

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

SCHEDULE 14A
(Rule 14a-101)

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

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

Spruce Biosciences, Inc.
(Name of Registrant as Specified In Its Charter)

N/A

(Name of Person(s) Filing Proxy Statement if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee paid previously with preliminary materials
- Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a-6(i)(1) and 0-11.



NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held On May 25, 2023

Dear Stockholder:

You are cordially invited to attend the 2023 Annual Meeting of Stockholders (the "Annual Meeting") of Spruce Biosciences, Inc., a Delaware corporation (the "Company"). The Annual Meeting will be held on Thursday, May 25, 2023, at 10:00 a.m. (Pacific Time). The Annual Meeting will be held through a live webcast at www.virtualshareholdermeeting.com/SPRB2023. You will not be able to attend the meeting in person. The Annual Meeting is being held for the following purposes:

1. To elect the three Class III directors named herein to hold office until the Company's 2026 annual meeting of stockholders.
2. To ratify the selection by the Audit Committee of the Board of Directors of BDO USA, LLP as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2023.
3. To conduct any other business properly brought before the Annual Meeting.

These items of business are more fully described in the Proxy Statement accompanying this Notice.

The Annual Meeting will be held virtually through a live webcast. You will be able to attend the Annual Meeting, submit questions and vote during the live webcast by visiting www.virtualshareholdermeeting.com/SPRB2023 and entering the 16-digit Control Number included in your Notice of Internet Availability or in the instructions that you received via email. Please refer to the additional logistical details and recommendations in the accompanying proxy statement. You may log-in beginning at 9:45 a.m. (Pacific Time), on Thursday, May 25, 2023.

The record date for the Annual Meeting is March 27, 2023. Only stockholders of record at the close of business on that date may vote at the Annual Meeting or any adjournment thereof.

**Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting to Be Held on
May 25, 2023 at 10:00 a.m. (Pacific Time).**

The Proxy Statement and Annual Report to stockholders are available at www.proxyvote.com.

By Order of the Board of Directors

A handwritten signature in black ink, appearing to read "J. Szwarcberg".

Javier Szwarcberg, M.D., MPH
Chief Executive Officer
South San Francisco, California
April 5, 2023

You are cordially invited to virtually attend the Annual Meeting online. Whether or not you expect to virtually attend the Annual Meeting, please complete, date, sign and return the proxy mailed to you, or vote over the telephone or the internet as instructed in these materials, as promptly as possible in order to ensure your representation at the Annual Meeting. Even if you have voted by proxy, you may still vote online if you virtually attend the Annual 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 Annual Meeting, you must obtain a proxy issued in your name from that record holder.

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PROXY STATEMENT
FOR THE 2023 ANNUAL MEETING OF STOCKHOLDERS

TO BE HELD ON MAY 25, 2023

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 (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 (the “Notice”) because the Board of Directors (the “Board”) of Spruce Biosciences, Inc. (sometimes referred to as “we,” “us,” “our,” or the “Company”) is soliciting your proxy to vote at the 2023 Annual Meeting of Stockholders (the “Annual Meeting”), including at any adjournments or postponements of the Annual 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 5, 2023 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 April 15, 2023.

Why are you holding a virtual Annual Meeting?

The Annual Meeting will be held through a live webcast at www.virtualshareholdermeeting.com/SPRB2023. You will not be able to attend the Annual Meeting in person. If you attend the Annual Meeting online, you will be able to vote and submit questions, at www.virtualshareholdermeeting.com/SPRB2023.

How do I attend the Annual Meeting?

You are entitled to attend the Annual Meeting if you were a stockholder as of the close of business on March 27, 2023, the record date (the “Record Date”). To be admitted to the Annual Meeting, you will need to visit www.virtualshareholdermeeting.com/SPRB2023 and enter the 16-digit Control Number found next to the label “Control Number” on your Notice of Internet Availability, proxy card or voting instruction form.

Whether or not you participate in the Annual Meeting, it is important that you vote your shares.

We encourage you to access the Annual Meeting before it begins. Online check-in will start approximately fifteen minutes before the meeting on May 25, 2023.

What if I cannot find my Control Number?

Please note that if you cannot find your Control Number and you are a registered stockholder, operators at 844-976-0738 (United States) or 303-562-9301 (international) will be able to help you locate your Control Number. You will be able to login as a guest. To view the meeting webcast visit www.virtualshareholdermeeting.com/SPRB2023 and register as a guest. If you login as a guest, you will not be able to vote your shares or ask questions during the meeting.

If you are a beneficial owner (that is, you hold your shares in an account at a bank, broker or other holder of record), and you lost your control number, you will need to contact that bank, broker or other holder of record to obtain your Control Number.

Where can I get technical assistance?

If you have difficulty accessing the meeting, please call 844-976-0738 (United States) or 303-562-9301 (international) where technicians will be available to help you.

For the Annual Meeting, how do I ask questions of management and the board?

We plan to have a Q&A session at the Annual Meeting and will include as many stockholder questions as the allotted time permits. Questions may be submitted during the Annual Meeting through www.virtualshareholdermeeting.com/SPRB2023.

If I miss the Annual Meeting, will there be a copy posted online?

Yes, a replay of the Annual Meeting webcast will be available at our website at <https://investors.sprucebiosciences.com/> and remain for at least one year.

Who can vote at the Annual Meeting?

Only stockholders of record at the close of business on the Record Date will be entitled to vote at the Annual Meeting. On the Record Date, there were 39,746,116 shares of common stock outstanding and entitled to vote.

Stockholder of Record: Shares Registered in Your Name

If on the Record Date your shares were registered directly in your name with our transfer agent, Computershare Trust Company, N.A., then you are a stockholder of record. We urge you to fill out and return the proxy card that may be mailed to you or vote by proxy over the telephone or on the internet as instructed below to ensure your vote is counted.

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

If on the Record Date 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. You may vote prior to the Annual Meeting by logging in with the Control Number on your voting instruction form at www.proxyvote.com. You may access the meeting and vote by logging in with your Control Number at www.virtualshareholdermeeting.com/SPRB2023.

What am I voting on?**There are two matters scheduled for a vote:**

- Proposal 1: To elect the three Class III directors named herein to hold office until the Company's 2026 annual meeting of stockholders.
- Proposal 2: To ratify the selection by the Audit Committee of the Board (the "Audit Committee") of BDO USA, LLP as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2023.

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 Annual 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?

You may either vote "For" all the nominees to the Board or you may "Withhold" your vote for any nominee you specify. For each of the other matters to be voted on, 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 using the following mechanisms:

- 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 1-800-690-6903 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 11:59 p.m. (Eastern Time) on May 24, 2023 to be counted.
- To vote through the internet, go to www.proxyvote.com 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 11:59 p.m. (Eastern Time) on May 24, 2023 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 the Company. Simply follow the voting instructions in the Notice to ensure that your vote is counted.

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.

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of the Record Date.

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 by completing your proxy card, by telephone, through the internet or online 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, as applicable, “For” the election of all three nominees for director and “For” the ratification of the selection by the Audit Committee of BDO USA, LLP as the independent registered public accounting firm of the Company for the fiscal year ending December 31, 2023. If any other matter is properly presented at the Annual Meeting, your proxy holder (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 (“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, Proposal 1 is considered to be “non-routine” under NYSE rules meaning that your broker may not vote your shares on Proposal 1 in the absence of your voting instructions. However, Proposal 2 is considered to be 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 2.

If you a beneficial owner of shares held in street name, in order 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 Annual Meeting. If you are the record holder of your shares, you may revoke your proxy in any one of the following ways:

- You may submit another properly completed proxy card with a later date.
- You may grant a subsequent proxy by telephone or through the internet.
- You may send a timely written notice that you are revoking your proxy to 611 Gateway Boulevard, Suite 740, South San Francisco, California 94080, Attention: Corporate Secretary.
- You may virtually attend the Annual Meeting and vote online. Simply attending the Annual 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.

Will a list of record stockholders as of the record date be available?

For the ten days ending the day prior to the Annual Meeting, a list of our record stockholders as of the close of business on the Record Date will be available for examination by any stockholder of record for a legally valid purpose at our corporate headquarters during regular business hours. To access the list of record stockholders beginning May 15, 2023 and until the meeting, stockholders should email investors@sprucebiosciences.com.

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 7, 2023, to 611 Gateway Boulevard, Suite 740, South San Francisco, California 94080, Attention: Corporate Secretary. If you wish to submit a proposal (including a director nomination) at the meeting that is not to be included in next year's proxy materials, you must do so between January 26, 2024 and February 25, 2024. In addition, stockholders who intend to solicit proxies in support of director nominees other than the Company's nominees must also comply with the additional requirements of Rule 14a-19(b). You are also advised to review the Company's amended and restated bylaws, which contain additional requirements relating to advance notice of stockholder proposals and director nominations. The timely submission of a proposal (including a director nomination) does not guarantee its inclusion in the Company's proxy materials.

How are votes counted?

Votes will be counted by the inspector of election appointed for the Annual Meeting, who will separately count, for the proposal to elect directors, votes "For," "Withhold" and broker non-votes; and, for the proposal to ratify the Audit Committee's selection of BDO USA, LLP as our independent public accounting firm for the fiscal year ended December 31, 2023, votes "For" and "Against," abstentions and, if applicable, broker non-votes. Abstentions will

have no effect on Proposal 1. Abstentions will be counted towards the vote total for Proposal 2 and will have the same effect as “Against” votes. Broker non-votes will be counted towards the presence of a quorum but will not be counted towards the vote total for any proposal.

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 1 is considered to be “non-routine” under NYSE rules and we therefore expect broker non-votes to exist in connection with this proposal.

As a reminder, if you are a beneficial owner of shares held in street name, in order 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?

For Proposal 1, the three nominees receiving the most “For” votes from the holders of shares present online at the Annual Meeting or represented by proxy and entitled to vote on the election of directors will be elected. Only votes “For” will affect the outcome.

For Proposal 2, ratification of the selection of BDO USA, LLP as the Company’s independent registered public accounting firm for fiscal year ending December 31, 2023, must receive “For” votes from the holders of a majority of shares present virtually at the Annual Meeting or represented by proxy and entitled to vote on the matter. If you “Abstain” from voting, it will have the same effect as an “Against” vote. This proposal is considered to be 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 of the outstanding shares of stock entitled to vote are present at the Annual Meeting virtually or represented by proxy. On the Record Date, there were 39,746,116 shares outstanding and entitled to vote. Thus, the holders of 19,873,059 shares must be present virtually or represented by proxy at the Annual Meeting to have a quorum.

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 online at the Annual Meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the chairman of the Annual Meeting or the holders of a majority of shares present at the Annual Meeting or represented by proxy may adjourn the meeting to another date.

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 Annual Meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

Proposal 1
Election of Directors

The Board is divided into three classes. Each class consists, as nearly as possible, of one-third of the total number of directors, and each class has a three-year term. Vacancies on the Board may be filled by persons elected by a majority of the remaining directors. A director elected by the Board to fill a vacancy in a class, including vacancies created by an increase in the number of directors, shall serve for the remainder of the full term of that class and until the director's successor is duly elected and qualified.

The Board presently has nine members. There are three directors in the class whose term of office expires in 2023: Javier Szwarcberg, M.D., MPH, Michael Grey, and Camilla V. Simpson, M.Sc. Each is currently a director of the Company. If elected at the Annual Meeting, each of these nominees would serve until the Company's 2026 annual meeting of stockholders and until the director's successor has been duly elected and qualified, or, if sooner, until the director's death, resignation or removal. It is the Company's policy to invite directors and nominees for director to attend the Annual Meeting, including virtually if applicable. All of the directors attended the 2022 Annual Meeting of Stockholders.

Directors are elected at the Annual Meeting by a plurality of the votes of the holders of shares present virtually or represented by proxy and entitled to vote on the election of directors. Accordingly, the three nominees receiving the highest number of affirmative votes will be elected. Each person nominated for election has agreed to serve if elected. The Company's management has no reason to believe that any nominee will be unable to serve.

