and April 18, 2019.
- (3) This information is based solely on information contained in the Schedule 13G filed with the SEC on February 13, 2019 by State Street Corporation, or State Street. State Street may be deemed to beneficially own the indicated shares and has shared dispositive power over 5,910,152 shares and shared voting power over 5,572,841 shares. State Street reported its beneficial ownership on behalf of itself and the following: SSGA Funds Management, Inc., State Street Global Advisors Limited (UK), State Street Global Advisors, Australia Limited and State Street Global Advisors Trust Company. The Schedule 13G provides information only as of December 31, 2018 and, consequently, the beneficial ownership of the above-mentioned entities may have changed between December 31, 2018 and April 18, 2019.
- (4) Includes 798,000 shares of common stock subject to options exercisable within 60 days after April 18, 2019.
- (5) Consists of (i) 55,000 shares of common stock subject to options exercisable within 60 days after April 18, 2019 and (ii) RSUs covering 2,500 shares of common stock that vest and become issuable within 60 days of April 18, 2019.
- (6) Includes 57,250 shares of common stock subject to options exercisable within 60 days after April 18, 2019.
- (7) Consists of (i) 135,000 shares of common stock issuable upon the exercise of stock options within 60 days of April 18, 2019 and (ii) RSUs covering 2,500 shares of common stock that vest and become issuable within 60 days of April 18, 2019.
- (8) Includes (i) 45,000 shares of common stock issuable upon the exercise of stock options within 60 days of April 18, 2019, of which 34,166 shares fully vest within 60 days of April 18, 2019, and the remaining 10,834 shares are currently exercisable but do not vest within 60 days of April 18, 2019 and would be subject to repurchase upon cessation of service to the Board if exercised prior to vesting and (ii) RSUs covering 2,500 shares of common stock that vest and become issuable within 60 days of April 18, 2019. Dr. Jeffs is not standing for reelection to the Board of Directors at the Annual Meeting.
- (9)

Includes (i) 55,000 shares of common stock subject to options exercisable within 60 days after April 18, 2019, (ii) RSUs covering 2,500 shares of common stock that vest and become issuable within 60 days of April 18, 2019 and (iii) 32,214 shares held in a family trust, of which Dr. Mento is co-trustee. Dr. Mento is not standing for reelection to the Board of Directors at the Annual Meeting.

- (10) Includes (i) 95,000 shares of common stock issuable upon the exercise of stock options within 60 days of April 18, 2019 and (ii) RSUs covering 2,500 shares of common stock that vest and become issuable within 60 days of April 18, 2019.
- (11) Consists of (i) 65,000 shares of common stock issuable upon the exercise of stock options within 60 days of April 18, 2019 and (ii) RSUs covering 2,500 shares of common stock that vest and become issuable within 60 days of April 18, 2019.
- (12) Consists of 30,000 shares of common stock issuable upon the exercise of stock options within 60 days of April 18, 2019, of which 9,166 shares fully vest within 60 days of April 18, 2019, and the remaining 20,834

shares are currently exercisable but do not vest within 60 days of April 18, 2019 and would be subject to repurchase upon cessation of service to the Board if exercised prior to vesting.

- (13) Consists of 54,166 shares of common stock issuable upon the exercise of stock options within 60 days of April 18, 2019 Ms. Turner resigned from her position as Executive Vice President and General Counsel effective as of March 15, 2019.
- (14) Includes 62,000 shares of common stock subject to options exercisable within 60 days after April 18, 2019.
- (15) Consists of (i) 45,000 shares of common stock issuable upon the exercise of stock options within 60 days of April 18, 2019, of which 34,166 shares fully vest within 60 days of April 18, 2019, and the remaining 10,834 shares are currently exercisable but do not vest within 60 days of April 18, 2019 and would be subject to repurchase upon cessation of service to the Board if exercised prior to vesting and (ii) RSUs covering 2,500 shares of common stock that vest and become issuable within 60 days of April 18, 2019.
- (16) The percentages are calculated based on 115,158,847 shares outstanding as of April 18, 2018. Shares of common stock issuable upon the exercise of options currently exercisable or exercisable within 60 days after April 18, 2019, are deemed outstanding for purposes of computing the percentage ownership of the person holding such options, but are not deemed outstanding for computing the percentage ownership of any other person. Because Ms. Turner resigned effective as of March 15, 2019 and Dr. Conner ceased being a Section 16 officer effective as of January 21, 2019, the number of shares and percentage ownership indicated in the table above with respect to the beneficial ownership of all directors and executive officers as a group do not include any shares beneficially owned by Ms. Turner or Dr. Conner. As Dr. Woolfson became a Section 16 officer effective as of January 21, 2019, shares beneficially owned by Dr. Woolfson are included in the table above with respect to the beneficial ownership of all directors and executive officers as a group.

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## EXECUTIVE COMPENSATION

### COMPENSATION DISCUSSION AND ANALYSIS

It is our intent in this CD&A to inform our stockholders of the policies and objectives underlying the compensation programs for our executive officers. Accordingly, we will address and analyze the key elements of the compensation provided to our principal executive officer, principal financial officer and three other most highly compensated executive officers as of December 31, 2018. We refer to these officers as our named executive officers.

Alexander D. Macrae	President and Chief Executive Officer
Kathy Y. Yi	Executive Vice President and Chief Financial Officer
Heather D. Turner	Former Executive Vice President, General Counsel and Secretary
Stéphane Boissel	Executive Vice President, Corporate Development
Edward R. Conner, M.D.	Senior Vice President and Chief Medical Officer

#### **Executive Summary**

##### *Our Business*

We are a clinical stage biotechnology company focused on translating ground-breaking science into genomic medicines with the potential to transform patients' lives using our platform technologies in genome editing, gene therapy, gene regulation and cell therapy. We are focused on three therapeutic areas: inherited metabolic diseases, or IMDs, central nervous system diseases and inflammatory and autoimmune diseases.

We are a leader in the research and development of zinc finger proteins, or ZFPs, a naturally occurring class of proteins found in humans. We have used our knowledge and expertise to develop a proprietary technology platform in both genome editing and gene regulation. ZFPs can be engineered to make zinc finger nucleases, or ZFNs, proteins that can be used to specifically modify DNA sequences by adding or knocking out specific genes, or genome editing, and ZFP transcription factors, or ZFP TFs, proteins that can be used to increase or decrease gene expression, or gene regulation. In the process of developing this platform, we have accrued significant scientific, manufacturing and development capabilities and know-how that are generally applicable in the broader field of gene therapy and have capitalized this knowledge into a conventional gene therapy platform.

##### *Our Business Strategy*

Our strategy is to maximize the value and therapeutic use of our technology platforms. In certain therapeutic areas, we intend to capture the value of our proprietary genome editing and gene therapy products by forward integrating into manufacturing, development and commercial operations. In other therapeutic areas, we intend to partner with biopharmaceutical companies to develop products as appropriate. Decisions to partner product candidates or not will be based on our evaluation of the best way to bring new medicines to patients and based on our evaluation of our capacity to bring such products to commercial stage rapidly and efficiently on our own.

##### *2018 and Early 2019 Performance Highlights*

In February 2018, together with Case Western Reserve University, we announced an \$11.0 million grant from the National Institutes of Health for a planned study of gene-edited T cells designed to eradicate persistent HIV infection in patients receiving anti-retroviral therapy.

In February 2018, we entered into a global collaboration and license agreement with Kite Pharma, Inc., a wholly-owned subsidiary of Gilead Sciences, Inc., or Kite Pharma, for the research, development and commercialization of potential engineered cell therapies for cancer. We (i) received a \$150.0 million upfront payment from Kite, (ii) are eligible to receive contingent

development- and sales-based milestone payments that could total up to \$3.01 billion if all the specified milestones set forth in this agreement are achieved, and (iii) will be entitled to receive escalating, tiered royalty payments with a percentage in the single digits based on potential future annual worldwide net sales of licensed products.

In April 2018, we completed an underwritten public offering of our common stock, in which 14,156,500 shares of our common stock were sold at a public offering price of \$16.25 per share. The aggregate gross proceeds, before deducting the underwriting discounts and commissions and offering expenses, were approximately \$230.0 million.

In May 2018, the U.S. Food and Drug Administration, or FDA, accepted the IND application for BIVV003, a gene-edited cell therapy candidate for the treatment of people with sickle cell disease being developed by Bioverativ, Inc., our collaboration partner.

In July 2018, we treated the first patient in the Phase 1/2 clinical trial evaluating SB-318 for MPS I.

In July 2018, we entered into agreements providing for the acquisition of TxCell, S.A., or TxCell, a leader in the emerging field of regulatory T cell, or Treg, development for immunological diseases, and in the fourth quarter of 2018, we completed the acquisition of 98.2% of the outstanding share capital and voting rights of TxCell for aggregate purchase consideration of approximately \$80.4 million. We expect that the acquisition will accelerate our entry into the clinic with a CAR-Treg (Tregs genetically modified with a chimeric antigen reception, or CAR) therapy. In addition, we intend to use our ZFN gene editing technology to develop next-generation autologous and allogeneic CAR-Treg cell therapies for use in treating autoimmune diseases.

In December 2018, we treated the first patient in the Phase 1/2 clinical trial of SB-FIX, our *in vivo* genome editing therapy for hemophilia B.

In February 2019, the FDA accepted our IND application for ST-920, a gene therapy candidate for Fabry disease.

In February 2019, we announced preliminary molecular and enzymatic evidence of editing of the human genome *in vivo*, as part of our interim results from the clinical trials evaluating SB-318 and SB 913.

In February 2019, we announced our development of second generation, potentially more potent ZFN constructs designed to increase gene editing efficiency. The second-generation ZFNs are being manufactured with plans to initiate a clinical trial to evaluate second-generation ZFNs for SB-913 to treat MPS II in the second half of 2019 that we expect will enable a Phase 3 decision for our MPS II program in 2020, and will allow us to define the next steps for the SB-318 and SB-FIX programs.

*Alignment of Executive Compensation Program with Business Strategy*



Pharmaceutical research, development and commercialization require sustained and focused effort over many years, and involves a high degree of risk. As a consequence, the Compensation Committee believes our compensation program must balance long-term incentives that reward for the realization of our long-term strategic objectives with near-term compensation that rewards for the achievement of annual goals that further the attainment of our long-term objectives and align the interests of our executives with those of our stockholders.

The Compensation Committee generally believes that a formulaic or purely quantitative approach to executive compensation is not the best way to foster long-term success for us as a clinical-stage biotechnology company that is not yet profitable. Instead, the Compensation Committee sets annual performance objectives on which it believes our executive officers should focus during the year in order to achieve our business goals, including, for 2018, aggressive pre-established clinical, R&D, business and corporate development objectives.

The Compensation Committee strives to create a positive relationship between its compensation program and our corporate performance and considers competitive market dynamics, the business environment in which the results were achieved and any unplanned positive or negative events when making compensation decisions. A significant portion of the total compensation opportunity for each of our named executive officers is directly related to our stock price and to other performance factors that measure our progress against our strategic objectives.

In order to assure that the compensation programs for our named executive officers remain competitive with peer companies, accomplish our pay-for-performance objectives, and create rewards for the realization of our long-term strategic objectives, the Compensation Committee works with Radford to obtain the advice and market data needed to ensure that the compensation programs achieve these goals.

*Key Features of Our Executive Compensation Program*

**What We Do**

Design executive compensation to align pay with performance

Emphasize performance-based compensation, with 100% of CEO's cash incentive compensation based on pre-established corporate performance goals

Cap the cash incentive compensation plan payouts

Subject our program to independent review by the Compensation Committee's independent compensation consultant

**How We Determine Executive Compensation**

*Role of the Compensation Committee and Executive Officers*

The Compensation Committee assists the Board of Directors in fulfilling its fiduciary responsibilities with respect to the oversight of our affairs in the areas of our compensation plans, policies and programs, especially those regarding executive compensation and employee benefits.

The Compensation Committee's responsibilities include, among other things, (i) periodically reviewing and approving a philosophy for the compensation of our executive officers and key employees; (ii) adopting, amending, terminating and administering the Company's compensation plans and programs for our executive officers and key employees, including, among others, equity plans, incentive plans, bonus plans, stock purchase plans, severance plans, pension

**What We Don't Do**

X Provide tax gross-ups

X Allow repricing stock options without stockholder approval

X Offer significant perquisites or personal benefits to our named executive officers

X Allow hedging or pledging of our securities by employees

X Offer a defined benefit pension plan, deferred compensation plan or supplemental executive retirement plan

and profit sharing plans and retirement plans; (iii) reviewing, considering and approving compensation programs applicable to non-employee members of the Board of Directors; (iv) establishing general compensation levels for executive officers (other than the CEO) and key employees; (v) reviewing and evaluating the performance and leadership of the CEO and determining the CEO's total compensation package; (vi) reviewing with the CEO his evaluation of the performance of the executive officers (other than the CEO) and key employees to approve their total compensation package; (vii) reviewing and monitoring management development plans and activities; (viii) reviewing with our Board our succession plan for the CEO and other executive officers; and (vii) conducting risk assessment with respect to our compensation programs. The Compensation Committee does not delegate any of its functions to others in determining executive compensation.

In making executive compensation determinations, the Compensation Committee considers recommendations from Dr. Macrae. In making his recommendations, Dr. Macrae receives input from our human

resources department and from the individuals who manage the other executive officers. While Dr. Macrae discusses his recommendations for the other executive officers with the Compensation Committee, he does not participate in the deliberations or determination of his own compensation. Members of our finance, human resources and legal departments may attend Compensation Committee meetings from time to time.

*Objectives of Our Compensation Program*

We are focused on translating groundbreaking science into genomic medicines with the potential to transform people's lives using our platform technologies in genome editing, gene therapy, gene regulation and cell therapy. To achieve this strategic business objective, we emphasize recruiting executives with significant industry or scientific experience, including in the areas of clinical development, medical affairs, product development, commercial planning and research innovation. This is a highly competitive industry and our success depends upon our ability to attract and retain qualified executives through competitive compensation packages. The Compensation Committee administers the compensation programs for our executive officers with this competitive environment and need to attract and retain qualified executives in mind.

To this end, the primary objectives of our compensation program are to:

*Factors Used in Determining Executive Compensation*

The Compensation Committee sets the compensation of our executive officers at levels that the Compensation Committee determines to be competitive and appropriate for each named executive officer, using the Compensation Committee's professional experience and judgment. The Compensation Committee does not use a formulaic approach to setting executive pay, but rather it considers multiple relevant factors, which may vary from year to year. The figure below reflects the factors the Compensation Committee generally considers in determining and approving the amount, form and mix of pay for our named executive officers.

*Role of Independent Compensation Consultant*

The Compensation Committee retained the services of Radford in order to (i) assess compensation levels and mix of elements for our executive officers and vice presidents for 2018, (ii) review the peer group selection criteria and specific peer companies, (iii) advise the Compensation Committee on executive compensation and governance trends based on peer group trends and market practices (including severance arrangements), and (iv) advise the Compensation Committee on compensation programs applicable to our non-employee directors. In 2018, Radford also provided comparative data in connection with setting the compensation for Ms. Turner and Mr. Boissel when each individual joined us. The Compensation Committee determined that Radford was independent using criteria established by Nasdaq for evaluating the independence of advisors to the Compensation Committee.

*Comparative Analysis*

For purposes of measuring the competitive positioning of our compensation packages, peer companies are generally selected by the Compensation Committee primarily using the following criteria: (i) companies that fall within a specific market capitalization range of approximately one-third to three times our market capitalization at the time of the peer evaluation (\$250 million to \$2.5 billion at the time we selected our 2018 peer group); (ii) biotechnology companies in the pre-commercial Phase 2 or Phase 3 stage of development; and (iii) companies with 50 to 500 employees. In addition, we prefer companies that are headquartered in the San Francisco Bay Area where we both recruit and may lose executive talent. Because the biotechnology industry is a dynamic industry, the comparator group used by the Compensation Committee to measure the competitive positioning of our compensation packages is periodically updated to ensure that companies continue to meet the established criteria. At the time the peer group was established, our market capitalization was comparable to the 63<sup>th</sup> percentile of the peers, validating the reasonableness of the peer group.

The selected comparable companies for purposes of making compensation decisions for 2018, or the 2018 peer group, were as follows:

Accelaron Pharma	Insmed
Achaogen	Intellia Therapeutics
Aimmune Therapeutics	MacroGenics
Audentes Therapeutics	MannKind
bluebird bio	Peregrine Pharmaceuticals
Celldex Therapeutics	REGENXBIO
ChemoCentryx	Rigel Pharmaceuticals
Cytokinetics	Spark Therapeutics
Dynavax Technologies	Ultragenyx Pharmaceutical
Editas Medicine	Versartis
Global Blood Therapeutics	Voyager Therapeutics
ImmunoGen	

*Use of Comparative Data*

When setting pay, the Compensation Committee examines the market data derived by Radford from the peer group that ranges from the 25<sup>th</sup> to the 75<sup>th</sup> percentiles. We do not have a set formula or benchmark for pay, but rather the Compensation Committee references the market data as one input before making position-specific compensation decisions. We generally seek to manage compensation between the 50<sup>th</sup> and 75<sup>th</sup> percentiles of the peer group data, if warranted by performance and other factors the Compensation Committee considers relevant in making specific decisions. A specific executive officer may be paid below or above the target range based on individual performance,

experience, skills and the importance of the executive's position to us. The

Compensation Committee considers this positioning appropriate given that we are based in the San Francisco Bay Area where there is a high concentration of talent competitors creating competitive pressure that requires us to ensure that our overall compensation program is competitive to attract and retain strong leadership for our long-term success based on performance.

#### *2018 Advisory Vote on Executive Compensation*

At the 2018 Annual Meeting, we conducted our third advisory vote on executive compensation. At such meeting, approximately 96% of the votes cast on the advisory vote proposal were supportive of our named executive officer compensation program as disclosed in our proxy statement.

The Compensation Committee reviewed the advisory vote results in the context of our overall compensation philosophy and programs, and based on the level of support, determined that no significant changes to our compensation policies and programs were necessary. The Compensation Committee will continue to consider the results from future stockholder advisory votes on executive compensation and other relevant market developments affecting executive officer compensation in order to determine whether any subsequent changes to our executive compensation programs and policies would be warranted to reflect any stockholder concerns reflected in those advisory votes or to address market developments.

#### **Design of the Executive Compensation Program and Key Components**

##### *Target Total Compensation*

As discussed above, the development and commercialization of pharmaceutical products involve a high degree of risk. The Compensation Committee regularly evaluates the relative importance of equity and cash components of total compensation when determining the level and structure of annual pay based on the business priorities established by the Board of Directors. Target total compensation for 2018, as shown below for Dr. Macrae, reflects annual base salary, annual target cash incentive compensation and the grant date fair value of stock options granted during the year (as such stock options are reported in the Summary Compensation Table).

*Key Elements of Our Executive Compensation Program*

Component	Key Features	Purpose
<b>Base Salary</b>	<p>Fixed cash compensation</p> <p>Annual increases are not guaranteed</p> <p>Amounts are reviewed and determined annually (or at the time of a change in the executive's title or position during the year)</p> <p>Amounts determined based on individual performance, experience, skills and the importance of the executive's position</p>	<p>Enables us to attract and retain skilled and experienced executives and to provide a level of economic security for executives from year to year</p> <p>Provides fixed level of compensation that is competitive within our industry and geographic area</p>
<b>Cash Incentive Compensation</b>	<p>Cash compensation under the Sangamo Therapeutics, Inc. Amended and Restated Incentive Compensation Plan, or the Incentive Plan, which is dependent upon achievement of performance objectives</p> <p>Target amounts are reviewed and determined annually (or at the time of a change in the executive's title or position during the year) and expressed as a percentage of base salary</p> <p>Actual amounts paid are based on the extent corporate objectives are attained as determined by the Compensation Committee, and for executive officers</p>	<p>Provides each executive officer with a direct financial incentive in the form of cash incentive compensation tied to our achievement of aggressive pre-established clinical, research and development, business and corporate development goals for the year based on our annual operating plan</p> <p>Aligns pay structure and mix with, and ensures that our total cash compensation is within, competitive norms within the peer group and more broadly in the sector</p> <p>Aligns a portion of the executive's cash compensation to specific</p>



other than Dr. Macrae, on the achievement of pre-established individual goals that align with our overall priorities

pre-established goal achievement to reinforce our performance-based culture

Component	Key Features	Purpose
<b>Equity Compensation</b>	<p>Generally in the form of stock options and/or RSUs which are at-risk because the realized value is dependent upon our stock price</p> <p>The exercise price for stock options is equal to the closing price of our stock on the option grant date</p> <p>Each RSU provides the recipient with one share of our common stock at a designated issue date following the vesting of that unit, without the payment of an exercise price or other cash consideration for the issued share</p> <p>Executives are eligible for equity awards in connection with annual performance reviews and at time of hire</p>	<p>Provides long-term incentives that align the interests of our work force with the achievement of our long-term vision to develop and commercialize pharmaceutical products which occurs over time</p> <p>Given the time periods involved in pharmaceutical development, we believe that long-term incentives are critical to our success to provide long-term focus, aid in retention and mitigate short-term risk taking to realize gains in the near term that creates risk in the long-term</p> <p>We believe that a mix of stock options and restricted stock units reinforces the long-term nature of our business and alignment with our stock holders by rewarding for improvements in stock price over a period of time. The company issues stock options to reward for future performance and appreciation while providing restricted stock units to manage the natural market volatilities for a development stage company, provide retention incentives during the vesting period and to reinforce a culture of ownership.</p> <p>By granting RSUs the company can also reduce the dilutive effect of the equity incentive awards which benefits our stockholders over time</p>

**2018 Compensation Decisions**

*2018 Base Salary*

In general, the base salaries of our named executive officers for 2018 were between the 25<sup>th</sup> and 75<sup>th</sup> percentiles of the market data derived from the peer group.

In accordance with our practice, in December 2017 we conducted annual performance reviews for 2017 for the named executive officers. In early 2018, the Compensation Committee considered these reviews, our 2017 performance, advice from Radford and competitive data from the peer group and determined to increase base salaries as set forth below. The Compensation Committee specifically considered Dr. Macrae's responsibility for the Company's achievement of its corporate objectives; Ms. Yi's role as a business partner and that extends

beyond her function, leadership of a high performing team and leadership of transformative transactions; and Dr. Conner's role supporting the development organization the career development of members of his team.

Name	2018 Base Salary (\$)	2017 Base Salary (\$)	Percent Increase
Alexander D. Macrae	636,480	612,000	4%
Kathy Y. Yi	404,833	350,000	16%
Heather D. Turner (1)	400,000		N/A
Edward R. Conner, M.D.	408,000	400,000	2%

- (1) Effective as of February 12, 2018 upon commencement of Ms. Turner's employment as Senior Vice President, General Counsel and Secretary after taking into consideration her compensation at her prior employer, competitive positioning based on the market data derived by Radford from the peer group that ranges from the 50<sup>th</sup> to the 75<sup>th</sup> percentiles and internal positioning relative to the Company's other executive officers. Ms. Turner resigned from the Company effective March 15, 2019.

In connection with the commencement of his employment, after taking into consideration his compensation at his prior employer, competitive positioning based on the market data derived by Radford from the peer group that ranges from the 50<sup>th</sup> to the 75<sup>th</sup> percentiles and internal positioning relative to the Company's other executive officers, the Compensation Committee determined that Mr. Boissel's annual base salary would be \$480,000.

#### *2018 Cash Incentive Compensation*

In March 2018, we adopted a 2018 Executive Officer Bonus Program, or the 2018 Cash Incentive Compensation Program, under the Incentive Plan that provides for annual cash incentive compensation to reward executive officers based on our achievement of specific corporate goals and their achievement of individual performance goals. The objectives and weightings that were approved by the Board of Directors in March 2018 under the 2018 Cash Incentive Compensation Program are described in the chart below.