The Nominating and Corporate Governance Committee of the Board (the "Nominating Committee") seeks to assemble a board that, as a whole, is diverse and possesses the appropriate balance of professional and industry knowledge, financial expertise and high-level management experience necessary to oversee and direct the Company's business. To that end, the Nominating Committee has identified and evaluated nominees in the broader context of the Board's overall composition, with the goal of recruiting members who complement and strengthen the skills of other members and who also exhibit integrity, collegiality, sound business judgment and other qualities that the Nominating Committee views as critical to effective functioning of the Board. To provide a mix of experience and perspective on the Board, the Nominating Committee also takes into account geographic, gender, age, and ethnic diversity. The brief biographies below include information, as of the date of this Proxy Statement, regarding the specific and particular experience, qualifications, attributes or skills of each director or nominee that led the Nominating Committee to believe that that nominee should serve or continue to serve on the Board. However, each of the members of the Nominating Committee may have a variety of reasons why he or she believes a particular person would be an appropriate nominee for the Board, and these views may differ from the views of other members. The following is a brief biography as of the Record Date of each nominee and each director whose term will continue after the Annual Meeting.

Nominees for Election for a Three-year Term Expiring at the Company's 2026 Annual Meeting of Stockholders

Javier Szwarcberg, M.D., MPH, 53, has served as our Chief Executive Officer and a member of the Board since January 2022. Dr. Szwarcberg previously served as Group Vice President, Head of Product and Portfolio Development for BioMarin Pharmaceutical Inc. ("BioMarin") from February 2020 to January 2022. Prior to joining BioMarin, Dr. Szwarcberg served as Senior Vice President, Program and Portfolio Management for Ultragenyx Pharmaceutical Inc., a biotechnology company, from October 2017 to February 2020. From October 2016 to October 2017, Dr. Szwarcberg served as Vice President of Clinical Development and Business Development for Horizon Pharma plc, a biopharmaceutical company. Dr. Szwarcberg received an M.D. from the University of Buenos Aires and an MPH from the Harvard T.H. Chan School of Public Health.

The Board and Nominating Committee believes that Dr. Szwarcberg's extensive experience in the biotechnology and pharmaceutical industries qualify him to serve on the Board.

Michael Grey, 70, has served as Executive Chairman of the Board since April 2017 and served as our Interim Chief Executive Officer from November 2021 to January 2022. In addition, Mr. Grey has served as Chairman of Mirum Pharmaceuticals, Inc. ("Mirum"), a biopharmaceutical company, since January 2020, and has been a director of Mirum since May 2018. Mr. Grey previously served as Executive Chairman of Mirum from March 2019 to December 2019 and Chief Executive Officer of Mirum from May 2018 to March 2019. Mr. Grey has served as Executive Chairman of Reneo Pharmaceuticals, Inc. ("Reneo"), a pharmaceutical company, since December 2017

and Plexium, Inc., a private biotechnology company, since December 2020. He has served as Chairman of Sorriso Pharmaceuticals, Inc., a private pharmaceutical company since May 2021. He has also served as a venture partner at Pappas Ventures, a venture capital firm, since January 2010, and as a director of Curzion Pharmaceuticals, Inc. (“Curzion”), which was acquired in April 2020 by Horizon Therapeutics Public Limited Company (“Horizon”), a pharmaceutical company, from January 2019 to April 2020. Mr. Grey served from January 2019 to September 2019 as President and Chief Executive Officer of Curzion, from October 2015 to January 2017 as President and Chief Executive Officer of Amplyx, and from September 2014 to December 2017 as Chairman and Chief Executive Officer of Reneo. From February 2011 to June 2014, Mr. Grey served as President and Chief Executive Officer of Lumena Pharmaceuticals, Inc. (“Lumena”), which was acquired by Shire plc (“Shire”) in June 2014. Mr. Grey has more than 45 years of experience in the pharmaceutical and biotechnology industries and has held senior positions at a number of companies, including President and Chief Executive Officer of SGX Pharmaceuticals, Inc. (sold to Eli Lilly and Company in 2008), President and Chief Executive Officer of Trega Biosciences, Inc. (sold to LION Bioscience, Inc. in 2001), and President of BioChem Therapeutic Inc. Prior to these, Mr. Grey served in various roles with Glaxo, Inc., and Glaxo Holdings PLC, culminating in his position as Vice President, Corporate Development and director of international licensing. Mr. Grey has also served on the board of directors of Horizon, a public biotechnology company, since September 2011. Mr. Grey received a B.S. in chemistry from the University of Nottingham in the United Kingdom.

The Board and Nominating Committee believes that Mr. Grey’s extensive experience managing and leading both early stage and established companies within the pharmaceutical and biotechnology industries qualify him to serve on the Board.

Camilla V. Simpson, M.Sc., 51, has served as a member of the Board since October 2017. Since April 2021, Ms. Simpson has served as Chief Executive Officer of Zehna Therapeutics, Inc., a biotechnology company and spin-out from the Cleveland Clinic. Since April 2019, Ms. Simpson has been the Managing Member and President of Rare Strategic, LLC where she provides strategic advice and consulting services to biotechnology companies. Ms. Simpson joined the board of directors of Dyve Biosciences in December 2020. From April 2017 to April 2019, Ms. Simpson was SVP, Head of Product Portfolio Development at BioMarin where she was responsible for corporate and R&D governance, program leadership, project management, competitive intelligence, portfolio strategy, and business analytics. From October 2014 to April 2017, Ms. Simpson was Group Vice President Global Regulatory Affairs at BioMarin, and from March 2014 to October 2014, Ms. Simpson was Vice President Regulatory Affairs EU at BioMarin. She also spent 12 years at Shire, where after multiple roles of increasing responsibility, she held the position of Vice President Regulatory Affairs Early Development and Business Development. Ms. Simpson holds a B.Sc. from University College Galway, Ireland, a B.Sc. Hons. from Kingston University, United Kingdom, and an M.Sc. with distinction from the University of London, United Kingdom.

The Board and Nominating Committee believes that Ms. Simpson’s significant experience as a senior executive in the pharmaceutical and biotechnology industries, including her experience in a wide range of drug development, organizational strategy and global regulatory affairs matters, qualifies her to serve on the Board.

**The Board Recommends
a Vote in Favor of Each Named Nominee.**

Directors Continuing in Office Until the Company’s 2024 Annual Meeting of Stockholders

Tiba Aynechi, Ph.D., 47, has served as a member of the Board since May 2016. Since December 2021, Dr. Aynechi has been a General Partner at Norwest Venture Partners (“Norwest”). Prior to Norwest, Dr. Aynechi was a senior partner at Novo Ventures (US) Inc. (“Novo Ventures”), which provides certain consultancy services to Novo Holdings A/S (“Novo”), a Danish limited liability company that manages investments and financial assets. Prior to joining Novo Ventures in March 2010, Dr. Aynechi was employed from June 2006 to March 2010 by Burrill & Company, a financial firm specializing in biotechnology and life sciences investment, in various positions, including from January 2009 to March 2010 as a director in merchant banking where she was responsible for regional and cross-border mergers and acquisitions, licensing, and financing transactions. Dr. Aynechi has served as a director of Nkarta, Inc., a public biopharmaceutical company, since October 2015. Dr. Aynechi served as a director of Mirum from November 2018 to August 2021 and iRhythm Technologies, Inc., a public digital healthcare company, from May 2014 to April 2017. She served as director of AnaptysBio, Inc., a biotechnology company, from April 2015 until its initial public offering in January 2017. She has also served as a member of the board of directors of several private biotechnology and medical device companies. Dr. Aynechi received her Ph.D. in biophysics from the

University of California, San Francisco, where her research involved developing computational methods for drug discovery. She received her B.S. in physics from the University of California, Irvine.

The Board and Nominating Committee believes that Dr. Aynechi's extensive experience in the biotechnology and pharmaceutical industries, including her expertise in handling a wide range of financing transactions, qualifies her to serve on the Board.

Niall O'Donnell, Ph.D., 50, has served as a member of the Board since May 2016. Dr. O'Donnell is currently a managing director at RiverVest Venture Partners, a venture capital firm, a position he has held since April 2014. He joined RiverVest Venture Partners in 2006 where he has focused on biopharmaceutical, diagnostic and medical device opportunities and contributes to the formation, development, and business strategies of RiverVest affiliated portfolio companies. Until November 2020, Dr. O'Donnell served as President and Chief Executive Officer of Reneo, which he co-founded in December 2017. From 2011 to 2013, he served as acting chief interim medical officer at Lumena, where he led the development and execution of the company's clinical strategy leading up to its acquisition by Shire. From February 2019 to April 2020, he co-founded and served as a member of the board of directors of Curzion. Dr. O'Donnell has been a board member of Mirum since December 2018, Reneo since December 2017, and is also a board member of the biopharmaceutical companies Avalyn Pharma, Inc., Sparrow Pharmaceuticals, Inc., and Glycomine, Inc. Dr. O'Donnell received a Ph.D. in biochemistry from the University of Dundee, Scotland, an M.A. in biochemistry from Pembroke College, Oxford, and an M.B.A. from the Rady School of Management of the University of California, San Diego.

The Board and Nominating Committee believes that Dr. O'Donnell's substantial experience in developing and managing biopharmaceutical companies qualifies him to serve on the Board.

Kirk Ways, M.D., Ph.D., 71, has served on the Board since June 2021. From October 2018 to January 2021, Dr. Ways served as Chief Medical Officer of Nuvelution Pharma, ("Nuvelution"). Prior to joining Nuvelution, Dr. Ways served as Development Head of Cardiovascular and Metabolism at Janssen Pharmaceuticals, Inc. ("Janssen"). Prior to joining Janssen, Dr. Ways served in leadership capacities at BioStratum Incorporated as Vice President and Chief Development Officer, Aventis as Senior Global Medical Leader and Project Team Leader and Lilly Research Laboratories as a Research Fellow with responsibilities for the preclinical and clinical development for agents treating the chronic complications of diabetes. Prior to joining the pharmaceutical industry, Dr. Ways served as Director of the Diabetes Center, Vice Chairman for the Department of Internal Medicine, Endocrinology Section Head and Professor of Medicine at East Carolina School of Medicine. Dr. Ways has authored more than one hundred publications in the fields of diabetes and cancer. Dr. Ways earned his M.D. with honors and a Ph.D. in Pharmacology from the University of North Carolina and graduated with a B.A. magna cum laude from Bridgewater College.

The Board and Nominating Committee believes that Dr. Ways' significant experience in leadership roles with pharmaceutical and biotechnology companies qualifies him to serve on the Board.

Directors Continuing in Office Until the Company's 2025 Annual Meeting of Stockholders

Dina Chaya, Ph.D., C.F.A., 51, has served as a member of the Board since February 2020. Dr. Chaya is currently a partner at NeoMed Management (Jersey) Limited, an international venture capital investment firm focused on the healthcare industry, a position she has held since January 2014. Dr. Chaya has been an advisor to Omega Fund Management, LLC since November 2016. Dr. Chaya has served as a director of Anjarium Biosciences AG ("Anjarium") since August 2021 and the Monks Investment Trust Plc since November 2022. Dr. Chaya was a member of the Venture Capital Platform Council of Invest Europe from March 2018 to September 2022 and served on the boards of Imago BioSciences, Inc. from March 2019 to January 2023 and Wilson Therapeutics AB ("Wilson Therapeutics") from October 2015 to April 2018. In addition, Dr. Chaya previously served on the boards of Attenua, Inc., Endosense SA, Oxular Limited and TopiVert Limited. She is a C.F.A. charterholder, holds a Ph.D. degree in Molecular and Cellular Biology from Paris VI University, and carried out postdoctoral research at Brown University, Providence and at the Fox Chase Cancer Centre, Philadelphia.

The Board and Nominating Committee believes that Dr. Chaya's business and venture capital experience as well as her extensive experience in the healthcare industry qualifies her to serve on the Board.