For 2018, the target cash incentive compensation for Dr. Macrae was 60% of base salary and for each of our other named executive officers (other than Mr. Boissel, who did not receive any cash incentive compensation under the 2018 Cash Incentive Compensation Program given that his full-time employment with us commenced in January 2019), it was 35% of base salary. Dr. Macrae's cash incentive compensation opportunity was based solely on corporate performance and each of our other named executive officers' cash incentive compensation opportunity was allocated between corporate and individual performance (80% and 20%, respectively).

In February 2019, the Compensation Committee determined that our 2018 corporate objectives were attained at 110%, as further described below.

In addition, in February 2019, the Compensation Committee approved individual achievement percentages for our named executive officers (other than Dr. Macrae, whose cash incentive compensation opportunity was tied solely to achievement of the 2018 corporate objectives) based on Dr. Macrae's assessment of and recommendations regarding each executive's accomplishments against pre-established individual objectives, as further described below. As described above, Dr. Macrae does not have individual goals separate from our corporate objectives. For our other named executive officers, the total cash incentive compensation payout for 2018 was based on a weighting of 80% corporate and 20% individual goals. Dr. Macrae recommends individual goals for each other named executive officer, which are aligned with our business strategy and linked with corporate goals, and our Compensation Committee approves these goals. The 2018 individual goals for the named executive officers include those listed below. These specific goals were in addition to the general responsibilities each officer had for managing his or her respective functional operational area. Based on the recommendation of Dr. Macrae, as well as the observations by Compensation Committee members of these executive officers and its own assessment of each individual's effectiveness, the Compensation Committee determined the level of achievement of each named executive officer's individual performance goals as follows:

Ms. Yi The Compensation Committee determined that with respect to the objectives of keeping compliant and managing all internal and external financial requirements through effective controls and processes, being a useful business partner as a go-to function, and going beyond her function and leading a high performing team, Ms. Yi achieved all of her individual objectives by executing her finance responsibilities, upgrading processes, invigorating and integrating her team as well as other internal departments, supporting and leading transformative transactions, and playing a key role in the implementation of ERP. In addition, Ms. Yi led the design and renovation of the Brisbane facility and the two site integration on time and on budget. The Compensation Committee determined that Ms. Yi achieved 110% of her individual objectives.

Ms. Turner The Compensation Committee determined that with respect to the objectives related to leadership and management of the legal and human resources teams and acting as General Counsel to the CEO and executive team and secretary to the Board of Directors, Ms. Turner achieved all of her individual objectives by managing meetings of the Board of Directors, surpassing her legal role by becoming involved in our business strategy, supporting and leading transformative transactions (including leading the negotiation process in the TxCell acquisition), leading her department, and supporting the development and management of other departments. In addition, Ms. Turner transformed both the legal and human resources departments, hiring excellent leaders in both departments and initiating a series of process improvements to create modern professional functions. The Compensation Committee determined that Ms. Turner achieved 110% of her individual objectives.

Dr. Conner The Compensation Committee determined that with respect to the objectives of supporting the development organization, ensuring data quality and Good Clinical Practices, or GCP, compliant study conduct and data collection, raising the visibility of clinical development within our company, and supporting the career development of members of his team, Dr. Conner achieved all of his individual objectives by establishing a clinical group that is on track to meet its milestones and objectives, establishing clinical development plans, performing clinical assessments for pipeline projects, leading clinical contributions to IND applications, raising the visibility and successes of his department, and supporting the development and management of his team. The Compensation Committee determined that Dr. Conner achieved 100% of his individual objectives.

The table below sets forth the target and actual cash incentive compensation for our named executive officers:

Name	Target Amount (\$)	Actual Amount (\$)	% of Target
Alexander D. Macrae	381,888	420,077	110%
Kathy Y. Yi	141,692	155,861	110%
Heather D. Turner <sup>(1)</sup>	128,333	141,166	110%
Edward R. Conner, M.D.	142,800	154,224	108%

- (1) Ms. Turner's target and actual cash incentive compensation amounts were prorated to reflect that she commenced employment with us in February 2018.

#### *2018 Equity Compensation*

Our current practice is to make equity grants at the beginning of the fiscal year after our operating plan has been approved by the Board of Directors and the performance in the prior fiscal year completed. Accordingly, the Compensation Committee approved the grant of stock options and restricted stock unit awards to Dr. Macrae, Ms. Yi, and Dr. Conner in January 2018.

The Compensation Committee considered the approach used when determining the form and size of prior grants, the size of 2017 equity grants, the percent of common stock outstanding as well as grant date value, to determine the overall range for setting the pool of shares available for grants to executive officers and other employees in 2018 and the size of each executive's grant. In 2018, the percent of common stock outstanding carried more weight due to the depressed stock price in light of the objective of managing overall dilution for stockholders. In general, the equity compensation of our named executive officers for 2018 fell within the competitive range of the 50<sup>th</sup> to 75<sup>th</sup> percentiles based on the market data provided by Radford.

In connection with her commencement of employment in February 2018, after taking into consideration her compensation at her prior employer and competitive positioning based on the market data derived by Radford from the peer group that ranges from the 50<sup>th</sup> to the 75<sup>th</sup> percentiles, Ms. Turner was granted a stock option to



acquire 200,000 shares of common stock with an exercise price per share equal to the closing price per share on the grant date. The stock option is subject to a four-year vesting schedule with 25% of the shares subject to the option vesting upon Ms. Turner's completion of one year of service measured from the date Ms. Turner commenced employment with us and the balance of the shares vesting monthly thereafter for the next three years

In connection with his commencement of employment in October 2018, after taking into consideration his compensation at his prior employer and competitive positioning based on the market data derived by Radford from the peer group that ranges from the 50<sup>th</sup> to the 75<sup>th</sup> percentiles, Mr. Boissel was granted a stock option to acquire 215,000 shares of common stock with an exercise price per share equal to the closing price per share on the grant date. Such stock option is subject to a four-year vesting schedule with 25% of the shares subject to the option vesting upon Mr. Boissel's completion of one year of service measured from the option grant date and the balance of the shares vesting monthly thereafter for the next three years. Further, in connection with our acquisition of TxCell, Mr. Boissel, as an employee of TxCell, was granted a stock option under the 2018 Plan to acquire 68,523 shares of common stock with an exercise price equal to the closing price per share on the grant date. Such stock option is subject to a four-year vesting schedule with 25% of the shares subject to the option vesting upon Mr. Boissel's completion of one year of service measured from the option grant date and the balance of the shares vesting monthly thereafter for the next three years.

#### *Other Elements of Executive Compensation Program*

The remaining elements of our executive compensation program, like our broader employee compensation programs, are intended to make our overall compensation program competitive with those of our peer companies and all of the remaining elements of our executive compensation program (401(k) Plan; Medical, Dental, and Vision Plans; Life and Disability Insurance; and our 2010 Employee Stock Purchase Plan, as amended, or the Purchase Plan) are available to all of our employees.

With respect to the perquisites and other benefits provided to Mr. Boissel as discussed in the Summary Compensation Table, including a car allowance and premiums for an unemployment insurance contract, as well as a transaction bonus awarded in connection with our acquisition of a controlling interest in TxCell and Mr. Boissel's 2018 target incentive bonus, such amounts were approved and paid by TxCell and will not be provided by the Company going forward.

### **Additional Compensation Information**

#### *Severance Arrangements*

In March 2017, the Compensation Committee adopted an Executive Severance Plan, or the Severance Plan, to provide severance benefits to certain of our executive officers and other key employees, including our named executive officers, whose employment terminates under certain prescribed circumstances. In February 2019, the Compensation Committee approved an Amended and Restated Executive Severance Plan, or the Amended Severance Plan, to increase certain severance payments, as described below under Employment Contracts and Change in Control Arrangements Executive Severance Plan. The Amended Severance Plan provides financial protection against the potential loss of employment in designated circumstances, which the Compensation Committee believes will allow the executives to focus attention on the best interests of the stockholders, without undue concern as to an executive's own financial situation. The Compensation Committee has been advised by its independent compensation consultant that the benefits provided under these agreements are consistent with peer company and broader market practices, and are fair and reasonable.

#### *Tax and Accounting Effects of Executive Compensation*

Under Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code, compensation paid to any publicly held corporation's covered employees that exceeds \$1 million per taxable year for any covered employee is generally non-deductible.

Prior to the enactment of the Tax Cuts and Jobs Act, Section 162(m) of the Code, or Section 162(m), provided a performance-based compensation exception, pursuant to which the deduction limit under Section 162(m) did not apply to any compensation that qualified as performance-based compensation under Section 162(m). Pursuant to the Tax Cuts and Jobs Act, the performance-based compensation exception under Section 162(m) was repealed with respect to taxable years beginning after December 31, 2017, except that certain transition relief is provided for compensation paid pursuant to a written binding contract which was in effect on November 2, 2017 and which is not modified in any material respect on or after such date.

Compensation paid to each of the Company's covered employees in excess of \$1 million per taxable year generally will not be deductible unless it qualifies for the performance-based compensation exception under Section 162(m) pursuant to the transition relief described above. Because of certain ambiguities and uncertainties as to the application and interpretation of Section 162(m), as well as other factors beyond the control of the Compensation Committee, no assurance can be given that any compensation paid by the Company will be eligible for such transition relief and be deductible by the Company in the future. Although the Compensation Committee will continue to consider tax implications as one factor in determining executive compensation, the Compensation Committee also looks at other factors in making its decisions and retains the flexibility to provide compensation for the Company's named executive officers in a manner consistent with the goals of the Company's executive compensation program and the best interests of the Company and its stockholders, which may include providing for compensation that is not deductible by the Company due to the deduction limit under Section 162(m). The Compensation Committee also retains the flexibility to modify compensation that was initially intended to be exempt from the deduction limit under Section 162(m) if it determines that such modifications are consistent with the Company's business needs.

The Compensation Committee also considers the impact of Section 409A of the Code, and in general, our executive plans and programs are designed to comply with the requirements of that section so as to avoid possible adverse tax consequences that may result from non-compliance.

The accounting impact of our compensation programs is one of many factors that the Compensation Committee considers in determining the structure and size of our executive compensation programs. In general, the Company accounts for equity compensation paid to our employees under ASC 718, which requires us to estimate and record an expense over the service period of the equity award, and our cash compensation is recorded as an expense at the time the obligation is accrued.

#### *Equity Grant Timing*

Equity awards are generally granted to employees, including executives, when they are hired, and employees are eligible for additional equity awards in connection with annual performance reviews each year. As described above, annual equity grants were historically made in December of each fiscal year; however, in 2016, the Compensation Committee determined that it would be a better business and governance practice to make grants at the beginning of the fiscal year after our operating plan has been approved by the Board of Directors and the performance in the prior fiscal year has completed. In 2018, the Compensation Committee determined that with respect to equity awards granted to any new employee, such awards would be granted on the 25<sup>th</sup> day of the month (or if such 25<sup>th</sup> day is not a trading day, the immediately preceding trading day of that month) immediately following the month of the employee's hire date; and with respect to annual equity awards, such awards will be granted on the 25<sup>th</sup> day of February (or if such 25<sup>th</sup> day is not a trading day, the immediately preceding trading day in February), provided the Compensation Committee approves the terms of the grants before such date.

#### **Summary Compensation Table**

The following table provides certain summary information for the years ended December 31, 2018, 2017 and 2016, when applicable, concerning the compensation earned by (i) our President and Chief Executive Officer,



(ii) our Executive Vice President and Chief Financial Officer, and (iii) our three other most highly compensated executive officers who were serving as executive officers at the end of 2018. These individuals are referred to throughout this Proxy Statement as our named executive officers. We have omitted certain rows from the table when there is no disclosure of any compensation for the named executive officer for that fiscal year.

<b>Name and Principal Position (a)</b>	<b>Year (b)</b>	<b>Salary (\$)(c)</b>	<b>Bonus (\$)(d)</b>	<b>Stock Awards (\$)(1)(e)</b>	<b>Option Awards (\$)(2)(f)</b>	<b>Non-Equity Incentive Plan Compensation (\$)(3)(g)</b>	<b>All Other Compensation (\$)(4)(i)</b>	<b>Total (\$)(j)</b>
Alexander D. Macrae, President and Chief Executive Officer (5)	2018	636,480	-	631,575	2,410,657	420,077	5,639	4,104,428
	2017	612,000	-	-	795,564	381,888	6,404	1,795,856
	2016	350,000	200,000(6)	-	2,883,090	147,000	-	3,580,090
Kathy Y. Yi, Executive Vice President and Chief Financial Officer (7)	2018	404,833	-	145,363	554,884	155,861	5,639	1,266,580
	2017	294,358	-	-	574,560	120,377	4,710	994,005
Heather D. Turner, Former Senior Vice President and General Counsel (8)	2018	356,000	150,000(9)	-	3,047,160	141,166	5,503	3,699,829
Stéphane Boissel, Executive Vice President, Corporate Strategy (10) (11)	2018	120,390	100,000(12)	-	2,052,792	-	316,884	2,590,066
Edward R. Conner, M.D., Senior Vice President and Chief	2018	408,000	-	122,806	468,739	154,224	1,639	1,555,408
	2017	400,000	-	-	-	140,280	840	541,120
	2016	34,848	100,000(14)	-	377,820	-	-	512,668

Medical Officer  
(13)

- (1) The amounts in column (e) reflect the aggregate grant date fair value of the RSUs awarded to the named executive officer for the applicable year, calculated in accordance with ASC 718, without taking into account any estimated forfeitures. The assumptions used in the calculation of such grant date fair values are described in Note 4 of the Notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 1, 2019.
- (2) The amounts in column (f) represent the aggregate grant date fair value of the stock option grants for each indicated year in accordance with ASC 718 using the Black-Scholes option valuation model and without taking into account any estimated forfeitures. The assumptions used in the calculation of such grant date fair values are described in Note 4 of the Notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 1, 2019.
- (3) The amounts in column (g) reflect the cash bonus awards made to the named executive officer under the cash incentive program under the Incentive Plan for the indicated year.
- (4) The amounts in column (i) include matching payments made to the named executive officer under our 401(k) Plan, a qualified deferred compensation plan under Section 401(k) of the Code (\$4,000 for each of Dr. Macrae, Ms. Yi and Ms. Turner), life insurance premiums paid by us on behalf of the named executive officer in the amount of \$1,639 for each of Dr. Macrae, Ms. Yi, Dr. Conner and \$1,503 for Ms. Turner; and for Mr. Boissel, includes a car allowance in the amount of 1,272 (\$1,457), premiums for unemployment insurance contract in the amount of 3,123 (\$3,584) that were paid by TxCell subsequent to our acquisition of a controlling interest, as well as a transaction bonus in the amount of 200,210 (\$229,360) awarded to Mr. Boissel by TxCell in connection our acquisition of a controlling interest in TxCell, which was paid in November 2018, and Mr. Boissel's target incentive bonus paid by TxCell of 72,000 (\$82,483).
- (5) Dr. Macrae was appointed as our President and Chief Executive Officer on June 1, 2016.

- (6) Consists of a sign-on bonus that was subject to repayment in the event Dr. Macrae's employment was terminated for cause or by him without good reason within one year of his appointment.
- (7) Ms. Yi was appointed as our Senior Vice President and Chief Financial Officer on February 28, 2017.
- (8) Ms. Turner was appointed as our Senior Vice President and General Counsel and Secretary on February 12, 2018 and resigned effective on March 15, 2019.
- (9) Consists of a sign-on bonus that was subject to repayment in the event Ms. Turner's employment was terminated for cause or by her without good reason within one year of her appointment.
- (10) Mr. Boissel joined our company on October 2, 2018 in connection with the TxCell acquisition and was employed on a part-time basis through December 31, 2018 by us, and received a \$25,000 monthly salary from TxCell during such period, in addition to his car allowance and insurance premiums noted in footnote (4) above.
- (11) Certain amounts paid to Mr. Boissel were paid by TxCell in Euro, and converted to U.S. dollars at an exchange rate of 1.00 = \$1.1456, the noon buying rate as reported by the Federal Reserve Bank of New York on December 31, 2018.
- (12) Consists of a sign-on bonus that is subject to repayment in the event Mr. Boissel's employment is terminated for cause or by him without good reason within one year of his appointment.
- (13) Dr. Conner commenced employment on November 30, 2016.
- (14) Consists of a sign-on bonus that was subject to repayment in the event Dr. Conner's employment was terminated for cause or by him without good reason within one year of his appointment.

**Grants of Plan-Based Awards**

The following table shows for the fiscal year ended December 31, 2018, certain information regarding grants of plan-based awards to our named executive officers.

Name (a)	Award Type	Grant Date (b)	Approval Date (c)	Estimated Possible Payouts Under Incentive Plan Awards			All Other Awards: All Exercise or Grant			
				Threshold (\$) (1) (d)	Target (\$) (1) (e)	Maximum (\$) (1) (f)	Number of Shares of Stock or Units (#) (2) (j)	Number of Options or Underlying Stock Awards (#) (3) (k)	Exercise Price (\$/Sh) (l)	Date Fair Value of Stock and Option Awards (\$) (4) (m)
Alexander D. Macrae	Annual Cash			-	381,888	763,776	-	-	-	-
	Annual Grant	1/24/2018	01/24/2018	-	-	-	31,500	189,000	20.05	3,042,232
Kathy Y. Yi	Annual Cash			-	141,692	283,384	-	-	-	-
	Annual Grant	1/24/2018	01/24/2018				7,250	43,500	20.05	700,247
Heather D. Turner	Annual Cash			-	128,333	256,666	-	-	-	-
	New Hire Grant	2/28/2018	1/24/2018	-	-	-	-	200,000	23.95	3,047,160
Stéphane Boissel	New Hire Grant	11/23/2018	09/24/2018	-	-	-	-	215,000	11.08	1,556,665
	New Hire Grant (5)	11/23/2018	09/24/2018	-	-	-	-	68,523	11.08	496,127
Edward R. Conner, M.D.	Annual Cash			-	142,800	285,600	-	-	-	-
	Annual Grant	1/24/2018	01/24/2018	-	-	-	6,125	36,750	20.05	591,545

- (1) The dollar amounts represent the threshold, target and maximum amounts of each named executive officer's potential annual cash bonus award for the year ended December 31, 2018 pursuant to the 2018 Cash Incentive Compensation Program under the Incentive Plan, and in Ms. Turner's case, also reflect pro-ration as she commenced employment in February 2018. The amount shown as target reflects the target payment level if Sangamo and each individual had achieved 100% of the corporate and individual performance goals established pursuant to the Incentive Plan. Each of Ms. Yi's, Dr. Conner's, and Ms. Turner's target bonuses were allocated



between corporate and individual performance (80% to 20%, respectively), and Dr. Macrae's target bonus was allocated 100% to corporate performance. The Compensation Committee determines the level of attainment of the corporate performance objectives following the end of the performance period. The amount shown as maximum reflects the payment level pursuant to the 2018 Cash Incentive Program if Sangamo had achieved a 200% corporate performance percentage and each individual (other than Dr. Macrae) had achieved a 200% individual performance percentage, which were the maximum percentages allowed for the corporate and individual performance percentages. Actual payouts differed based on the actual performance objectives achieved. The actual cash bonus award earned for the year ended December 31, 2018 pursuant to the 2018 Cash Incentive Program for each named executive officer is set forth in the Summary Compensation Table above. As such, the amounts set forth in these columns do not represent additional compensation earned by the named executive officers for the year ended December 31, 2018. For more information regarding the 2018 Cash Incentive Compensation Program, see Compensation Discussion and Analysis 2018 Compensation Decisions 2018 Cash Incentive Compensation above and Employment Agreements and Compensation Arrangements Annual Cash Bonus Awards below. Mr. Boissel joined the Company in October 2018 on a part-time basis through December 31, 2018 and was not eligible to participate in this program during 2018.

- (2) The reported RSU award was granted under our Amended and Restated 2013 Stock Incentive Plan, or the 2013 Plan, and will vest and become exercisable in accordance with the following schedule: 1/3<sup>rd</sup> of the shares vest in three equal annual installments over the three-year period measured from the grant date, provided the grantee continues to provide services through each applicable vesting date.
- (3) With the exception of Mr. Boissel, the reported option was granted under the 2013 Plan and will vest and become exercisable in accordance with the following schedule: 25% of the option shares will vest and become exercisable on the one year anniversary of the option grant date and the remaining option shares will vest and become exercisable in 36 equal monthly installments over the 36- month period measured from the first anniversary of the option grant date, provided the optionee continues to provide services through each applicable vesting date. The reported option for Mr. Boissel was granted under the 2018 Plan and will vest in the same manner as the aforementioned options granted under the 2013 Plan.
- (4) Represents the grant date fair value of such stock option and RSU as determined in accordance with ASC 718. The assumptions used in the calculation of the grant date fair values of each grant are included in Note 4 of the Notes to Consolidated Financial Statements in our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 1, 2019.
- (5) Represents options granted to Mr. Boissel as an employee of TxCell, in connection with the Company's acquisition of TxCell.

## Employment Agreements and Compensation Arrangements

### *Employment Agreements*

Each of our named executive officers has entered into a written employment agreement with our company. For a description of these employment agreements, please see the section of this Proxy Statement under the heading Employment Contracts and Change in Control Arrangements below.

### *Annual Cash Bonus Awards*

In March 2018, the Compensation Committee of the Board adopted the Incentive Plan, which amended and restated the prior plan adopted in 2012, and is a performance-based cash incentive program for our executive officers. Under the Incentive Plan, unless the Compensation Committee determines otherwise, each performance period shall be coincident with the calendar year, commencing with the 2018 calendar year. The Compensation Committee establishes the specific corporate objectives and/or individual objectives that must be attained in order for Incentive Plan participants to receive a bonus for that performance period. For each performance and individual objective, the Compensation Committee may set threshold and target levels of attainment. The Compensation Committee will then establish for each participant dollar levels for the bonus to which he or she may become entitled for that performance period based on the level at which the corporate objectives and/or individual objectives are actually attained.

Performance objectives established under the Incentive Plan are based on one or more of the following criteria: (i) revenue, organic revenue, net sales, or new-product revenue or net sales, (ii) achievement of specified milestones in the discovery and development of the Company's technology or of one or more of the Company's products, (iii) achievement of specified milestones in the commercialization of one or more of the Company's products, (iv) achievement of specified milestones in the manufacturing of one or more of the Company's products, (v) expense targets, (vi) share price, (vii) total stockholder return, (viii) earnings per share, (ix) operating margin, (x) gross margin, (xi) return measures (including, but not limited to, return on assets, capital, equity, or sales), (xii) productivity ratios, (xiii) operating income, (xiv) net operating profit, (xv) net earnings or net income (before or after taxes), (xvi) cash flow (including, but not limited to, operating cash flow, free cash flow and cash flow return on capital), (xvii) earnings before or after interest, taxes, depreciation, amortization and/or stock-based compensation expense, (xviii) economic value added, (xix) market share, (xx) working capital targets, (xxi) achievement of specified milestones relating to corporate partnerships, collaborations, license transactions, distribution arrangements, mergers, acquisitions, dispositions or similar business transactions, (xxii) employee retention and recruiting and human resources management, and (xxiii) other corporate performance criteria approved by the Compensation Committee.

Individual performance objectives established under the Incentive Plan are based on one or more of the following criteria: (i) the participant's contribution toward the achievement of a specific corporate objective, (ii) the contribution of the business unit or division supervised by the participant toward the achievement of a specific corporate objective, and (iii) the participant's development of professional skills.

A participant will not become entitled to a bonus under the Incentive Plan for a particular performance period unless the participant is employed on or before October 31<sup>st</sup> of the applicable performance period. Following the close of the applicable performance period, the Compensation Committee will determine the actual bonus amount for each participant based on the actual levels at which the actual performance objectives are attained, and bonuses will be paid promptly following the end of the applicable performance period.