Bali Muralidhar, M.D., Ph.D., 43, has served as a member of the Board since February 2020. Dr. Muralidhar has served as a managing partner at Abingworth LLP ("Abingworth"), a leading transatlantic life sciences investment

firm, since December 2020, and as a partner from March 2019 to December 2020. Dr. Muralidhar has 15 years of professional experience in healthcare across a range of functions including venture investing, research and development, clinical practice and teaching. Prior to joining Abingworth, Dr. Muralidhar was a senior partner at MVM Partners LLP (“MVM”) from November 2012 to March 2019. Prior to MVM, he was a member of Bain Capital LP’s leveraged buyout team, focusing on healthcare from April 2011 to November 2012. Dr. Muralidhar represents Abingworth on the boards of Anjarium, Exicure Inc., NuCana, Reneo, and Wugen. He is also an executive officer on the joint steering committee of CymaBay Therapeutics, a biotechnology company. Dr. Muralidhar has served on the board of directors of Reneo since April 2021. Dr. Muralidhar previously served on the board of directors of Wilson Therapeutics from March 2014 to April 2018, and Valneva SE, a biotechnology company headquartered in France, from May 2017 to December 2019. Dr. Muralidhar earned a degree in clinical medicine from the University of Oxford and has a Ph.D. in translational cancer research from the MRC Cancer Cell Unit, University of Cambridge.

The Board and Nominating Committee believes that Dr. Muralidhar’s investment experience in the healthcare industry qualifies him to serve on the Board.

Daniel Spiegelman, 64, has served as a member of the Board since September 2020. Mr. Spiegelman currently provides consulting services to various life sciences companies. Mr. Spiegelman has served as the interim Chief Business Officer of Recardia Therapeutics, Inc. since July 2020. From May 2012 to January 2020, Mr. Spiegelman was the Executive Vice President and Chief Financial Officer of BioMarin, a biotechnology company. Prior to BioMarin, Mr. Spiegelman served as a consultant to provide strategic financial management support a portfolio of public and private life science companies. From January 1998 to May 2009, Mr. Spiegelman was the Chief Financial Officer of CV Therapeutics, Inc., a biopharmaceutical company. From July 1991 to January 1998, Mr. Spiegelman served in various roles at Genentech, Inc., (now a member of the Roche Group) most recently as Treasurer. Mr. Spiegelman has served as a director and the audit committee chair of Myriad Genetics, Inc., a public molecular diagnostic company, since May 2020, and Tizona Therapeutics, Inc., a privately held company developing cancer immunotherapies, since May 2019. Mr. Spiegelman has been a director of Opthea Limited, a public biologics drug developer, since October 2020. Mr. Spiegelman has been a director of Maze Therapeutics, Inc., a private biologics drug developer, since October 2020. Mr. Spiegelman was a director of a number of companies, including Cascadian Therapeutics, Inc. (formerly Oncothyreon, Inc.) from October 2008 until its merger with Seattle Genetics, Inc. in March 2018, Relypsa, Inc. from June 2014 until its merger with Galenica AG in September 2016, Anthera Pharmaceuticals, Inc. from February 2010 to June 2014, Affymax, Inc. from October 2006 to June 2013, Omeros Corporation from December 2009 to June 2012, and Cyclacel Pharmaceuticals, Inc. from September 2004 to June 2012. Mr. Spiegelman received a Bachelor of Arts degree from Stanford University and an M.B.A. from the Stanford Graduate School of Business.

The Board and Nominating Committee believes that Mr. Spiegelman’s substantial experience as an executive officer in the pharmaceutical and biotechnology industries, including his financial expertise, qualifies him to serve on the Board.

INFORMATION REGARDING THE BOARD OF DIRECTORS AND CORPORATE GOVERNANCE

Independence of the Board of Directors

As required under the Nasdaq Stock Market (“Nasdaq”) listing rules, a majority of the members of a listed company’s board of directors must qualify as “independent,” as affirmatively determined by the board of directors. The Board consults with the Company’s counsel to ensure that the Board’s determinations are consistent with relevant securities and other laws and regulations regarding the definition of “independent,” including those set forth in the Nasdaq listing rules, as in effect from time to time.

Consistent with these considerations, after review of all relevant identified transactions or relationships between each director, or any of his or her family members, and the Company, its senior management and its independent auditors, the Board has affirmatively determined that all of our directors, except for Dr. Szwarcberg and Mr. Grey, are independent directors within the meaning of the applicable Nasdaq listing rules. In making this determination, the Board found that none of these directors or nominees for director had a material or other disqualifying relationship with the Company.

In accordance with the Nasdaq listing rules, the members of the Board have self-identified a number of attributes related to their diversity. The following is a matrix showing the makeup of those self-reported attributes:

Board Diversity Matrix (as of the Record Date)				
Total Number of Directors	9			
	Female	Male	Non-Binary	Did Not Disclose Gender
Part I: Gender Identity				
Directors	3	6	—	—
Part II: Demographic Background				
African American or Black	—	—	—	—
Alaskan Native or Native American	—	—	—	—
Asian	—	1	—	—
Hispanic or Latinx	—	—	—	—
Native Hawaiian or Pacific Islander	—	—	—	—
White	3	4	—	—
Two or More Races or Ethnicities	—	1	—	—
LGBTQ+	—			
Did Not Disclose Demographic Background	—			

Board Leadership Structure

The Board is currently chaired by Mr. Grey, who has authority, among other things, to call and preside over Board meetings, to set meeting agendas and to determine materials to be distributed to the Board. Accordingly, the Chair of the Board has substantial ability to shape the work of the Board. The Company believes that separation of the positions of Chair of the Board and Chief Executive Officer reinforces the independence of the Board in its oversight of the business and affairs of the Company. That said, the Company does not believe there should be a fixed rule regarding the positions of Chief Executive Officer and Chair of the Board being held by different individuals, or whether the Chair of the Board should be elected from among the non-employee directors. The needs of the Company and the individuals available to assume these roles may require different outcomes at different times, and the Board believes that retaining flexibility in these decisions is in the best interests of the Company.

In addition, the Company has a separate Chair for each committee of the Board. The Chair of each committee reports periodically to the Board on the activities of their committee in fulfilling their responsibilities as detailed in their respective charters.

Role of the Board in Risk Oversight

One of the Board's key functions is informed oversight of the Company's risk management process. The Board does not have a standing risk management committee, but rather administers this oversight function directly through the Board as a whole, as well as through various Board standing committees that address risks inherent in their respective areas of oversight. In particular, the Board is responsible for monitoring and assessing strategic risk exposure, such as cybersecurity-related risks, including a determination of the nature and level of risk appropriate for the Company. The Audit Committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken, and to provide oversight assistance in connection with our legal, risk, regulatory and ethical compliance programs as established by management and the Board. The Nominating Committee monitors the effectiveness of our corporate governance guidelines. The Compensation Committee of the Board (the "Compensation Committee") assesses and monitors whether any of our compensation policies and practices has the potential to encourage excessive risk-taking.

Meetings of the Board of Directors

The Board met eight times during the last fiscal year. All directors except Dr. Muralidhar attended at least 75% of the aggregate number of meetings of the Board and of the committees on which they served, held during the portion of the last fiscal year for which they were directors or committee members, respectively.

In fiscal 2022, the Company's non-employee directors met five times in regularly scheduled executive sessions at which only non-employee directors were present.

Board Composition and Diversity

We believe that our continuing directors have an appropriate combination of qualifications, attributes, skills and experience. The following graphics provide summary information regarding the independence, age, ethnic and/or gender diversity, and tenure of our continuing directors.

We also believe our directors collectively have an appropriate balance of knowledge, experience, attributes, skills and expertise to ensure that the Board appropriately fulfills its oversight responsibilities and acts in the best interests of our stockholders. Although specific qualifications for membership on the Board may vary from time to time, desired qualities include (A) the highest personal integrity and ethics, (B) relevant expertise upon which to be able to offer advice and guidance to management, (C) demonstrated excellence in his or her field, (D) sound business judgment, (E) sufficient time to devote to the affairs of the Company, and (F) commitment to rigorously represent the long-term interests of our stockholders.

The following table depicts the key skills and experience that we consider important in light of our current business structure and that our directors bring to our company.

	T. Aynechi	D. Chaya	M. Grey	B. Muralidhar	N. O'Donnell	C. Simpson	D. Spiegelman	J. Szwarcberg	K. Ways
Knowledge, Skills and Experience									
Diversity	•	•	•	•		•		•	
Financial and Accounting		•	•	•	•		•		
Senior Leadership	•		•	•	•	•	•	•	•
Healthcare	•	•	•	•	•	•	•	•	•
Research and Development	•		•		•	•		•	•
Commercial			•						
Governance	•	•	•	•	•		•		
Global Business		•	•	•		•	•	•	•
Public Policy and Regulatory		•				•		•	•

1. Diversity: Ethnic and/or gender diversity;
2. Financial and Accounting: knowledge of the financial markets, corporate finance, accounting regulations, and accounting and financial reporting processes;
3. Senior Leadership Experience: serving in a senior leadership role at another organization and experience with human capital management;
4. Healthcare: experience in or with the biotechnology, life sciences and/or pharmaceutical industries, including experience in the clinical development of pharmaceutical products;
5. Research and Development: experience in the research and development of therapeutic investigational products, including those within endocrine and/or rare diseases;
6. Commercialization: experience executing corporate commercial and/or marketing strategies and initiatives;
7. Governance: experience serving on the board of directors of other public companies, and knowledge regarding public company governance and compensation, policies and practices

8. Global Business: experience outside of the United States, including knowledge of and experience with research and development and commercial operations; and
9. Public Policy and Regulatory: experience with government, public policy or regulatory affairs.

Information Regarding Committees of the Board of Directors

The Board has three committees: the Audit Committee, Compensation Committee and Nominating Committee. The following table provides membership and meeting information for fiscal 2022 for each of the Board committees:

Name	Audit	Compensation	Nominating and Corporate Governance
Javier Szwarcberg, M.D., MPH			
Michael Grey			
Tiba Aynechi, Ph.D.		X*	
Dina Chaya, Ph.D., C.F.A.	X		X*
Bali Muralidhar, M.D., Ph.D.		X	
Niall O'Donnell, Ph.D.	X		
Camilla V. Simpson, M.Sc.		X	X
Daniel Spiegelman	X*		
Kirk Ways, M.D., Ph.D.			X
Total meetings in fiscal 2022	6	2	3

* Committee Chairperson

Each of the committees has authority to engage legal counsel or other experts or consultants, as it deems appropriate to carry out its responsibilities. The Board has determined that each member of each committee meets the applicable Nasdaq rules and regulations regarding "independence" and each member is free of any relationship that would impair his or her individual exercise of independent judgment with regard to the Company.

Below is a description of each committee of the Board.

Audit Committee

The Audit Committee was established by the Board in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), to oversee the Company's corporate accounting and financial reporting processes and audits of its financial statements. The primary purpose of the Audit Committee is to discharge the responsibilities of the Board with respect to our corporate accounting and financial reporting processes, systems of internal control and financial-statement audits, and to oversee our independent registered accounting firm.

Specific responsibilities of the Audit Committee include:

- overseeing our corporate accounting and financial reporting processes;
- managing the selection, engagement, qualifications, independence, and performance of a qualified firm to serve as the independent registered public accounting firm to audit our financial statements;
- discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and the independent accountants, our interim and year-end operating results;
- developing procedures for employees to submit concerns anonymously about questionable accounting or audit matters;
- reviewing related person transactions;
- reporting to the Board with respect to material issues that arise regarding the quality or integrity of our financial statements, our compliance with applicable legal or regulatory requirements and other matters; and
- approving, or, as permitted, pre-approving, audit and permissible non-audit services to be performed by the independent registered public accounting firm.

The Audit Committee is composed of three directors: Mr. Spiegelman, Dr. Chaya, and Dr. O'Donnell. The Audit Committee met six times during the fiscal year. The Board has adopted a written Audit Committee charter that is available to stockholders on the Company's website at www.sprucebiosciences.com. The information on our website is not incorporated by reference into this Proxy Statement or our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 (the "Annual Report").

The Board reviews the Nasdaq listing rules definition of independence for Audit Committee members on an annual basis and has determined that all members of the Audit Committee are independent (as independence is currently defined in Rule 5605(c)(2)(A)(i) and (ii) of the Nasdaq listing rules).

The Board has also determined that Mr. Spiegelman qualifies as an "audit committee financial expert," as defined in applicable SEC rules. In making this determination, the Board made a qualitative assessment of Mr. Spiegelman's level of knowledge and experience based on a number of factors, including his formal education and experience as a chief financial officer.