In the event any payment to which a participant becomes entitled under the Incentive Plan would otherwise constitute a parachute payment under Section 280G of the Code, then that payment will be subject to reduction to the extent necessary to assure that such payment will be limited to the greater of (i) the dollar amount that can be paid to the participant without triggering a parachute payment under Code Section 280G or (ii) the dollar amount of that payment

which provides the participant with the greatest after-tax amount after taking into account any excise tax the participant may incur under Code Section 4999 with respect to such payment and any other benefits or payments to which the participant may be entitled in connection with any change in control of the Company or the subsequent termination of the participant's employment.

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We adopted a 2018 Cash Incentive Program under the Incentive Plan that provides for annual bonus awards to reward executive officers based on our achievement of specific corporate goals and their achievement of individual performance goals. For more information regarding the 2018 Cash Incentive Program under the Incentive Plan, please see the section of this Proxy Statement under the heading Compensation Discussion and Analysis 2018 Compensation Decisions 2018 Cash Incentive Compensation and footnote (1) to the Grants of Plan-Based Awards table above.

#### *Stock Awards*

Discretionary options that we granted in 2018 under the 2013 Plan vest according to the following schedule: 25% of the option shares will vest and become exercisable on the one year anniversary of the option grant date and the remaining option shares will vest and become exercisable in 36 equal monthly installments over the 36-month period measured from the first anniversary of the option grant date, provided the executive officer continues to provide services through each applicable vesting date. Each option will vest on an accelerated basis in connection with certain terminations and changes, as described under the heading Employment Contracts and Change in Control Agreements below. Each option has an expiration date at the end of the 10-year period measured from the grant date, unless terminated earlier following the optionee's termination of service. Options granted under the 2013 Plan have an exercise price equal to the fair market value on the date of grant (generally the closing price of our common stock on the grant date on the Nasdaq Global Select Market), and the 2013 Plan permits the exercise price of stock options to be paid by cash, check, other shares of our common stock (with some restrictions), broker assisted same-day sales, and cashless net exercise arrangements. Discretionary RSUs that we granted in 2018 under the 2013 Plan vest in three successive equal annual installments over the three-year period measured from the grant date, provided the executive officer continues to provide services through each applicable vesting date. For a discussion of the effect on outstanding equity awards under the 2013 Plan in connection with certain terminations and changes in control of the Company, including accelerated vesting, see the discussion under the heading Employment Contracts and Change in Control Arrangements below.

Discretionary options that we granted in 2018 under the 2018 Plan vest according to the following schedule: 25% of the option shares will vest and become exercisable on the one year anniversary of the option grant date and the remaining option shares will vest and become exercisable in 36 equal monthly installments over the 36-month period measured from the first anniversary of the option grant date, provided the executive officer continues to provide services through each applicable vesting date. Each option will vest on an accelerated basis in connection with certain terminations and changes, as described under the heading Employment Contracts and Change in Control Agreements below. Each option has an expiration date at the end of the 10-year period measured from the grant date, unless terminated earlier following the optionee's termination of service. Options granted under the 2018 Plan have an exercise price equal to the fair market value on the date of grant (generally the closing price of our common stock on the grant date on the Nasdaq Global Select Market), and the 2018 Plan permits the exercise price of stock options to be paid by cash, check, other shares of our common stock (with some restrictions), broker assisted same-day sales, and cashless net exercise arrangements. Although we did not grant any discretionary RSUs in 2018 under the 2018 Plan, grants of discretionary RSUs in February 2019 to executive officers under such plan vest in three successive equal annual installments over the three-year period measured from the grant date, provided the executive officer continues to provide services through each applicable vesting date. For a discussion of the effect on outstanding equity awards under the 2018 Plan in connection with certain terminations and changes in control of the Company, including accelerated vesting, see the discussion under the heading Employment Contracts and Change in Control Arrangements below.

#### *Other Compensatory Arrangements*

*401(k) Plan.* Our executive officers are eligible to participate in the 401(k) Plan. The 401(k) Plan is intended to qualify as a tax-qualified plan under Section 401 of the Code. The 401(k) Plan provides that each participant may contribute a portion of his or her pre-tax compensation, up to a statutory annual limit. The 401(k) Plan also permits us

to make discretionary contributions and matching contributions, subject to established limits. In 2018, we made a matching contribution, which was subject to an annual limit of \$4,000 per employee.

*Other Benefits.* Our executive officers are eligible to participate in all of our benefit plans, such as our medical, dental, vision, short-term disability, long-term disability and group life insurance plans and the Purchase Plan, in each case generally on the same basis as other employees. We also have a Section 125 flexible benefits healthcare plan and a flexible benefits childcare plan under which employees can set aside pre-tax funds to pay for qualified healthcare expenses and qualified childcare expenses not reimbursed by insurance, respectively. We do not currently offer pension or other retirement benefits in the United States, but do offer pension or other retirement benefits in certain other countries.

### Outstanding Equity Awards at Fiscal Year-End

The following table provides certain summary information concerning outstanding equity awards held by the named executive officers as of December 31, 2018.

Name (a)	Grant Date	Option Awards				Stock Awards	
		Number of Securities Underlying Unexercised Options (#) (b)	Number of Securities Underlying Unexercised Options (#) (c)	Option Exercise Price (\$) (d)	Option Expiration Date (e)	Number of Shares or Units of Stock that Have Not Vested (#) (f) (2)	Market Value of Shares or Units of Stock That Have Not Vested (\$) (g) (3)
Alexander D. Macrae	01/24/2018	-	189,000	20.05	01/23/2028	31,500	361,620
	01/26/2017	172,500	187,500	3.50	01/25/2027	-	-
	06/03/2016	437,500	262,500	7.07	06/02/2026	-	-
Kathy Y. Yi	01/24/2018	-	43,500	20.05	01/23/2028	7,250	83,230
	02/28/2017	41,666	108,334	4.55	02/27/2027	-	-
Heather D. Turner (4)	2/28/2018	-	200,000	23.95	02/27/2028	-	-
Stéphane Boissel	11/23/2018	-	283,523	11.08	11/23/2028	-	-
Edward R. Conner, M.D.	01/24/2018	-	36,750	20.05	01/23/2028	6,125	70,315
	11/30/2016	39,166	95,834	3.20	11/29/2026	-	-

(1) Except as otherwise provided in the footnotes below, each option was subject to the following vesting schedule: 25% of the option shares will vest and become exercisable on the one year anniversary of the option grant date and the remaining option shares will vest and become exercisable in 36 equal monthly installments over the 36-month period measured from the first anniversary of the option grant date, provided the executive officer continues to provide services through each applicable vesting date. Each option will vest on an accelerated basis in connection with certain terminations and changes in control, as described under the heading Employment Contracts and Change in Control Agreements. Each option has an expiration date at the end of the 10-year period measured from the grant date, unless terminated earlier following the optionee's termination of service.

- (2) Represents an RSU award subject to vesting in three successive equal annual installments over the three-year period measured from the grant date, provided the executive officer continues to provide services to the Company through each applicable vesting date. The award will vest on an accelerated basis in connection with certain terminations and changes in control of the Company, as described under the heading Employment Contracts and Change in Control Arrangements.
- (3) Based on the \$11.48 closing price of our common stock on December 31, 2018, the last trading day of fiscal 2018.
- (4) Ms. Turner's option was subject to the following vesting schedule: 25% of the option shares will vest and become exercisable on the one year anniversary of employment start date (February 12, 2019) and the remaining option shares will vest and become exercisable in 36 equal monthly installments over the 36- month period measured from the first anniversary of the employment start date, provided the executive officer continues to provide services through each applicable vesting date. The option will vest on an accelerated basis in connection with certain terminations and changes in control, as described under the heading Employment Contracts and Change in Control Agreements. The option has an expiration date at the end of the 10-year period measured from the grant date, unless terminated earlier following the optionee's termination of service.



## Option Exercises and Stock Vested

The following table sets forth the number of shares of our common stock acquired and the value realized upon the vesting of RSU awards and on each exercise of stock options for each of the named executive officers during the year ended December 31, 2018:

Name (a)	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise (#) (b)	Value Realized on Exercise (\$) (1) (c)	Number of Shares Acquired on Vesting (#) (d)	Value Realized on Vesting (\$) (e)
Alexander D. Macrae	-	-	-	-
Kathy Y. Yi	50,000	536,990	-	-
Heather D. Turner	-	-	-	-
Stéphane Boissel	-	-	-	-
Edward R. Conner, M.D.	60,000	765,026	-	-

(1) Value realized is determined by multiplying (i) the amount by which the market price of the common stock on the date of exercise exceeded the exercise price by (ii) the number of shares for which the options were exercised.

### Pension Benefits

We do not sponsor a tax-qualified defined benefit retirement plan or a supplemental executive retirement plan.

### Nonqualified Deferred Compensation

We do not sponsor a nonqualified deferred compensation plan.

### Risk Assessment of Compensation Policies and Practices

Our compensation programs throughout the organization are designed to maintain an appropriate balance between long-term and near-term incentives by utilizing a combination of compensation components, including base salary, annual cash incentive awards, and long-term equity awards. Although not all employees in the organization may have compensation comprising all three components, the compensation programs are generally structured so that any near-term cash incentives are not likely to constitute the predominant element of an employee's total compensation. The Compensation Committee annually reviews our compensation policies and practices to assess whether they encourage employees to take inappropriate risks. After reviewing each of our compensation plans, and the checks and balances built into, and oversight of, each plan, in April 2019, the Compensation Committee determined that any risks arising from our compensation policies and practices for our employees are not reasonably likely to have a material adverse effect on us as a whole. In addition, the Compensation Committee believes that the mix and design of the elements of executive compensation do not encourage management to assume excessive risks, and significant

compensation decisions, as well as decisions concerning the compensation of our executive officers, include subjective considerations by the compensation committee or the board of directors, which restrain the influence of formulae or objective factors on excessive risk taking. Finally, the mix of short-term compensation (in the form of salary and annual bonus, if any) and long-term compensation (in the form of stock options and RSUs) also prevents undue focus on short-term results and helps align the interests of our executive officers with the interests of our stockholders.

## **Employment Contracts and Change in Control Arrangements**

### ***Chief Executive Officer Employment Agreement***

#### ***Dr. Macrae***

In May 2016 we entered into an employment agreement with Dr. Macrae that took effect June 1, 2016, which sets forth the terms and conditions of his employment as President and Chief Executive Officer. Pursuant to his employment agreement, Dr. Macrae will receive a base salary (initially \$600,000 per year) and an annual cash bonus based upon our company's achievement of specified objectives under our Incentive Plan with a target cash bonus based on a percentage of his base salary (initially 60%). Dr. Macrae's base salary and target bonus percentage are subject to annual review by the Compensation Committee and adjustment from time to time by such Committee, and was subject to pro-rata for partial service in 2016. In 2018, Dr. Macrae's base salary was \$636,480 and his target cash bonus was 60% of his base salary.

Dr. Macrae's employment agreement also provided for a \$200,000 sign-on bonus, which was subject to repayment in the event Dr. Macrae's employment was terminated with cause or by him without good reason within one year of his appointment, as well as an initial equity grant of stock options under the 2013 Plan to acquire 700,000 shares of our common stock, which is vesting on the same terms as other discretionary awards under the 2013 Plan. Dr. Macrae is also entitled to be nominated for election to our Board of Directors for so long as his employment agreement is in effect.

Although Dr. Macrae's employment agreement includes certain benefits payable to him in connection with separation from service, such terms were waived by Dr. Macrae in connection with the March 2017 adoption of the Severance Plan, as amended and restated in February 2019 by the Amended Severance Plan, which now governs his severance benefits. The terms of the Severance Plan and Amended Severance Plan are described below under Executive Severance Plan.

### ***Executive Vice President Employment Agreements***

#### ***Ms. Yi***

Effective February 28, 2017, we entered into an employment agreement with Kathy Y. Yi, which sets forth the terms and conditions of her employment as Chief Financial Officer. Pursuant to her employment agreement, Ms. Yi will receive a base salary (initially \$350,000 per year) and an annual cash bonus based upon our company's and her individual achievement of specified objectives under our Incentive Plan with a target cash bonus based on a percentage of her base salary (initially 35%). Ms. Yi's base salary and target bonus percentage are subject to annual review by the Compensation Committee and adjustment from time to time by such Committee, and were also subject to pro-rata for partial service in 2017. In 2018, Ms. Yi's base salary was \$404,833 and her target cash bonus was 35% of her base salary.

Ms. Yi's employment agreement also provided for an initial equity grant of stock options under the 2013 Plan to acquire 200,000 shares of our common stock, which is vesting on the same terms as other discretionary awards under the 2013 Plan.

Although Ms. Yi's employment agreement includes certain severance benefits payable to her in connection with separation from service, such terms were waived by Ms. Yi in connection with the March 2017 adoption of the Severance Plan, as amended and restated in February 2019 by the Amended Severance Plan, which now governs her severance benefits. The terms of the Severance Plan and Amended Severance Plan are described below under Executive Severance Plan.



*Mr. Boissel*

In connection with our acquisition of TxCell, we entered into an employment agreement with Mr. Boissel in October 2018, setting forth the terms and conditions of his employment as our Executive Vice President, Corporate Strategy. Mr. Boissel was the former Chief Executive Officer of TxCell. Pursuant to his employment agreement, Mr. Boissel will receive an initial base salary of \$480,000 per year, and an annual cash bonus based upon our company's and his individual achievement of specified objectives under our Incentive Plan with a target cash bonus of 40% of his base salary. Under the terms of his employment agreement, Mr. Boissel was employed on a part-time basis through December 31, 2018, during which time his salary was at a rate of \$140,000 per year. Mr. Boissel continued to receive compensation under his management contract with TxCell through December 31, 2018. Mr. Boissel's base salary and target bonus percentage are subject to annual review by the Compensation Committee and adjustment from time to time by such Committee, and his salary was subject to pro-ration for partial service and part-time basis in 2018.

Mr. Boissel's employment agreement also provided for a \$100,000 sign-on bonus, which is subject to repayment in the event Mr. Boissel's employment is terminated with cause or by him without good reason within one year of his appointment, as well as an initial equity grant of stock options under the 2018 Plan to acquire 215,000 shares of our common stock, which is vesting on the same terms as other discretionary awards under the 2018 Plan. Further, in connection with our acquisition of TxCell, Mr. Boissel, as an employee of TxCell, was granted a stock option under the 2018 Plan to acquire 68,523 shares of common stock with an exercise price equal to the closing price per share on the grant date. The stock option is subject to a four-year vesting schedule with 25% of the shares subject to the option vesting upon Mr. Boissel's completion of one year of service measured from the option grant date and the balance of the shares vesting monthly thereafter for the next three years.

In addition, Mr. Boissel's employment agreement provided that he will be eligible to receive certain severance benefits under the Severance Plan, as amended and restated in February 2019 by the Amended Severance Plan, which is described below.

***Senior Vice President Employment Agreements***

*Dr. Conner*

Effective November 1, 2016, we entered into an employment agreement with Dr. Conner, which sets forth the terms and conditions of his employment as Chief Medical Officer. Pursuant to his employment agreement, Dr. Conner will receive a base salary (initially \$400,000 per year), and an annual cash bonus based upon our company's and his individual achievement of specified objectives under our Incentive Plan with a target cash bonus based on a percentage of his base salary (initially 35%). Dr. Conner's base salary and target bonus percentage are subject to annual review by the Compensation Committee and adjustment from time to time by such Committee, and his salary was subject to pro-ration for partial service in 2016. Dr. Conner was not eligible for a target cash bonus in 2016. In 2018, Dr. Conner's base salary was \$408,000 and his target cash bonus was 35% of his base salary.

Dr. Conner's employment agreement also provided for a \$100,000 sign-on bonus, which was subject to repayment in the event Dr. Conner's employment was terminated with cause or by him without good reason within one year of his appointment, as well as an initial equity grant of stock options under the 2013 Plan to acquire 200,000 shares of our common stock, which is vesting on the same terms as other discretionary awards under the 2013 Plan.

Although Dr. Conner's employment agreement includes certain severance benefits payable to him in connection with separation from service, such terms were waived by Dr. Conner in connection with the March 2017 adoption of the Severance Plan, as amended and restated in February 2019 by the Amended Severance Plan, which now governs his severance benefits. The terms of the Severance Plan and Amended Severance Plan are described below under Executive Severance Plan.



*Ms. Turner*

In January 2018, we entered into an employment agreement with Ms. Turner setting forth the terms and conditions of her employment as a Senior Vice President and General Counsel and Secretary. Pursuant to her employment agreement, Ms. Turner received an initial base salary of \$400,000 per year, and an annual cash bonus based upon our company's and her individual achievement of specified objectives under our Incentive Plan with a target cash bonus of 35% of her base salary. Ms. Turner's base salary and target bonus percentage were subject to annual review by the Compensation Committee and adjustment from time to time by such Committee, and her salary was subject to pro-rata for partial service in 2018.

Ms. Turner's employment agreement also provided for a \$150,000 sign-on bonus, which was subject to repayment in the event Ms. Turner's employment was terminated with cause or by her without good reason within one year of her appointment, as well as an initial equity grant of stock options under the 2013 Plan to acquire 200,000 shares of our common stock, which was vesting on the same terms as other discretionary awards under the 2013 Plan (and which has since lapsed in accordance with its terms following her voluntary resignation).

Ms. Turner's employment agreement provided that she was eligible to receive certain severance benefits under the Severance Plan, as amended and restated in February 2019 by the Amended Severance Plan. As Ms. Turner voluntarily resigned in March 2019, she did not receive any benefits under the Amended Severance Plan.

***Executive Severance Plan***

*Executive Severance Plan in Effect as of December 31, 2018*

In March 2017, the Compensation Committee adopted the Severance Plan, to provide severance benefits to certain of our executive officers and other key employees whose employment terminates under certain prescribed circumstances. Eligible employees under the Severance Plan include our named executive officers Drs. Macrae and Conner, Ms. Yi and Mr. Boissel. We have excluded Ms. Turner from the below as she voluntarily resigned effective March 2019 and is not eligible to receive any severance benefits.

Under the Severance Plan, which replaced the severance arrangement set forth in Dr. Macrae's employment agreement, Dr. Macrae would have been eligible to receive the following severance benefits: (a) cash equal to the sum of (i) 18 months of his base salary and (ii) his target bonus for the year of termination, payable over 12 months, reimbursement for his health care coverage costs under COBRA for 12 months, and full acceleration of his outstanding equity awards, and any outstanding options as so accelerated would have remained exercisable for a period of 12 months following termination, in the event of an involuntary termination during the 12-month period following a change in control of the Company, or the Change in Control Period, or (b) cash equal to 12 months of his base salary, payable over 12 months, and COBRA reimbursement for 12 months, if he had an involuntary termination other than during the Change in Control Period. These cash severance benefits under the Severance Plan were identical to the severance benefits he was eligible to receive under his employment agreement; however, under his employment agreement, only 50% of the shares subject to any outstanding equity award accelerated if the change in control was within two years following the effective date of the employment agreement and 100% of the shares accelerated if the change in control was more than two years after the effective date.

Under the Severance Plan, for which Mr. Boissel was eligible to receive benefits and which replaced the severance arrangements set forth in Dr. Conner's, Ms. Yi's and Ms. Turner's respective employment agreements, Mr. Boissel, Dr. Conner, Ms. Yi and Ms. Turner would have been eligible to receive the following severance benefits: (a) cash equal to the sum of (i) 12 months of base salary and (ii) target bonus for the year of termination, payable over 12 months, reimbursement for health care coverage costs under COBRA for 12 months, and accelerated vesting of all outstanding equity awards, and any outstanding options as so accelerated





would have remained exercisable for a period of 12 months following termination, in the event of an involuntary termination during the Change in Control Period; or (b) cash equal to nine months of base salary, payable over nine months, and COBRA reimbursement for nine months, if there had been an involuntary termination other than during the Change in Control Period. These cash severance benefits under the Severance Plan were similar to the severance benefits Dr. Conner and Ms. Yi were eligible to receive under their respective employment agreements; however, under the employment agreements, only 50% of the shares subject to any outstanding equity award accelerated if the change in control was within two years following the effective date of the employment agreement and 100% of the shares accelerated if the change in control was more than two years after the effective date, and (b) the base salary and COBRA reimbursement continuation period was six months under the employment agreements (instead of 12 months in the event of an involuntary termination during the Change in Control Period or nine months in the event of an involuntary termination other than during the Change in Control Period, under the Severance Plan, as described above).

#### *Current Executive Severance Plan*

In February 2019, the Compensation Committee of the Board adopted the Amended Severance Plan, which amended and restated the Severance Plan.

Under the Amended Severance Plan, Dr. Macrae is eligible to receive the following severance benefits: (a) cash equal to the sum of (i) 18 months of his base salary and (ii) 1/12 of the target bonus for the year of termination multiplied by 18, payable over 12 months, reimbursement for his health care coverage costs under COBRA for 18 months, and full acceleration of his outstanding equity awards, and any outstanding options as so accelerated will remain exercisable for a period of 12 months following termination, in the event of an involuntary termination during the Change in Control Period or (b) cash equal to 18 months of his base salary, payable over 18 months, and COBRA reimbursement for 18 months, if he has an involuntary termination other than during the Change in Control Period.

Under the Amended Severance Plan, Ms. Yi and Mr. Boissel are eligible to receive the following severance benefits: (a) cash equal to the sum of (i) 15 months of base salary and (ii) 1/12 of the target bonus for the year of termination multiplied by 15, payable over 15 months, reimbursement for health care coverage costs under COBRA for 15 months, and accelerated vesting of all outstanding equity awards, and any outstanding options as so accelerated will remain exercisable for a period of 12 months following termination, in the event of an involuntary termination during the Change in Control Period; or (b) cash equal to 15 months of base salary, payable over 15 months, and COBRA reimbursement for 15 months, if there is an involuntary termination other than during the Change in Control Period.

Under the Amended Severance Plan, Dr. Conner and Ms. Turner are eligible to receive the following severance benefits: (a) cash equal to the sum of (i) 12 months of base salary and (ii) 1/12 of the target bonus for the year of termination multiplied by 12, payable over 12 months, reimbursement for health care coverage costs under COBRA for 12 months, and accelerated vesting of all outstanding equity awards, and any outstanding options as so accelerated will remain exercisable for a period of 12 months following termination, in the event of an involuntary termination during the Change in Control Period; or (b) cash equal to 12 months of base salary, payable over 12 months, and COBRA reimbursement for 12 months, if there is an involuntary termination other than during the Change in Control Period.

If any of the severance benefits under the Amended Severance Plan would constitute a parachute payment within the meaning of Section 280G of the Code, such payments are subject to reduction to the extent doing so would put the recipient in a better after-tax position after taking into account any excise tax that may be incurred under Code Section 4999 in connection with any change in control of the Company or subsequent termination of employment.



**2013 Plan**

The Compensation Committee of the Board of Directors, as the administrator of the 2013 Plan, has the authority to provide that any outstanding options held by the Chief Executive Officer or any other executive officer or any other unvested equity award made to such individual under the 2013 Plan will vest on an accelerated basis in connection with certain changes in control of the Company or the subsequent termination of the officer's employment following the change in control event. In addition, all outstanding options and RSUs under the 2013 Plan will immediately vest upon a change in control, to the extent not assumed or continued in effect by the successor entity or replaced with an incentive compensation program that preserves the intrinsic value of the award at that time and provides for the subsequent vesting and concurrent payout of that value in accordance with the pre-existing vesting schedules for those awards.

**2018 Plan**

The Board of Directors, or any committee properly constituted thereof, as the administrator of the 2018 Plan, has the authority to accelerate the time at which an equity award made under the 2018 Plan may first be exercised or vest on an accelerated basis in connection with certain changes in control of the Company. In addition, all outstanding options and RSUs under the 2018 Plan will immediately vest upon a change in control, to the extent not assumed or continued in effect by the successor entity or replaced with a similar incentive compensation program, for which the Board of Directors shall set the terms of any assumption, continuation or substitution.