Report of the Audit Committee of the Board*

The Audit Committee has reviewed and discussed the audited financial statements for the fiscal year ended December 31, 2022 with management of the Company. The Audit Committee has discussed with the independent registered public accounting firm the matters required to be discussed by the applicable requirements of the Public Company Accounting Oversight Board ("PCAOB") and the SEC. The Audit Committee has also received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent accountants' communications with the Audit Committee concerning independence, and has discussed with the independent registered public accounting firm the accounting firm's independence. Based on the foregoing, the Audit Committee has recommended to the Board that the audited financial statements be included in the Annual Report.

Daniel Spiegelman
Dina Chaya, Ph.D., C.F.A
Niall O'Donnell, Ph.D.

** The material in this report is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference in any filing of the Company under the Securities Act of 1933, as amended (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.*

Compensation Committee

The Compensation Committee is composed of three directors: Dr. Aynechi, Dr. Muralidhar, and Ms. Simpson. All members of the Compensation Committee are independent (as independence is currently defined in Rule 5605(d)(2) of the Nasdaq listing rules). The Compensation Committee met two times during the fiscal year. The Board has adopted a written Compensation Committee charter that is available to stockholders on the Company's website at www.sprucebiosciences.com. The information on our website is not incorporated by reference into this Proxy Statement or our Annual Report.

The primary purpose of the Compensation Committee is to discharge the responsibilities of the Board in overseeing our compensation policies, plans, and programs and to review and determine the compensation to be paid to our executive officers, directors, and other senior management, as appropriate.

Specific responsibilities of the Compensation Committee include:

- reviewing and approving the compensation of our Chief Executive Officer, other executive officers and senior management;
- reviewing and approving the compensation paid to our directors;
- reviewing and approving the compensation arrangements with our executive officers and other senior management;
- administering our equity incentive plans and other benefit programs;

- reviewing, adopting, amending, and terminating the terms of any employment agreements, stock option plans, stock appreciation rights plans, severance arrangements, pension and profit sharing plans, incentive plans, stock bonus plans, stock purchase plans, bonus plans, deferred compensation plans, change-of-control protections, and any other compensatory arrangements for our executive officers and other senior management;
- reviewing, evaluating and recommending to the Board succession plans for our executive officers; and
- reviewing and establishing general policies relating to compensation and benefits of our employees, including our overall compensation philosophy.

Compensation Committee Processes and Procedures

Typically, the Compensation Committee meets at least quarterly and with greater frequency if necessary. The Compensation Committee meets regularly in executive session. However, from time to time, various members of management and other employees as well as outside advisors or consultants may be invited by the Compensation Committee to make presentations, to provide financial or other background information or advice or to otherwise participate in Compensation Committee meetings. Our Chief Executive Officer may not participate in, or be present during, any deliberations or determinations of the Compensation Committee regarding his compensation or individual performance objectives. The charter of the Compensation Committee grants the Compensation Committee full access to all books, records, facilities and personnel of the Company. In addition, under the charter, the Compensation Committee has the authority to obtain, at the expense of the Company, advice and assistance from compensation consultants and internal and external legal, accounting or other advisors and other external resources that the Compensation Committee considers necessary or appropriate in the performance of its duties. The Compensation Committee has direct responsibility for the oversight of the work of any consultants or advisers engaged for the purpose of advising the Committee. In particular, the Compensation Committee has the sole authority to retain, in its sole discretion, compensation consultants to assist in its evaluation of executive and director compensation. In addition, under the charter, the Compensation Committee may select, or receive advice from, a compensation consultant, legal counsel or other adviser to the compensation committee, other than in-house legal counsel and certain other types of advisers, only after taking into consideration six factors, prescribed by the SEC and Nasdaq that bear upon the adviser's independence; however, there is no requirement that any adviser be independent.

During the past fiscal year, after taking into consideration the six factors prescribed by the SEC and Nasdaq described above, the Compensation Committee engaged Aon Consulting, Inc. ("Aon") as compensation consultant. As part of its engagement, Aon was requested by the Compensation Committee to develop a comparative group of companies and to perform analyses of competitive performance and compensation levels for that group for purposes of developing recommendations that were presented to the Compensation Committee for its consideration. In 2022, we paid Aon approximately \$58,995 for Aon's consulting services directly related to Compensation Committee support. In addition, management of the Company engaged affiliates of Aon for other services in 2022 that were not related to Aon's Compensation Committee consulting services. Specifically, we engaged an affiliate of Aon for insurance brokerage services, for which we paid approximately \$137,500 in 2022. Although the Compensation Committee was aware of the nature of these additional services, the committee did not review and approve such services, insurance premiums or policies, as those were reviewed and approved by management in the ordinary course of business.

Aon maintains certain policies and practices to protect the independence of the executive compensation consultants engaged by the Compensation Committee. In particular, Aon provides an annual update to the Compensation Committee on the financial relationship between Aon and the Company, and provides written assurances that, within Aon, the compensation of the affiliate consultants who perform executive compensation services for the Compensation Committee is determined separately from Aon's other lines of business and from the other services it provides to the Company. These safeguards were designed to help ensure that the Compensation Committee's compensation consultants continued to fulfill their role in providing independent, objective advice.

Under its charter, the Compensation Committee may form, and delegate authority to, subcommittees as appropriate.

The Board previously formed an Equity Award Committee (the "Equity Award Committee"), currently composed solely of our Chief Executive Officer, to which it delegated authority to grant, without any further action required by the Board or the Compensation Committee, stock options and restricted stock units to employees who are not

executives of the Company, in each case pursuant to the 2020 Equity Incentive Plan (the “2020 Plan”). The purpose of this delegation of authority is to enhance the flexibility of equity award administration within the Company and to facilitate the timely grant of equity awards to non-executive employees, particularly new employees, within specified limits approved by the Board. During fiscal 2022, the Equity Award Committee exercised its authority to grant options to purchase an aggregate of 533,250 shares of our common stock and to grant an aggregate of 140,200 restricted stock units to non-executive employees.

Typically, the Compensation Committee makes most of the significant adjustments to annual compensation, determines bonus and equity awards and establishes new performance objectives at one or more meetings held during the first quarter of the year. However, the Compensation Committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of the Company’s compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, the Compensation Committee’s process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year. For executives other than our Chief Executive Officer, the Compensation Committee solicits and considers evaluations and recommendations submitted to the Compensation Committee by our Chief Executive Officer.

In the case of our Chief Executive Officer, the evaluation of his performance is conducted by the Compensation Committee, which determines any adjustments to his compensation as well as awards to be granted. For all executives and directors as part of its deliberations, the Compensation Committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, tax and accounting information, tally sheets that set forth the total compensation that may become payable to executives in various hypothetical scenarios, executive and director stock ownership information, company stock performance data, analyses of historical executive compensation levels and current Company-wide compensation levels and recommendations of the Compensation Committee’s compensation consultant, including analyses of executive and director compensation paid at other companies identified by the consultant.

Nominating and Corporate Governance Committee

The Nominating Committee is responsible for identifying, reviewing and evaluating candidates to serve as directors of the Company, reviewing and evaluating incumbent directors, recommending to the Board for selecting candidates for election to the Board, making recommendations to the Board regarding the membership of the committees of the Board, assessing the performance of the Board, and developing and making recommendations regarding corporate governance matters.

Specific responsibilities of the Nominating Committee include:

- identifying and evaluating candidates, including the nomination of incumbent directors for reelection and nominees recommended by stockholders, to serve on the Board;
- considering and making recommendations to the Board regarding the composition and chairmanship of the committees of the Board;
- instituting plans or programs for the continuing education of the Board and orientation of new directors;
- developing and making recommendations to the Board regarding corporate governance guidelines and matters; and
- overseeing periodic evaluations of the Board’s performance, including committees of the Board and management.

The Nominating Committee is composed of three directors: Dr. Chaya, Ms. Simpson, and Dr. Ways. All members of the Nominating Committee are independent (as independence is currently defined in Rule 5605(a)(2) of the Nasdaq listing rules). The Nominating Committee met three times during 2022. The Board has adopted a written Nominating Committee charter that is available to stockholders on the Company’s website at www.sprucebiosciences.com. The information on our website is not incorporated by reference into this Proxy Statement or our Annual Report.

The Nominating Committee believes that candidates for director should have certain minimum qualifications, including the ability to read and understand basic financial statements, being over 21 years of age and having the

highest personal integrity and ethics. The Nominating Committee also intends to consider such factors as possessing relevant expertise upon which to be able to offer advice and guidance to management, having sufficient time to devote to the affairs of the Company, demonstrated excellence in his or her field, having the ability to exercise sound business judgment and having the commitment to rigorously represent the long-term interests of the Company's stockholders. However, the Nominating Committee retains the right to modify these qualifications from time to time. Candidates for director nominees are reviewed in the context of the current composition of the Board, the operating requirements of the Company and the long-term interests of stockholders. In conducting this assessment, the Nominating Committee typically considers diversity (including gender, racial and ethnic diversity), age, skills and such other factors as it deems appropriate, given the current needs of the Board, to maintain a balance of knowledge, experience and capability.

The Nominating Committee appreciates the value of thoughtful Board refreshment, and seeks to identify and consider qualities, skills and other director attributes that would enhance the composition of the Board. In the case of incumbent directors whose terms of office are set to expire, the Nominating Committee reviews these directors' overall service to the Company during their terms, including the number of meetings attended, level of participation, quality of performance and any other relationships and transactions that might impair the directors' independence. The Nominating Committee also takes into account the results of the Board's self-evaluation, which was conducted in 2021 on an individual basis. In the case of new director candidates, the Nominating Committee also determines whether the nominee is independent for Nasdaq purposes, which determination is based upon applicable Nasdaq listing rules, applicable SEC rules and regulations and the advice of counsel, if necessary. The Nominating Committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm. The Nominating Committee conducts any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the function and needs of the Board. The Nominating Committee meets to discuss and consider the candidates' qualifications and then selects a nominee for recommendation to the Board by majority vote.

The Nominating Committee will consider director candidates recommended by stockholders. The Nominating Committee does not intend to alter the manner in which it evaluates candidates, including the minimum criteria set forth above, based on whether or not the candidate was recommended by a stockholder. Stockholders who wish to recommend individuals for consideration by the Nominating Committee to become nominees for election to the Board may do so by delivering a written recommendation to the Nominating Committee no later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the first anniversary of the preceding year's annual meeting at 611 Gateway Boulevard, Suite 740, South San Francisco, California 94080, Attention: Corporate Secretary. Submissions must include the full name of the proposed nominee, a description of the proposed nominee's business experience for at least the previous five years, complete biographical information, a description of the proposed nominee's qualifications as a director and a representation that the nominating stockholder is a beneficial or record holder of the Company's stock. Any such submission must be accompanied by the written consent of the proposed nominee to be named as a nominee and to serve as a director if elected.

Environmental, Social and Governance Matters

We are committed to developing and commercializing novel therapies for rare endocrine disorders with significant unmet medical need. We believe that our success depends on our ability to attract, develop and retain key personnel. We strive toward having a diverse team of employees and are committed to equality, inclusion and workplace diversity. For example, we provide various training and development programs that are intended to build and strengthen our employees' leadership and professional skills, and have multiple employee community groups to foster dialogue and other actions related to diversity and inclusion.

While we still have a great deal more to accomplish, our initial steps have placed us on a path toward a more sustainable business. Additionally, in recognition of the growing importance of developing and maintaining a robust Environmental, Social and Governance ("ESG") strategy, the Board plans to formalize its oversight of the Company's overall ESG initiatives through its existing committees of the Board.

Stockholder Communications With the Board

The Board has adopted a formal process by which stockholders may communicate with the Board or any of its directors. Stockholders who wish to communicate with the Board may do so by sending written communications addressed to 611 Gateway Boulevard, Suite 740, South San Francisco, California 94080, Attention: Corporate

Secretary. Such written communications must set forth the name and address of the stockholder on whose behalf the communication is sent and the number of shares of our capital stock that are owned beneficially by such stockholder as of the date of the communication. All communications will be compiled by our Corporate Secretary and submitted to the Board or the individual directors on a periodic basis.

These communications will be reviewed by our Corporate Secretary, who will determine whether the communication should be presented to the Board. The purpose of this screening is to allow the Board to avoid having to consider irrelevant or inappropriate communications (such as advertisements, solicitations and hostile communications). The screening procedures have been approved by a majority of the independent directors.