**Potential Payments Upon Termination or Change in Control as of December 31, 2018**

The charts below quantify the potential payments our named executive officers would receive under various scenarios under the Severance Plan. The value attributed to the accelerated vesting of equity awards represents the intrinsic value of each stock option or RSU award vesting on an accelerated basis in connection with the identified triggering event, which is assumed to occur on December 31, 2018. The intrinsic value is calculated by multiplying (i) the aggregate number of shares that vest on an accelerated basis by (ii) the amount by which the \$11.48 closing selling price per share of our common stock on December 31, 2018, exceeds the exercise price payable or other issue price (if any) per vested share.

**Quantification of Benefits Upon Involuntary Termination in the Absence of a Change in Control**

The chart below quantifies the compensation each named executive officer would have received had the officer's employment terminated without cause in the absence of a change in control of the Company but under circumstances entitling the officer to severance benefits under the Severance Plan.

Name	Cash	
	Severance (\$) (1)	COBRA (\$)
Alexander D. Macrae	636,480	17,392
Kathy Y. Yi	303,625	13,044
Heather D. Turner	300,000	21,755
Stéphane Boissel	360,000	7,430
Edward R. Conner, M.D.	306,000	2,488

- (1) Cash severance upon termination in the absence of a change in control is payable in a series of successive equal monthly installments over a period ranging from nine to 12 months.



*Benefits Upon Involuntary Termination in Connection With a Change in Control*

The chart below quantifies the payments our named executive officers would each have received had their employment terminated without cause or with good reason in connection with a change in control under circumstances entitling them to severance benefits under the Severance Plan.

Name	Cash	Target	Accelerated	COBRA (\$)
	Severance (\$) (1)	Bonus (\$) (2)	Vesting of Equity Awards (\$) (3)	
Alexander D. Macrae	954,720	381,888	3,015,495	17,392
Kathy Y. Yi	404,833	141,692	833,985	17,392
Heather D. Turner	400,000	140,000	-	29,006
Stéphane Boissel (4)	480,000	-	113,409	9,906
Edward R. Conner, M.D.	408,000	142,800	863,821	3,317

- (1) Cash severance upon termination in connection with a change in control is payable in a series of successive equal monthly installments over 12 months.
- (2) Target bonus represents the amount of severance benefit that an executive is entitled to payable in a series of successive equal monthly installments over 12 months.
- (3) No value is included in this table with respect to the accelerated vesting of options for which the exercise price was in excess of the closing price of our common stock on December 31, 2018.
- (4) Mr. Boissel joined the Company in October 2018 on a part-time basis through December 31, 2018 and was not eligible to participate in the annual performance bonus program during 2018.

*Benefits Upon a Change in Control (No Termination)*

The chart below quantifies the value of the accelerated equity the named executive officers are entitled to receive under the 2013 Plan and 2018 Plan upon a change in control of the Company in which their outstanding equity awards are not assumed or otherwise continued in effect, terminated or cancelled in connection therewith.

Name	Accelerated Equity (\$)
Alexander D. Macrae	3,015,495
Kathy Y. Yi	833,985
Heather D. Turner	-
Stéphane Boissel	113,409

Edward R. Conner, M.D.

863,821

*Benefits upon Death or Disability*

Under the 2013 Plan, if a named executive officer's service with us is terminated as a result of death or permanent disability, or a named executive officer dies or becomes permanently disabled during the three months after a termination other than for misconduct, the period of time in which an option may be exercised following termination shall be the earlier of 12 months following the date of such named executive officer's death or the expiration date of the option, whichever is earlier, rather than the standard three-month post-termination exercise period provided for in the 2013 Plan or the 2018 Plan.

*Potential Payments Upon Termination or Change in Control Under Amended Severance Plan*

As discussed above, in February 2019, the Compensation Committee of the Board adopted the Amended Severance Plan, which amended and restated the Severance Plan. To provide meaningful disclosure to investors,

we estimate in the charts below the amount of potential compensation to our named executive officers under various scenarios under the Amended Severance Plan, assuming the applicable event occurred on December 31, 2018, the last business day of the Company's last fiscal year, and the Amended Severance Plan had instead been in effect on December 31, 2018. The value attributed to the accelerated vesting of equity awards represents the intrinsic value of each stock option or RSU award vesting on an accelerated basis in connection with the identified triggering event, which is assumed to occur on December 31, 2018. The intrinsic value is calculated by multiplying (i) the aggregate number of shares that vest on an accelerated basis by (ii) the amount by which the \$11.48 closing selling price per share of our common stock on December 31, 2018, exceeds the exercise price payable or other issue price (if any) per vested share.

*Quantification of Benefits Upon Involuntary Termination in the Absence of a Change in Control*

The chart below quantifies the compensation each named executive officer would have received had the officer's employment terminated without cause in the absence of a change in control of the Company but under circumstances entitling the officer to severance benefits under the Amended Severance Plan.

Name	Cash	
	Severance (\$) (1)	COBRA (\$)
Alexander D. Macrae	954,720	26,088
Kathy Y. Yi	506,841	21,740
Heather D. Turner	400,000	29,006
Stéphane Boissel	600,000	12,383
Edward R. Conner, M.D.	408,000	3,317

- (1) Cash severance upon termination in the absence of a change in control is payable in a series of successive equal monthly installments over a period ranging from 12 to 18 months.

*Benefits Upon Involuntary Termination in Connection With a Change in Control*

The chart below quantifies the payments our named executive officers would each have received had their employment terminated without cause or with good reason in connection with a change in control under circumstances entitling them to severance benefits under the Amended Severance Plan.

Name	Cash Severance (\$) (1)	Target Bonus (\$) (2)	Accelerated	COBRA (\$)
			Vesting of Equity Awards (\$) (3)	
Alexander D. Macrae	954,720	572,832	3,015,495	26,088
Kathy Y. Yi	506,841	177,114	833,985	21,740
Heather D. Turner	400,000	140,000	-	29,006
Stéphane Boissel (4)	600,000	-	113,409	12,383
Edward R. Conner, M.D.	408,000	142,800	863,821	3,317

- (1) Cash severance upon termination in connection with a change in control is payable in a series of successive equal monthly installments over a period ranging from 12 to 15 months.
- (2) Target bonus represents the amount of severance benefit that an executive is entitled to payable in a series of successive equal monthly installments over a period ranging from 12 to 15 months.
- (3) No value is included in this table with respect to the accelerated vesting of options for which the exercise price was in excess of the closing price of our common stock on December 31, 2018.
- (4) Mr. Boissel joined the Company in October 2018 on a part-time basis through December 31, 2018 and was not eligible to participate in the annual performance bonus program during 2018.



*Benefits Upon a Change in Control (No Termination)*

The chart below quantifies the value of the accelerated equity the named executive officers are entitled to receive under the 2013 Plan and 2018 Plan upon a change in control of the Company in which their outstanding equity awards are not assumed or otherwise continued in effect, terminated or cancelled in connection therewith.

<b>Name</b>	<b>Accelerated Equity (\$)</b>
Alexander D. Macrae	3,015,495
Kathy Y. Yi	833,985
Heather D. Turner	-
Stéphane Boissel	113,409
Edward R. Conner, M.D.	863,821

*Benefits upon Death or Disability*

Under the 2013 Plan, if a named executive officer's service with us is terminated as a result of death or permanent disability, or a named executive officer dies or becomes permanently disabled during the three months after a termination other than for misconduct, the period of time in which an option may be exercised following termination shall be the earlier of 12 months following the date of such named executive officer's death or the expiration date of the option, whichever is earlier, rather than the standard three-month post-termination exercise period provided for in the 2013 Plan or the 2018 Plan.

**Pay Ratio Disclosure**

Under SEC rules, we are required to calculate and disclose the annual total compensation of our median employee, as well as the ratio of the annual total compensation of our median employee as compared to the annual total compensation of our President and Chief Executive Officer, Dr. Macrae (our CEO), for our last fiscal year (CEO Pay Ratio). To identify our median employee, we used the following methodology:

To determine our total population of employees, we included all of our employees as of November 15, 2018 regardless of their full- or part-time schedule or anticipated employment duration.

To identify our median employee from our employee population, we calculated the aggregate amount of the 2018 base compensation of each of our employees excluding the CEO using a reasonable estimate of the hours worked during 2018 for our hourly employees and actual salary paid for our remaining employees, target 2018 bonus, and the grant date fair value of equity awards granted in fiscal 2018 (using the same methodology we use for estimating the value of the equity awards granted to our named executive officers and reported in our Summary Compensation Table).

In making this determination, we annualized the base compensation, target bonus and other cash incentive compensation of those permanent employees who were employed by us for less than the entire fiscal year. Using this approach, we determined our median employee. Our determination of the median employee yielded two median employees because, after excluding the CEO, we had an even number of employees. After identifying the two median employees, we determined their annual total compensation in accordance with the requirements of the Summary Compensation Table and, in order to utilize a more conservative approach, selected the employee with the

lower annual total compensation.

Accordingly, for fiscal 2018, the median of the annual total compensation of our employees (other than our CEO) was \$173,399 and the annual total compensation of our CEO, as reported in the Summary Compensation Table included in this Proxy Statement, was \$4,104,428. Based on this information, the ratio of the annual total compensation of our CEO to the median of the annual total compensation of all our employees was approximately 24 to 1.

The CEO Pay Ratio above represents our reasonable estimate calculated in a manner consistent with SEC rules and applicable guidance. SEC rules and guidance provide significant flexibility in how companies identify the median employee, and each company may use a different methodology and make different assumptions particular to that company. As a result, and as explained by the SEC when it adopted these rules, in considering the pay ratio disclosure, stockholders should keep in mind that the rule was not designed to facilitate comparisons of pay ratios among different companies, even companies within the same industry, but rather to allow stockholders to better understand and assess each particular company's compensation practices and pay ratio disclosures.

Neither the Compensation Committee nor our management used our CEO Pay Ratio measure in making compensation decisions.

### Compensation Committee Report<sup>1</sup>

The Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis contained in this Proxy Statement with management, and based on such review and such discussions, the Compensation Committee recommended to the Board of Directors that the Compensation Discussion and Analysis, as contained herein, be included in this Proxy Statement.

Submitted by the Compensation  
Committee of the Board of Directors

Dr. Steven J. Mento

Dr. Roger Jeffs  
Ms. H. Stewart Parker

<sup>1</sup> The material in this Compensation Committee Report is not soliciting material, is not deemed filed with the SEC and is not to be incorporated by reference into any filing of Sangamo Therapeutics, Inc. under the Securities Act of 1933, as amended, or the Securities Act, or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

### Equity Compensation Plan Information

The following table provides information as of December 31, 2018, with respect to the shares of our common stock that may be issued under our existing equity compensation plans. There are no outstanding options that we have assumed in connection with our acquisition of other companies, and there are currently no assumed plans under which we can grant options.

Category	Column (A) Number of Securities to be Issued Upon Exercise of Outstanding Options, Restricted Stock Units and Other Rights	Column (B) Weighted Average Exercise Price of Outstanding Options	Column (C) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans
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					<b>(Excluding Securities Reflected in Column A)</b>
Compensation Plans Approved by Stockholders (1)	8,684,793	(2)(3)	\$	10.85	(4) 12,498,382
Compensation Plans Not Approved by Stockholders	364,000	(7)		19.92	-
	9,048,793			11.23	12,498,382

(1) The equity compensation plans approved by stockholders consists of the 2013 Plan, the 2018 Plan and the Purchase Plan. In November 2017, the Compensation Committee approved the amendment and restatement

of the 2013 Plan to reserve an additional 1,000,000 shares of our common stock to be used exclusively for grants of awards to individuals who were not previously employees or non-employee directors of the Company (or following a bona fide period of non-employment with the Company), as an inducement material to each such individual's entry into employment with us within the meaning of Rule 5635(c)(4) of the Nasdaq Listing Rules, or Rule 5635(c)(4) (such awards, the Inducement Awards). The 2013 Plan was amended and restated by the Compensation Committee without stockholder approval pursuant to Rule 5635(c)(4). Accordingly, for purposes of this table, information with respect to Inducement Awards and the shares reserved for issuance under the 2013 Plan therefor, are included in the row in the table above with respect to equity compensation plans not approved by stockholders.