Code of Conduct

We maintain a Code of Conduct that applies to all our employees, officers and directors. This includes our principal executive officer, principal financial officer and principal accounting officer or controller, or persons performing similar functions. The full text of our Code of Conduct is posted on our website at www.sprucebiosciences.com. The information on our website is not incorporated by reference into this Proxy Statement or our Annual Report. We intend to disclose on our website any future amendments of our Code of Conduct or waivers that exempt any principal executive officer, principal financial officer, principal accounting officer or controller, persons performing similar functions or our directors from provisions in the Code of Conduct.

Prohibition on Speculative Trading

Under the terms of our insider trading policy, none of our employees, directors or consultants may engage in short sales, transactions in put options, call options or other derivative securities on an exchange or in any other organized market, or in any other inherently speculative transactions with respect to our capital stock. Further, none of our employees, directors or consultants may engage in hedging or monetization transactions at any time, including through the use of financial instrument such as prepaid variable forwards, equity swaps, collars and exchange funds with respect to our capital stock. In addition, none of our employees, directors or consultants may hold any of our securities in a margin account or otherwise pledge any of our securities, including as collateral for a loan, at any time.

** The disclosure under the caption "Prohibition on Speculative Trading" is not to be incorporated by reference in any filing of the Company 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.*

Proposal 2
Ratification of Selection of Independent Registered Public Accounting Firm

The Audit Committee has selected BDO USA, LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2023 and has further directed that the Board submit the selection of its independent registered public accounting firm for ratification by the stockholders at the Annual Meeting. BDO USA, LLP has audited the Company's financial statements since 2020. Representatives of BDO USA, LLP are expected to be virtually present at the Annual Meeting. They will have an opportunity to make a statement if they so desire and will be available to respond to appropriate questions.

Neither the Company's amended and restated bylaws nor other governing documents or law require stockholder ratification of the selection of BDO USA, LLP as the Company's independent registered public accounting firm. However, the Audit Committee is submitting the selection of BDO USA, LLP to the stockholders for ratification as a matter of good corporate practice. If the stockholders fail to ratify the selection, the Audit Committee will reconsider whether or not to retain that firm. Even if the selection is ratified, the Audit Committee in its discretion may direct the appointment of different independent auditors at any time during the year if they determine that such a change would be in the best interests of the Company and its stockholders.

The affirmative vote of the holders of a majority of the shares present virtually or represented by proxy and entitled to vote on the matter at the Annual Meeting will be required to ratify the selection of BDO USA, LLP.

Principal Accountant Fees and Services

The following table represents aggregate fees charged by BDO USA, LLP for the fiscal years ended December 31, 2022 and 2021.

	2022	2021
	(in thousands)	
Audit fees	\$ 428	\$ 450
Tax fees	65	—
Total fees	\$ 493	\$ 450

Audit Fees. Consists of fees billed for professional services for audit and quarterly review of our financial statements and review of our registration statements on Form S-8, Form S-3, definitive proxy statement and related services that are normally provided in connection with statutory and regulatory filings or engagements.

Tax Fees. Consists of fees billed for tax advisory services.

All Audit Fees and Tax Fees described above were pre-approved by the Audit Committee.

Pre-Approval Policies and Procedures

Pursuant to its pre-approval policy, the Audit Committee must review and approve, in advance, the scope and plans for the audits and the audit fees and approve in advance (or, where permitted under the rules and regulations of the SEC, subsequently) all non-audit services to be performed by the independent registered public accounting firm that are not otherwise prohibited by law and any associated fees. The Audit Committee may delegate to one or more members of the Audit Committee the authority to pre-approve audit and permissible non-audit services, as long as this pre-approval is presented to the full committee at scheduled meetings.

**The Board Recommends
a Vote in Favor of Proposal 2.**

EXECUTIVE OFFICERS

Each of our executive officers serves at the discretion of the Board. The determination as to which of our employees qualify as executive officers was made by the Board in accordance with the rules of the SEC. Biographical information for our executive officers as of the Record Date is set forth below. The following table identifies our current executive officers, their age, and their respective offices and positions. Biographies of Dr. Szwarcberg and Mr. Grey are described under the section titled “Proposal 1 Election of Directors – Nominees for Election for a Three-year Term Expiring at the Company’s 2026 Annual Meeting of Stockholders”.

Name	Age	Position
Javier Szwarcberg, M.D., MPH	53	Chief Executive Officer and Director
Michael Grey	70	Executive Chairman
Samir Gharib	40	President and Chief Financial Officer
Ralph William Charlton III, M.D., M.A.S	53	Chief Medical Officer

Javier Szwarcberg, M.D., MPH, biographical information regarding Dr. Szwarcberg is set forth under “Proposal 1: Election of Directors.”

Michael Grey, biographical information regarding Mr. Grey is set forth under “Proposal 1: Election of Directors.”

Samir Gharib has served as our President since January 2022 and as our Chief Financial Officer since May 2020. From September 2019 to May 2020, Mr. Gharib provided consulting services to various companies with Benchmark Financial Partners (“Benchmark”), a strategic financial advisory firm. From October 2018 to September 2019, Mr. Gharib was the Chief Financial Officer of Stemmedica Cell Technologies, Inc., a global pharmaceutical company focused on the development and commercialization of cell therapeutics for underserved medical conditions. From September 2017 to October 2018, Mr. Gharib served as Managing Director of Benchmark. From October 2013 to September 2017, Mr. Gharib held positions of increasing responsibility at Revance Therapeutics, Inc., a commercial-stage biotechnology company, including Vice President of Finance and Administration. From January 2011 to September 2013, Mr. Gharib was the Corporate Controller, Director of Finance for Talon Therapeutics, Inc. Mr. Gharib has been an advisor to Berkeley SkyDeck since January 2020. Mr. Gharib received a Bachelor of Science and M.B.A. from the Haas School of Business at the University of California at Berkeley, and is an active Certified Public Accountant licensed in the State of California.

Ralph William Charlton III, M.D., M.A.S., has served as our Chief Medical Officer since March 2022. Dr. Charlton previously served as Vice President, Clinical Development for 89bio, Inc., a biotechnology company, from November 2020 to February 2022. Prior to joining 89bio, Dr. Charlton served as Senior Medical Director, Clinical Development for Ascendis Pharma, a biopharmaceutical company, from May 2019 to November 2020. From July 2018 to May 2019, Dr. Charlton served as Executive Medical Director for Allergan, Inc., a pharmaceutical company. From May 2017 to May 2019, Dr. Charlton served as a consultant to Soleno Therapeutics, Inc., a biotechnology company. Dr. Charlton received an M.D. from the University of Southern California Keck School of Medicine and a Master of Advanced Studies in Clinical Research from the University of California, San Francisco School of Medicine.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth information regarding beneficial ownership of our common stock as of the Record Date by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock;
- each of our directors, including the nominees named herein;
- each of our named executive officers; and
- all of our current executive officers and directors as a group.

We have determined beneficial ownership in accordance with the rules and regulations of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. In computing the number of shares beneficially owned by a stockholder and the percentage ownership of such stockholder, we deemed to be outstanding all shares subject to options held by the stockholder that are currently exercisable or exercisable as of May 26, 2023, which is 60 days after the Record Date. These shares are deemed to be outstanding and beneficially owned by the stockholder holding such options for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other stockholder. Except as indicated by the footnotes below and subject to community property laws where applicable, we believe, based on information furnished to us, that the stockholders named in the table below have sole voting and sole investment power with respect to all shares that they beneficially own, subject to applicable community property laws. This table is based upon information supplied by officers and directors and Schedules 13D and 13G filed with the SEC.

Applicable percentage ownership is based on 39,746,116 shares of our common stock outstanding as of the Record Date.

Unless otherwise indicated, the address for each stockholder listed in the table below is c/o Spruce Biosciences, Inc., 611 Gateway Boulevard, Suite 740, South San Francisco, California 94080.

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
Greater than 5% Holders:		
Novo Holdings A/S ⁽¹⁾	6,722,336	16.9%
Armistice Capital Master Fund Ltd. ⁽²⁾	3,928,000	9.9%
HealthCap VIII, L.P. ⁽³⁾	2,977,621	7.5%
Entities affiliated with RiverVest Venture Fund III, L.P. ⁽⁴⁾	3,527,281	8.7%
Abingworth Bioventures VII LP ⁽⁵⁾	2,929,018	7.4%
Entities affiliated with Rock Springs Management LP ⁽⁶⁾	3,554,689	8.8%
5AM Opportunities II, L.P. ⁽⁷⁾	2,364,000	5.9%
Named Executive Officers and Directors:		
Javier Szwarcberg, M.D., MPH ⁽⁸⁾	264,705	*
Samir Gharib ⁽⁹⁾	351,473	*
Michael Grey ⁽¹⁰⁾	354,745	*
Ralph William Charlton III, M.D., M.A.S. ⁽¹¹⁾	80,572	*
Niall O'Donnell, Ph.D. ⁽⁴⁾⁽¹²⁾	1,831,605	4.6%
Camilla V. Simpson, M.Sc. ⁽¹³⁾	97,617	*
Daniel Spiegelman ⁽¹⁴⁾	63,565	*
Bali Muralidhar, M.D., Ph.D. ⁽¹⁵⁾	32,500	*
Dina Chaya, Ph.D., C.F.A. ⁽¹⁶⁾	—	*
Kirk Ways, M.D., Ph.D. ⁽¹⁷⁾	33,402	*
Tiba Aynechi, Ph.D. ⁽¹⁸⁾	22,500	*
All executive officers and directors as a group (11 persons) ⁽¹⁹⁾	3,132,684	7.6%

* Represents beneficial ownership of less than 1%.

- (1) Consists of 6,722,336 shares of common stock held by Novo. Novo has the sole power to vote and dispose of the shares, and no individual or other entity is deemed to hold any beneficial ownership in the shares. The number of shares beneficially owned by Novo is limited by beneficial ownership limitations applicable to the exercise of warrants purchased in the Private Placement by Novo, which limit the number of shares such entity can beneficially own after the exercise of warrants to a maximum of 19.99% of our outstanding common stock, unless requisite approval by our stockholders pursuant to the rules and regulations of the Nasdaq Stock Market (or any successor entity) is obtained, as set forth in the warrants. As a result of such limitations, the number of shares beneficially owned does not include up to an aggregate of 1,656,000 shares of common stock issuable upon exercise of warrants purchased in the Private Placement by Novo. The address of Novo is Tuborg Havnevej 19, DK 2900 Hellerup, Denmark.
- (2) Consists of 3,928,000 shares of common stock held by Armistice Capital Master Fund Ltd., a Cayman Islands exempted company (the “Master Fund”), and may be deemed to be indirectly beneficially owned by (i) Armistice Capital, LLC (“Armistice”), as the investment manager of the Master Fund, and (ii) Steven Boyd, as the Managing Member of Armistice. Armistice and Steven Boyd disclaim beneficial ownership of the reported securities except to the extent of their respective pecuniary interest therein. The number of shares beneficially owned by Armistice and Mr. Boyd is limited by beneficial ownership limitations applicable to the exercise of the pre-funded warrant and warrants purchased in the Private Placement by the Master Fund, which limit the number of shares such entity can beneficially own (i) after the exercise of the pre-funded warrant, to a maximum of 9.99% of our outstanding common stock and (ii) after the exercise of warrants, to a maximum of 4.99% of our outstanding common stock, unless the holder changes such limitations upon written notice to us. As a result of such limitations, the number of shares beneficially owned does not include up to an aggregate of (x) 800,000 shares of common stock issuable upon exercise of the pre-funded warrant purchased in the Private Placement by the Master Fund and (y) 3,546,000 shares of common stock issuable upon exercise of warrants purchased in the Private Placement by the Master Fund. The address of the Master Fund is c/o Armistice Capital, LLC, 510 Madison Avenue, 7th Floor, New York, NY 10022.
- (3) Consists of 2,977,621 shares of common stock held by HealthCap VIII, L.P. HealthCap VIII GP SA, a Swiss registered L.C.C. (“HCSA”), is the sole general partner of the fund HealthCap VIII, L.P. (“HCLP”). HCSA has voting and dispositive power over the shares held by HCLP. HCSA disclaims beneficial ownership of such shares, except to the extent of their pecuniary interest therein. Fabrice Bernhard serves as General Manager of HCSA and each of Dag Richter and Daniel Schafer serves as Director of HCSA. Each of Messrs. Bernhard, Richter and Schafer may be deemed to share voting and investment power with respect to the shares held by HCLP except to the extent of their pecuniary interest therein. The number of shares beneficially owned by such entities is limited by beneficial ownership limitations applicable to the exercise of warrants purchased in the Private Placement by HCLP, which limit the number of shares HCLP can beneficially own after the exercise of warrants to a maximum of 4.99% of our outstanding common stock, unless the holder changes such limitations upon written notice to us. As a result of such limitations, the number of shares beneficially owned does not include up to an aggregate of 708,000 shares of common stock issuable upon exercise of certain warrants purchased in the Private Placement by HCLP. The address of HealthCap VIII, L.P. is c/o HealthCap VIII GP SA Avenue Villamont 23 – CH 1005, Lausanne, Switzerland.
- (4) Consists of (i) 81,142 shares of common stock held by RiverVest Venture Fund III (Ohio), L.P. (“RiverVest (Ohio)”), (ii) 1,326,305 shares of common stock held by RiverVest Venture Fund IV, L.P. (“RiverVest IV”), (iii) 1,528,834 shares of common stock held by RiverVest Venture Fund III, L.P. (“RiverVest III”), (iv) 5,957 shares of common stock subject to warrants exercisable within 60 days of the Record Date held by RiverVest (Ohio), (v) 472,800 shares of common stock subject to warrants exercisable within 60 days of the Record Date held by RiverVest III. The shares held directly by RiverVest III are indirectly held by RiverVest Venture Partners III, L.P., its general partner (“RiverVest Partners III”). The shares held directly by RiverVest (Ohio) are indirectly held by RiverVest Venture Partners III (Ohio), LLC, its general partner (“RiverVest Partners (Ohio) III”). RiverVest Partners III is the sole member of RiverVest Partners (Ohio) III. RiverVest Venture Partners III, LLC is the general partner of RiverVest Partners III. The individual managers of RiverVest Ventures Partners III, LLC are Thomas C. Melzer, Jay Schmelter and John P. McKearn, Ph.D. RiverVest Partners III, RiverVest Partners (Ohio) III, RiverVest Venture Partners III, LLC and each of the individual managers share voting and dispositive power with regard to the shares of common stock directly held by RiverVest III and RiverVest (Ohio). Niall O’Donnell, Ph.D., an affiliate of RiverVest III and RiverVest (Ohio), has no voting or investment control over any of the shares held by these entities. The shares held directly by RiverVest IV are indirectly held by RiverVest Venture Partners IV, L.P., its general partner (“RiverVest Partners IV”). RiverVest Venture Partners IV, LLC is the general partner of RiverVest Partners IV. The individual managers of RiverVest Ventures Partners IV, LLC are Jay Schmelter, John P. McKearn, Ph.D. and Niall O’Donnell, Ph.D. RiverVest Partners IV, RiverVest Venture Partners IV, LLC and each of the individual managers share voting and dispositive power with regard to the shares directly held by RiverVest IV. The address of RiverVest (Ohio), RiverVest IV and RiverVest III is 101 S. Hanley Road, Ste 1850, St. Louis, MO 63105.
- (5) Consists of (i) 2,896,518 shares of common stock held by Abingworth Bioventures VII LP (“Abingworth VII”) and (ii) 32,500 shares of common stock issuable upon the exercise of vested stock options held by Bali Muralidhar, a managing partner of Abingworth. The Carlyle Group Inc., which is a publicly traded entity listed on Nasdaq, is the sole shareholder of Carlyle Holdings I GP Inc., which is the sole member of Carlyle Holdings I GP Sub L.L.C., which is the general partner of Carlyle Holdings I L.P., which, with respect to the securities reported herein, is the managing member of CG Subsidiary Holdings L.L.C., which is the managing member of TC Group, L.L.C., which is the managing member of Carlyle

Investment Management, L.L.C., which is the sole member of Carlyle Genesis UK LLC, which is the principal member of Abingworth LLP. Abingworth VII has delegated to Abingworth LLP all investment and dispositive power over the securities held of record by Abingworth VII. The shares subject to the options held by Dr. Muralidhar are deemed to be beneficially owned by Abingworth LLP. The number of shares beneficially owned by Abingworth LLP is limited by beneficial ownership limitations applicable to the exercise of warrants purchased in the Private Placement by Abingworth VII, which limit the number of shares such entity can beneficially own after the exercise of warrants to a maximum of 4.99% of our outstanding common stock, unless the holder changes such limitations upon written notice to us. As a result of such limitations, the number of shares beneficially owned does not include up to an aggregate of 828,000 shares of common stock issuable upon exercise of certain warrants purchased in the Private Placement by Abingworth VII. The address of Abingworth VII is c/o Abingworth LLP, 38 Jermyn Street, London SW1Y 6DN, U.K.

- (6) Consists of (i) 2,446,209 shares of common stock held by Rock Springs Capital Master Fund LP (“Master Fund”), (ii) 280,480 shares of common stock held by Four Pines Master Fund LP (“Four Pines”), (iii) 690,907 shares of common stock subject to warrants exercisable within 60 days of the Record Date held by Master Fund and (iv) 137,093 shares of common stock subject to warrants exercisable within 60 days of the Record Date held by Four Pines. Rock Springs Capital Management, LP (“RSCM”) serves as the investment manager to each of the Master Fund and Four Pines. Rock Springs Capital LLC (“RSC”) is the general partner of RSCM. Each of RSCM and RSC may be deemed to be the indirect beneficial owners of 2,726,689 shares of common stock, and may be deemed to have shared voting and dispositive power with respect to such shares. The address of RSCM and RSC is 650 South Exeter St., Suite 1070, Baltimore, MD 21202. The address of Master Fund is c/o Walkers Corporate Limited, Cayman Corporate Centre, 27 Hospital Road, George Town, Grand Cayman, KY1-9008, Cayman Islands.
- (7) Consists of 2,364,000 shares of common stock held by 5AM Opportunities II, L.P. (“5AM Opportunities”). 5AM Opportunities II (GP), LLC is the general partner of 5AM Opportunities and may be deemed to have sole investment and voting power over the shares held by 5AM Opportunities. Andrew Schwab and Kush Parmar are the managing members of 5AM Opportunities II (GP), LLC, and may be deemed to share voting and dispositive power over the shares held by 5AM Opportunities. The number of shares beneficially owned by such individuals and entities is limited by beneficial ownership limitations applicable to the exercise of warrants purchased in the Private Placement by 5AM Opportunities, which limit the number of shares such entity can beneficially own after the exercise of warrants to a maximum of 4.99% of our outstanding common stock, unless the holder changes such limitations upon written notice to us. As a result of such limitations, the number of shares beneficially owned does not include up to an aggregate of 1,773,000 shares of common stock issuable upon exercise of warrants purchased in the Private Placement by 5AM Opportunities. The address of 5AM Opportunities is c/o 5AM Ventures, 501 2nd Street, Suite 350, San Francisco, CA 94107.
- (8) Consists of 14,705 shares of our common stock held by Dr. Szwarcberg and 250,000 shares of our common stock subject to options exercisable within 60 days of the Record Date held by Dr. Szwarcberg.
- (9) Consists of 55,818 shares of our common stock held by Mr. Gharib and 295,655 shares of our common stock subject to options exercisable within 60 days of the Record Date held by Mr. Gharib.
- (10) Consists of 0 shares of our common stock held by Mr. Grey and 354,745 shares of our common stock subject to options exercisable within 60 days of the Record Date held by Mr. Grey.
- (11) Consists of 12,864 shares of our common stock held by Dr. Charlton and 67,708 shares of our common stock subject to options exercisable within 60 days of the Record Date held by Dr. Charlton.
- (12) Consists of 32,500 shares of our common stock subject to options exercisable within 60 days of the Record Date held by Dr. O’Donnell.
- (13) Consists of 97,617 shares of our common stock subject to options exercisable within 60 days of the Record Date held by Ms. Simpson.
- (14) Consists of 63,565 shares of our common stock subject to options exercisable within 60 days of the Record Date held by Mr. Spiegelman.
- (15) Consists of 32,500 shares of our common stock subject to options exercisable within 60 days of the Record Date held by Dr. Muralidhar.
- (16) 32,500 shares of our common stock are subject to options exercisable within 60 days of the Record Date and 2,161,022 shares of our common stock are held by Dr. Chaya. Both the shares of common stock subject to such options and the shares of common stock are deemed to be beneficially owned by Omega Fund Management, LLC.
- (17) Consists of 33,402 shares of our common stock subject to options exercisable within 60 days of the Record Date held by Dr. Ways.
- (18) Consists of 22,500 shares of our common stock subject to options exercisable within 60 days of the Record Date held by Dr. Aynechi.
- (19) Consists of the shares described in notes 4, 8, 9, 10, 11, 12, 13, 14, 15, 17, and 18 above.

Delinquent Section 16(a) Reports

Section 16(a) of the Exchange Act requires the Company's directors and executive officers, and persons who own more than ten percent of a registered class of the Company's equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of common stock and other equity securities of the Company. Officers, directors and greater than 10% stockholders are required by SEC regulation to furnish the Company with copies of all Section 16(a) forms they file.

Due to a processing delay in obtaining new EDGAR codes, Dr. Szwarcberg was unable to complete one filing reporting his initial grant of option awards covering an aggregate of 1,000,000 shares of common stock (granted as inducement grants in accordance with Nasdaq Listing Rule 5635(c)(4) outside the 2020 Plan but pursuant to the terms of the 2020 Plan as if such awards were made under the 2020 Plan) within the time period allowed, and as a result his Form 4 filing was late.

During fiscal 2022, Mr. Gharib timely reported all transactions but reported an incorrect number of shares owned on his Form 4 filed January 5, 2022, due to an error. This error was corrected by filing an amended Form 4 report on July 5, 2022.

EXECUTIVE COMPENSATION

Our named executive officers for the year ended December 31, 2022, consisting of our principal executive officer, our Executive Chairman and the next two most highly compensated executive officers, were:

- Javier Szwarcberg, M.D., MPH, our Chief Executive Officer;
- Michael Grey, our Executive Chairman and former Interim Chief Executive Officer;
- Samir Gharib, our President and Chief Financial Officer; and
- Ralph William Charlton III, M.D., M.A.S., our Chief Medical Officer.

We are an “emerging growth company,” as that term is used in the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”), and have elected to comply with the reduced compensation disclosure requirements available to emerging growth companies under the JOBS Act.

Summary Compensation Table

The following table presents all of the compensation awarded to or earned by or paid to our named executive officers during the fiscal years indicated below.

Name and Principal Position	Fiscal Year	Salary (\$)	Bonus (\$)	Stock Awards (\$) ⁽¹⁾	Option Awards (\$) ⁽²⁾	Non-Equity Incentive Plan Compensation (\$) ⁽³⁾	All Other Compensation (\$)	Total (\$)
Javier Szwarcberg, M.D., MPH <i>Chief Executive Officer</i>	2022	540,000	—	519,480	3,272,475	153,900	—	4,485,855
	2021	—	—	—	—	—	—	—
Michael Grey <i>Executive Chairman and Former Interim Chief Executive Officer⁽⁴⁾</i>	2022	70,000 ⁽⁵⁾	—	—	29,700	—	—	99,700
	2021	65,000 ⁽⁵⁾	—	—	667,303	—	—	732,303
Samir Gharib <i>President and Chief Financial Officer⁽⁶⁾</i>	2022	425,833	—	174,330	259,903	110,295	—	970,361
	2021	380,000	—	558,000	1,156,295	100,000	—	2,194,295
Ralph William Charlton III, M.D., M.A.S. <i>Chief Medical Officer⁽⁷⁾</i>	2022	305,556	—	148,590	433,500	69,712	—	957,358
	2021	—	—	—	—	—	—	—

- (1) The dollar amounts in this column reflect the aggregate grant date fair value of restricted stock unit (“RSU”) and performance stock unit (“PSU”) awards granted during the indicated fiscal year computed in accordance with Financial Accounting Standards Board (“FASB”) Accounting Standards Committee (“ASC”) Topic 718, excluding the effect of estimated forfeitures. The grant date fair value of each RSU is measured based on the closing price of our common stock on the date of grant. Based on a probability analysis, 50% value was reported in 2021 and no value was reported in 2022 for the PSUs. Assuming the highest level of performance conditions will be achieved, the value of the 2021 PSUs for Mr. Gharib is \$372,000. Assuming the highest level of performance conditions will be achieved, the value of the 2022 PSUs for each of our NEOs is as follows: Dr. Szwarcberg, \$519,480; Mr. Gharib, \$174,330; and Dr. Charlton, \$148,590. The 2021 PSUs were granted on December 16, 2021, at a fair value of \$2.48 per share. The 2022 PSUs were granted on December 5, 2022, at a fair value of \$1.17 per share. These amounts do not necessarily correspond to the actual value recognized or that may be recognized by the named executive officers.
- (2) The amounts disclosed represent the aggregate grant date fair value of the option awards granted to our named executive officers under our 2020 Plan (or, in the case of Dr. Szwarcberg, as inducement grants in accordance with Nasdaq Listing Rule 5635(c)(4) outside the 2020 Plan but pursuant to the terms of the 2020 Plan as if such awards were made under the 2020 Plan), computed in accordance with FASB ASC Topic 718. The assumptions used in calculating the grant date fair value of the stock options are set forth in Note 9 to our audited financial statements included within our Annual Report on Form 10-K for the year ended December 31, 2022. This amount does not reflect the actual economic value that may be realized by the named executive officer.
- (3) The amount disclosed for Mr. Gharib in fiscal year 2021 reflects short-term incentive compensation earned in 2021 and paid in early 2022. Amounts disclosed for fiscal year 2022 reflects short-term incentive compensation earned in 2022 and paid in early 2023. Dr. Charlton’s bonus in 2022 was pro-rated to reflect his partial year of service.