- (2) Includes 322,701 shares subject to RSUs that will entitle the holder to one share of common stock for each unit that vests over the holder's period of continued service.
- (3) Excludes purchase rights accruing under the Purchase Plan and shares subject to outstanding options granted under the 2013 Plan as Inducement Awards. Under the Purchase Plan, each eligible employee may purchase up to 2,000 shares of common stock at semi-annual intervals on the last U.S. business day of April and October each year at a purchase price per share equal to 85% of the lower of (i) the closing selling price per share of common stock on the employee's entry date into the two-year offering period in which that semi-annual purchase date occurs or (ii) the closing selling price per share on the semi-annual purchase date.
- (4) The calculation does not take into account the 322,701 shares of common stock subject to outstanding RSUs. Such shares will be issued at the time the RSUs vest, without any cash consideration payable for those shares.
- (5) Consists of shares available for future issuance under the Purchase Plan and the 2018 Plan. As of December 31, 2018, 3,006,964 shares of common stock were available for issuance under the Purchase Plan, and 9,491,418 shares of common stock were available for issuance under the 2018 Plan. The shares available for issuance under the 2018 Plan may be issued upon the exercise of stock options or stock appreciation rights granted under the plan, or those shares may be issued as stock bonuses or pursuant to RSUs that vest upon the attainment of prescribed performance milestones or the completion of designated service periods.
- (6) As of December 31, 2018, the maximum number of shares of common stock reserved for issuance under the 2018 Plan and the Purchase Plan was 10,418,588 shares and 4,600,000 shares, respectively. The number of shares of common stock reserved for issuance under the 2018 Plan is reduced: (i) on a 1-for-1 basis for each share of common stock subject to a stock option grant or stock appreciation right award, or pursuant to a full-value award made under the 2013 Plan, and (ii) by a fixed ratio of 1.33 shares of common stock for each share of common stock issued pursuant to a full-value award made under the 2018 Plan.
- (7) Consists of stock options granted as Inducement Awards under the 2013 Plan.
- (8) As of December 31, 2018, options to purchase 364,000 shares were outstanding as Inducement Awards. All options granted as Inducement Awards have a maximum term of 10 years. As a result of the adoption of the 2018 Plan at our 2018 annual meeting of stockholders, no additional stock awards may be granted as Inducement

Awards. Accordingly, for purposes of the table above, no shares remained available for issuance as Inducement Awards as of December 31, 2018.

## Report of the Audit Committee of the Board of Directors<sup>1</sup>

The information contained under the heading "Report of the Audit Committee of the Board of Directors" in this Proxy Statement shall not be deemed to be "soliciting material" or to be "filed" with the Securities and Exchange Commission, nor shall such information be incorporated by reference into any filing of the Company with the Securities and Exchange Commission, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing, or subject to the liabilities of Section 18 of the Exchange Act.

The Audit Committee has reviewed and discussed the audited financial statements for the fiscal year ended December 31, 2018 with the management of the Company.

The Audit Committee has discussed with Ernst & Young LLP, the independent registered public accounting firm that audited our financial statements for the fiscal year ended December 31, 2018, the matters required to be discussed by Public Company Accounting Oversight Board (PCAOB) Auditing Standard No. 1301, Communications with Audit Committees, or any successor standard.

The Audit Committee has received the written disclosures and the letter from Ernst & Young LLP required by applicable requirements of the PCAOB regarding Ernst & Young LLP's communications with the Audit Committee concerning independence, and has discussed with Ernst & Young LLP its independence from the Company.

Based on the review of the audited financial statements and the discussions noted above, the Audit Committee recommended to our Board of Directors that the audited financial statements be included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 for filing with the Securities and Exchange Commission.

Submitted by the Audit Committee of the

Board of Directors of Sangamo Therapeutics,  
Inc.

Mr. Robert F. Carey  
Ms. Saira Ramasastry  
Mr. Joseph S. Zakrzewski

<sup>1</sup> The material in this Report of the Audit Committee is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference into any filing of Sangamo Therapeutics, Inc. under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

## **CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS**

Since January 1, 2018, there has not been nor is there currently proposed any transaction or series of similar transactions to which we were or are to be a party in which the amount involved exceeds \$120,000 and in which any director, executive officer, holder of more than 5% of our common stock, or any member of the immediate family of any of the foregoing persons, had or will have a direct or indirect material interest other than described below and other than compensation agreements and other arrangements, which are described elsewhere in this Proxy Statement.

As previously disclosed, in July 2018, we entered into a share purchase agreement with certain shareholders of TxCell, including Mr. Boissel, one of our executive officers, to purchase approximately 53% of the outstanding share capital and voting rights of TxCell in a block transaction (or an aggregate of 13,519,036 ordinary shares of TxCell). Accordingly, in October 2018, we purchased 33,000 TxCell shares from Mr. Boissel for 85,140 (or \$98,762) in the closing of the block transaction. In July 2018, we also entered into arrangements with the holders of approximately 477,000 free shares of TxCell, including Mr. Boissel, with respect to 238,100 of such TxCell free shares. Under these arrangements, we have the right to purchase such TxCell free shares from the holders thereof and such holders have the right to sell to us such TxCell free shares from time to time through mid-2021. The purchase price for each such TxCell free share we acquire will be based our stock price performance from the July 2018 announcement of the transactions contemplated by the TxCell acquisition agreements through the time of purchase of such shares. We have not yet acquired any TxCell free shares from Mr. Boissel pursuant to such arrangement.

The aforementioned TxCell share purchase agreement was not pre-approved as a related party transaction by our Audit Committee pursuant to our policy, as Mr. Boissel was not a related person at such time. However, our Audit Committee will provide appropriate review and oversight of the implementation of this agreement, and any future share purchases from Mr. Boissel pursuant thereto consistent with applicable Nasdaq rules.

In addition to the indemnification provisions contained in our Seventh Amended and Restated Certificate of Incorporation, as amended, we have entered into separate indemnification agreements with each of our directors containing provisions that may require us to, among other things, indemnify them against certain liabilities that may arise by reason of their status or service as directors.

## **POLICIES AND PROCEDURES**

Consistent with the requirement under Nasdaq listing rules, the Audit Committee of the Board of Directors is responsible for reviewing and approving all related party transactions as defined under SEC rules and regulations. While we do not have a formal written policy or procedure for the review, approval or ratification of related party transactions, the Audit Committee must review the material facts of any such transaction and approve that transaction.

To identify related party transactions, each year we submit and require our directors and officers to complete director and officer questionnaires identifying transactions with us in which the director or officer or their family members have a conflict of interest. We review the questionnaire for potential related party transactions. In addition, at meetings of the Audit Committee, management may recommend related party transactions to the committee, including the material terms of the proposed transactions, for its consideration. In making its decision to approve or ratify a related party transaction, the Audit Committee will consider all relevant facts and circumstances available to the committee, including factors such as the aggregate value of the transaction, whether the terms of the related party transaction are no less favorable than terms generally available in an arms length transaction and the benefit of such transaction to us.



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

The members of the Board of Directors, our executive officers and persons who beneficially own more than 10% of our outstanding common stock are subject to the reporting requirements of Section 16 of the Exchange Act, as amended, which require them to file reports with respect to their beneficial ownership of the common stock and their transactions in such common stock. Based upon (i) the copies of Section 16 reports that we received from such persons for their 2018 year transactions in the common stock and their common stock holdings, and (ii) written representation that no other reports were required, we believe that all reporting requirements under Section 16 for such year were met in a timely manner by our directors, executive officers and greater than 10% beneficial owners, except as follows: each of Alexander D. Macrae, Kathy Y. Yi, and Edward R. Conner, three of our named executive officers, and Curt A. Herberts, III, a former executive officer, filed one late Form 4 each of which was filed three days late reporting the annual grants of stock options and RSUs to such executive officers in January 2018 under the Company's 2018 Plan.

## **SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS**

This Proxy Statement contains forward-looking statements regarding our current expectations. These forward-looking statements include, without limitation, statements regarding: the goals and objectives of our compensation programs; our business strategies, including our goal to become a sustainable, fully-integrated biopharmaceutical company; potential future payments under our global collaboration and license agreement with Kite Pharma; the anticipated benefits to us of our acquisition of TxCell; our plans with respect to, and the anticipated benefits of, second-generation ZFNs, including our plans to evaluate second-generation ZFNs in a new clinical trial and expected related determinations and the timing thereof; other planned studies; the therapeutic potential for our product candidates; and other statements that are not historical fact. In some cases, you can identify forward-looking statements by terms such as: will, intend, anticipate, believe, continue, could, estimate, expect, may, plan, seek, and are not guarantees of future performance and are subject to certain risks, uncertainties and assumptions that are difficult to predict. Factors that could cause actual results to differ include, but are not limited to, risks and uncertainties related to: our dependence on the success of clinical trials; the lengthy and uncertain regulatory approval process, including the risk that clinical trial data are subject to differing interpretations and assessments by regulatory authorities; uncertainties related to the initiation, enrollment and completion of clinical trials; the possibility of unfavorable new clinical data and further analyses of existing clinical data; whether we will be able to effectively deliver our ZFNs to produce a beneficial therapeutic effect, including the risks that second-generation ZFNs may not be successfully integrated into our product candidates and even if successfully integrated, second-generation ZFNs may not have any advantages over our first-generation ZFNs or otherwise may not produce any beneficial therapeutic effect; our ability to realize the anticipated benefits of our acquisition of TxCell, including the risk that we may not be successful at developing a CAR-Treg therapy that can be used in patients; competitive developments; our reliance on partners and other third-parties to meet their clinical and manufacturing obligations; our ability to maintain strategic partnerships, including our global collaboration and license agreement with Kite Pharma; and the possibility that our compensation programs may not result in improved performance. Further, there can be no assurance that the necessary regulatory approvals for BIVV003, ST-920, SB-525, SB-913, SB-318, SB-FIX or any other product candidates will be obtained or that we and our partners will be able to develop commercially viable product candidates. These risks and uncertainties are described more fully in our Annual Report on Form 10-K for the year ended December 31, 2018 as filed with the Securities and Exchange Commission. Forward-looking statements contained in this Proxy Statement are made as of the date of this Proxy Statement, and we undertake no duty to update such information except as required under applicable law.

## **HOUSEHOLDING OF PROXY MATERIALS**

The SEC has adopted rules that permit companies and intermediaries to satisfy the delivery requirements for Notices of Internet Availability of Proxy Materials or other Annual Meeting materials with respect to two or more

stockholders sharing the same address by delivering a single Notice of Internet Availability of Proxy

Materials or other Annual Meeting materials addressed to those stockholders. This process, which is commonly referred to as householding, potentially means extra convenience for stockholders and cost savings for companies.

This year, a number of brokers with account holders who are our stockholders will be householding our proxy materials. A single Notice of Internet Availability of Proxy Materials will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be householding communications to your address, householding will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate Notice of Internet Availability of Proxy Materials, please notify your broker or us. Direct your written request to Sangamo Therapeutics, Inc., Kathy Y. Yi, Secretary, 501 Canal Boulevard, Richmond, California 94804 or contact McDavid Stilwell at 510-970-6000. Stockholders who currently receive multiple copies of the Notices of Internet Availability of Proxy Materials at their addresses and would like to request householding of their communications should contact their brokers. In addition, we will promptly deliver, upon written or oral request to the address or telephone number above, a separate copy of the Notice of Internet Availability of Proxy Materials or the full set of proxy materials, as applicable, to a stockholder at a shared address to which a single copy of the documents was delivered.

**Our Annual Report on Form 10-K for the year ended December 31, 2018 is available without charge upon written request to: Corporate Secretary, Sangamo Therapeutics, Inc., 501 Canal Boulevard, Richmond, California 94804. Our Annual Report on Form 10-K is not incorporated into this Proxy Statement and is not considered proxy soliciting material.**

THE BOARD OF DIRECTORS OF  
SANGAMO THERAPEUTICS, INC.

Dated: April 25, 2019