- (4) Mr. Grey has served as our Executive Chairman since April 2017 and was our Interim Chief Executive Officer from November 2021 to January 2022. Mr. Grey did not receive an annual base salary in connection with his former role as interim Chief Executive Officer or his service as Executive Chairman.
- (5) The amount disclosed represents fees earned by Mr. Grey in connection with his service as a director.
- (6) Mr. Gharib has served as our Chief Financial Officer since May 2020 and as our President since January 2022.
- (7) Dr. Charlton has served as our Chief Medical Officer since March 2022.

Annual Base Salary

The 2022 annual base salaries for our named executive officers are set forth in the table below.

Name	2022 Base Salary
Javier Szwarcberg, M.D., MPH	\$ 540,000
Michael Grey ⁽¹⁾	—
Samir Gharib ⁽²⁾	\$ 430,000
Ralph William Charlton III, M.D., M.A.S.	\$ 400,000

(1) Mr. Grey did not receive an annual base salary in connection with his former role as interim Chief Executive Officer or his service as Executive Chairman.

(2) Mr. Gharib's base salary for 2022 was increased from \$414,300 to \$430,000 in January 2022 in connection with his appointment as President.

Non-Equity Incentive Plan Compensation

We seek to motivate and reward our executives for achievements relative to our corporate goals and expectations for each fiscal year. Each of our named executive officers is eligible to receive an annual performance bonus based on the achievement of performance goals as determined by the Board or an authorized committee thereof. For 2022, these goals included clinical and business objectives. Each executive officer, except for Mr. Grey, is assigned a target bonus expressed as a percentage of his or her base salary. The target bonus amounts for Dr. Szwarcberg, Mr. Gharib and Dr. Charlton for 2022 were set at 50%, 45%, and 40%, respectively. Annual performance bonuses for Dr. Szwarcberg, Mr. Gharib and Dr. Charlton were approved in the amounts of \$153,900, \$110,295 and \$69,712, respectively, as reflected in the "Non-Equity Incentive Plan Compensation" column of the Summary Compensation Table above, and reflect discretionary upward or downward adjustments, as applicable, from the Board's determination of corporate goal achievement.

Equity-Based Incentive Awards

In 2022, we granted option awards and/or stock awards to each of our named executive officers pursuant to the 2020 Plan (or, in the case of Dr. Szwarcberg, as inducement grants in accordance with Nasdaq Listing Rule 5635(c)(4) outside the 2020 Plan but pursuant to the terms of the 2020 Plan as if such awards were made under the 2020 Plan).

Javier Szwarcberg, M.D., MPH

On January 3, 2022, we granted Dr. Szwarcberg options to purchase an aggregate of 1,000,000 shares of our common stock at an exercise price of \$4.59 per share. 750,000 of such shares vest over a four year period. One-fourth of the shares vested on January 3, 2023 and 1/36 of the remaining shares vest on a monthly basis thereafter, subject to Dr. Szwarcberg's continued service to us. The remaining 250,000 of such shares vest upon the achievement of certain performance-based milestones, subject to Dr. Szwarcberg's continued service to us.

On December 5, 2022, we granted Dr. Szwarcberg 444,000 RSUs. The RSUs vest over a four year period, with one quarter of the RSUs vesting on December 15, 2023 and 1/3 of the remaining shares vesting on each anniversary thereafter, subject to Dr. Szwarcberg's continued service to us. On December 5, 2022, we also granted Dr. Szwarcberg 444,000 PSUs. The PSUs vest upon the achievement of specified clinical development milestones, subject to Dr. Szwarcberg's continued service to us.

Michael Grey

On May 20, 2022, we granted Mr. Grey options to purchase an aggregate of 22,500 shares of our common stock at an exercise price of \$1.32 per share, vesting on the earlier of (i) the first anniversary of the grant date and (ii) the date of the next annual meeting of stockholders. The option grant to Mr. Grey was solely in connection with his service as a director and not his service as Executive Chairman.

Samir Gharib

On January 3, 2022, we granted Mr. Gharib options to purchase an aggregate of 70,000 shares of our common stock at an exercise price of \$4.59 per share, which vest in equal monthly installments over four years, subject to Mr. Gharib's continued service to us.

On December 5, 2022, we granted Mr. Gharib 149,000 RSUs. The RSUs vest over a four year period, with one quarter of the RSUs vesting on December 15, 2023 and 1/3 of the remaining shares vesting on each anniversary thereafter, subject to Mr. Gharib's continued service to us. On December 5, 2022, we also granted Mr. Gharib 149,000 PSUs. The PSUs vest upon the achievement of specified clinical development milestones, subject to Mr. Gharib's continued service to us.

Ralph William Charlton III, M.D., M.A.S.

On April 1, 2022, we granted Dr. Charlton an option to purchase an aggregate of 250,000 shares of our common stock at an exercise price of \$2.13 per share, vesting over a four year period. One-fourth of the shares vested on March 28, 2023 and 1/36 of the remaining shares vest on a monthly basis thereafter, subject to Dr. Charlton's continued service to us.

On December 5, 2022, we granted Dr. Charlton 127,000 RSUs. The RSUs vest over a four year period, with one quarter of the RSUs vesting on December 15, 2023 and 1/3 of the remaining shares vesting on each anniversary thereafter, subject to Dr. Charlton's continued service to us. On December 5, 2022, we also granted Dr. Charlton 127,000 PSUs. The PSUs vest upon the achievement of specified clinical development milestones, subject to Dr. Charlton's continued service to us.

401(k) Plan

We maintain a 401(k) plan that provides eligible U.S. employees with an opportunity to save for retirement on a tax advantaged basis. Eligible employees are able to defer eligible compensation up to certain Code limits, which are updated annually. We have the ability to make matching and discretionary contributions to the 401(k) plan. Currently, we make matching contributions, but no discretionary contributions, to the 401(k) plan. The 401(k) plan is intended to be qualified under Section 401(a) of the Code, with the related trust intended to be tax exempt under Section 501(a) of the Code. As a tax-qualified retirement plan, contributions to the 401(k) plan are deductible by us when made, and contributions and earnings on those amounts are not generally taxable to the employees until withdrawn or distributed from the 401(k) plan.

Other Compensation and Benefits

All of our current named executive officers are eligible to participate in our employee benefit plans, including our medical, dental, vision, disability, and life insurance plans, in each case on the same basis as all of our other employees. We pay the premiums for the life, disability, accidental death, and dismemberment insurance for all of our employees, including our named executive officers. We generally do not provide perquisites or personal benefits to our named executive officers.

Outstanding Equity Awards as of December 31, 2022

The following table presents the outstanding equity incentive plan awards held by each named executive officer as of December 31, 2022.

Name	Grant Date	Option Awards ⁽¹⁾				Stock Awards	
		Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price Per Share (\$) ⁽²⁾	Option Expiration Date	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested ⁽³⁾	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$) ⁽⁴⁾
Javier Szwarcberg	01/03/2022 ⁽⁵⁾	—	750,000	4.59	1/2/2032		
	01/03/2022 ⁽⁶⁾	—	250,000	4.59	1/2/2032		
	12/05/2022 ⁽⁷⁾	—	—	—	—	444,000	519,480
	12/05/2022 ⁽⁸⁾	—	—	—	—	444,000	519,480
Samir Gharib	06/08/2020 ⁽⁹⁾	118,483	—	1.64	06/07/2030		
	08/07/2020 ⁽¹⁰⁾	71,548	—	3.07	08/06/2030		
	01/28/2021 ⁽¹¹⁾	26,354	28,646	20.08	01/27/2031		
	12/16/2021 ⁽¹²⁾	36,250	108,750	2.48	12/15/2031		
	01/03/2022 ⁽¹³⁾	16,041	53,959	4.59	1/3/2032		
	12/16/2021 ⁽¹⁴⁾					75,000	186,000
	12/16/2021 ⁽⁸⁾					150,000	372,000
	12/5/2022 ⁽¹⁵⁾					149,000	174,330
	12/5/2022 ⁽⁸⁾					149,000	174,330
Ralph William Charlton, III	04/01/2022 ⁽¹⁶⁾	—	250,000	2.13	3/31/2032		
	12/05/2022 ⁽¹⁷⁾	—	—	—	—	127,000	148,590
	12/05/2022 ⁽⁸⁾	—	—	—	—	127,000	148,590
Michael Grey	06/13/2017 ⁽¹⁸⁾	68,796	—	0.85	06/12/2027		
	07/23/2019 ⁽¹⁹⁾	27,231	1,816	1.44	07/22/2029		
	06/08/2020 ⁽²⁰⁾	81,180	—	1.64	06/07/2030		
	06/08/2020 ⁽²¹⁾	12,994	—	1.64	06/07/2030		
	08/07/2020 ⁽²²⁾	96,927	—	3.07	08/06/2030		
	08/07/2020 ⁽²³⁾	15,593	—	3.07	08/06/2030		
	05/20/2021 ⁽²⁴⁾	10,000	—	15.24	05/19/2031		
	12/16/2021 ⁽²⁵⁾	12,500	37,500	2.48	12/15/2031		
	5/25/2022 ⁽²⁶⁾	—	22,500	1.32	05/24/2032		

- (1) All of the option awards granted prior to our initial public offering in October 2020 were granted under our 2016 Equity Incentive Plan (the “2016 Plan”). All of the option awards granted since our initial public offering in October 2020 were granted under the 2020 Plan, other than Dr. Szwarcberg’s January 2022 option awards granted as inducement grants in accordance with Nasdaq Listing Rule 5635(c)(4) outside the 2020 Plan but pursuant to the terms of the 2020 Plan as if such awards were made under the 2020 Plan.
- (2) All of the option awards granted prior to our initial public offering in October 2020 were granted with a per share exercise price equal to the fair market value of one share of our common stock on the date of grant, as determined in good faith by the Board or compensation committee. All of the option awards granted since our initial public offering in October 2020 were granted with a per share exercise price equal to the closing sales price on the Nasdaq Global Select Market on the date of grant.
- (3) Awards in this column consist of RSU awards that were unvested as of December 31, 2022.
- (4) Amounts in this column represent the grant date fair value for RSU awards that were unvested as of December 31, 2022. Each RSU award granted on December 5, 2022 has a grant date fair value equal to the closing price of the Company’s common stock on that date in the amount of \$1.17 per share multiplied by the number of shares underlying the RSU award.
- (5) One-fourth of the shares subject to the option award shall vest on January 3, 2023, and the balance vests in equal monthly installments over the three years thereafter.
- (6) The shares subject to the option award shall vest upon the achievement of specified clinical development milestones.

- (7) One-fourth of the shares vest on December 15, 2023, and one-third of the remaining shares vest on each anniversary thereafter, subject to continued service to us as of each such date.
- (8) Represents a PSU award granted under the 2020 Plan that, in order to vest, requires achievement of specified clinical development milestones, subject to continued service with us through the end of the performance period. The number of shares subject to the named executive officer's PSU award assumes 100% achievement.
- (9) One-fourth of the shares subject to the option award vested on May 1, 2021, and the balance vests in equal monthly installments over the three years thereafter. The option includes an early exercise feature.
- (10) One-forty-eighth of the shares subject to the option award shall vest on each monthly anniversary of August 7, 2020, subject to continued service to us. The option includes an early exercise feature.
- (11) One-forty-eighth of the shares subject to the option award shall vest on each monthly anniversary of January 28, 2021, subject to continued service to us.
- (12) One-forty-eighth of the shares subject to the option award shall vest on each monthly anniversary of December 16, 2021, subject to continued service to us.
- (13) One-forty-eighth of the shares subject to the option award shall vest on each monthly anniversary of January 3, 2022, subject to continued service to us.
- (14) One-fourth of the shares vest on June 30, 2022, one-fourth of the shares vest on December 31, 2022, and one-half of the shares vest on June 30, 2023, subject to continued service to us as of each such date.
- (15) One-fourth of the shares vest on December 15, 2023, and one-third of the remaining shares vest on each anniversary thereafter, subject to continued service to us as of each such date.
- (16) One-fourth of the shares subject to the option award vested on March 28, 2023, and the balance vest in equal monthly installments over the three years thereafter, subject to continued service to us.
- (17) One-fourth of the shares vest on December 15, 2023, and one-third of the remaining shares vest on each anniversary thereafter, subject to continued service to us as of each such date.
- (18) One-fourth of the shares subject to the option award vested on May 1, 2018, and the balance vests in equal monthly installments over the three years thereafter, subject to continued service to us.
- (19) One-fourth of the shares subject to the option award vested on March 1, 2020, and the balance vests in equal monthly installments over the three years thereafter, subject to continued service to us.
- (20) One-forty-eighth of the shares subject to the option award shall vest on each monthly anniversary of February 19, 2020, subject to continued service to us. The option includes an early exercise feature.
- (21) One-forty-eighth of the shares subject to the option award shall vest on each monthly anniversary of February 19, 2020, subject to continued service to us. The option includes an early exercise feature. The shares subject to the option award included an additional performance-based vesting feature, which the Board determined was satisfied.
- (22) One-forty-eighth of the shares subject to the option award vested on September 7, 2020, and the balance vests in equal monthly installments over the three years thereafter, subject to continued service to us. The option includes an early exercise feature.
- (23) One-forty-eighth of the shares subject to the option award vested on September 7, 2020, and the balance vests in equal monthly installments over the three years thereafter, subject to continued service to us. The option includes an early exercise feature. The shares subject to the option award included an additional performance-based vesting feature, which the Board determined was satisfied.
- (24) The shares subject to the option award shall vest on the earlier of May 20, 2022 or the date of our next annual stockholder meeting, subject to continued service to us.
- (25) One-forty-eighth of the shares subject to the option award shall vest on each monthly anniversary of December 16, 2021, subject to continued service to us.
- (26) The shares subject to the option award shall vest on the earlier of May 25, 2023 or the date of our next annual stockholder meeting, subject to continued service to us.

Options held by our named executive officers, except for those held by Michael Grey, are eligible for accelerated vesting under specified circumstances as further described under the section titled "Executive Compensation—Potential Payments Upon Termination or Change of Control". Options held by Mr. Grey are eligible for accelerated vesting under our non-employee director compensation policy adopted in September 2020 and as amended in April 2022.

Employment and Letter Agreements

Below are descriptions of our employment and letter agreements with our named executive officers other than Mr. Grey. For a discussion of the severance pay and other benefits to be provided in connection with a termination of employment and/or a change in control under the arrangements with our named executive officers other than Mr. Grey, see the section titled “Executive Compensation—Potential Payments Upon Termination or Change of Control” below.

Dr. Szwarcberg. We entered into an offer letter agreement with Dr. Szwarcberg in December 2021, which governs the current terms of Dr. Szwarcberg’s employment with us. Pursuant to the agreement, Dr. Szwarcberg is entitled to an initial annual base salary of \$540,000, is eligible to receive an annual performance bonus with a target achievement of 50% of his base salary, as determined by the Board, and was granted options to purchase an aggregate of 1,000,000 shares of our common stock. In April 2022, we entered into an amendment to Dr. Szwarcberg’s offer letter, pursuant to which we amended Dr. Szwarcberg’s entitlement to certain severance benefits, the terms of which are described below under “—Potential Payments Upon Termination or Change of Control.” In December 2022, the Board increased Dr. Szwarcberg’s target bonus for 2023 performance to 55% of his annual base salary. Dr. Szwarcberg is also eligible for standard benefits such as vacation and paid time off and to participate in employee benefit plans and programs, in each case, as generally available to our regular full-time employees. Dr. Szwarcberg’s employment is at will.

Mr. Gharib. We entered into an offer letter agreement with Mr. Gharib in April 2020, which governs the current terms of Mr. Gharib’s employment with us. Pursuant to the agreement, Mr. Gharib was entitled to an initial annual base salary of \$330,000 (which was subsequently increased by the Board to \$380,000, effective immediately prior to our initial public offering), was eligible to receive an annual performance bonus with a target achievement of 30% of his base salary (which was subsequently increased by the Board to 40%, effective immediately prior to our initial public offering), as determined by the Board. In December 2021, the Board increased Mr. Gharib’s annual base salary for 2022 to \$414,300. In January 2022, in connection with his appointment as President, the Board further increased Mr. Gharib’s annual base salary for 2022 to \$430,000 and increased his target bonus for 2022 performance to 45% of his annual base salary. Mr. Gharib is also eligible for standard benefits such as vacation and paid time off and to participate in employee benefit plans and programs, in each case, as generally available to our regular full-time employees. Mr. Gharib’s employment is at will. Mr. Gharib is also entitled to certain severance benefits, the terms of which are described below under “—Potential Payments Upon Termination or Change of Control.”

Dr. Charlton. We entered into an offer letter agreement with Dr. Charlton in March 2022, which governs the current terms of Dr. Charlton’s employment with us. Pursuant to the agreement, Dr. Charlton is entitled to an initial annual base salary of \$400,000, is eligible to receive an annual performance bonus with a target achievement of 40% of his base salary, as determined by the Board, and was granted an option to purchase an aggregate of 250,000 shares of our common stock. Dr. Charlton is also entitled to certain severance benefits, the terms of which are described below under “—Potential Payments Upon Termination or Change of Control.” Dr. Charlton is also eligible for standard benefits such as vacation and paid time off and to participate in employee benefit plans and programs, in each case, as generally available to our regular full-time employees. Dr. Charlton’s employment is at will.

Potential Payments Upon Termination or Change of Control

Severance Plan

Each of our current named executive officers, except for Mr. Grey, are eligible for our severance and change in control plan (the “Severance Plan”), which was adopted by the Board in September 2020 and became effective in connection with our initial public offering. The Severance Plan provides for severance benefits upon (i) a “change in control termination” or (ii) a “regular termination” (each as described below). Upon a change in control termination, participants will be entitled to continued payment of base salary (for 18 months for Dr. Szwarcberg and for 12 months for Mr. Gharib and Dr. Charlton), a lump sum payment equal to the participant’s target cash bonus, payment of continued group health benefits (for up to 18 months for Dr. Szwarcberg and for up to 12 months for Mr. Gharib and Dr. Charlton), and full accelerated vesting of all outstanding equity awards granted following effectiveness of the Severance Plan (including performance-based awards, which shall vest at 100% of target). Pursuant to the terms of his amended offer letter agreement with us, with respect to his option award for 250,000 shares of common stock granted January 3, 2022 only, the vesting acceleration benefits under the Severance Plan applicable to a change of control termination for Dr. Szwarcberg will only apply for a Change in Control (as defined in the Severance Plan)

with an effective date on or after January 3, 2023. Upon a regular termination, participants will be entitled to continued payment of base salary (for 12 months for Dr. Szwarcberg and for nine months for Mr. Gharib and Dr. Charlton) and payment of continued group health benefits (for up to 12 months for Dr. Szwarcberg and for up to nine months for Mr. Gharib and Dr. Charlton).

All severance benefits under the Severance Plan are subject to the participant's execution of an effective release of claims against the company and compliance with the terms of the company's standard confidentiality agreement. For purposes of the Severance Plan, a "regular termination" is an involuntary termination (i.e., a termination other than for "cause," as defined in the 2020 Plan (and not as a result of death or disability), or a resignation for "good reason," as defined in the Severance Plan) that does not occur during the period of time beginning three months prior to, and ending 12 months following, a "change in control" (as defined in the 2020 Plan), or the "change in control period." A "change in control termination" is an involuntary termination that occurs during the change in control period (the period commencing 3 months prior to the effective date of the change in control and ending 12 months following the effective date of the change in control).

Employee Benefit Plans

We believe that our ability to grant equity-based awards is a valuable and necessary compensation tool that aligns the long-term financial interests of our employees, consultants and directors with the financial interests of our stockholders. In addition, we believe that our ability to grant options and other equity-based awards helps us to attract, retain and motivate employees, consultants, and directors, and encourages them to devote their best efforts to our business and financial success. The principal features of our equity incentive plans and our 401(k) plan are summarized below. These summaries are qualified in their entirety by reference to the actual text of the plans, which, other than the 401(k) plan, are filed as exhibits to the Annual Report.

2020 Equity Incentive Plan

The Board adopted our 2020 Plan in September 2020 and our stockholders approved our 2020 Plan in October 2020. Our 2020 Plan provides for the grant of incentive stock options ("ISOs") to employees, including employees of any parent or subsidiary, and for the grant of nonstatutory stock options ("NSOs") stock appreciation rights, restricted stock awards, restricted stock unit awards, performance awards and other forms of stock awards to employees, directors, and consultants, including employees and consultants of our affiliates. Our 2020 Plan is a successor to and continuation of our 2016 Plan, which is described below. The 2020 Plan became effective immediately prior to and contingent upon the execution of the underwriting agreement related to our initial public offering.

Authorized Shares. Initially, the maximum number of shares of our common stock that may be issued under our 2020 Plan was 2,647,684 shares. In addition, the number of shares of our common stock reserved for issuance under our 2020 Plan is subject to an automatic increase on January 1 of each calendar year through January 1, 2030, in an amount equal to 5% of the total number of shares of our common stock outstanding on the last day of the calendar month before the date of each automatic increase, or a lesser number of shares determined by the Board. Pursuant to the automatic increase provision of the 2020 Plan, the number of shares of our common stock reserved for issuance under our 2020 Plan was increased by 1,174,594 shares on January 1, 2022, and 1,180,050 shares on January 1, 2023. The maximum number of shares of our common stock that may be issued on the exercise of incentive stock options under our 2020 Plan is 7,943,052.

Shares subject to stock awards granted under our 2020 Plan that expire or terminate without being exercised in full, or that are paid out in cash rather than in shares, do not reduce the number of shares available for issuance under our 2020 Plan. Additionally, shares become available for future grant under our 2020 Plan if they were issued under stock awards under our 2020 Plan if we repurchase them or they are forfeited. This includes shares used to pay the exercise price of a stock award or to satisfy the tax withholding obligations related to a stock award.

Plan Administration. The Board, or a duly authorized committee of the Board, administers our 2020 Plan. The Board has delegated concurrent authority to administer our 2020 Plan to the Compensation Committee. We refer to the Board, or the applicable committee with the power to administer our 2020 Plan, as the plan administrator. Our plan administrator may also delegate to one or more of our officers the authority to (1) designate employees (other than officers) to receive specified stock awards and (2) determine the number of shares subject to such stock awards. Under our 2020 Plan, the plan administrator has the authority to determine and amend the terms of awards and underlying agreements, including:

- recipients;
- the exercise, purchase or strike price of stock awards, if any;
- the number of shares subject to each stock award;
- the vesting schedule applicable to the awards, together with any vesting acceleration; and
- the form of consideration, if any, payable on exercise or settlement of the award.

Under the 2020 Plan, the plan administrator also generally has the authority to effect, with the consent of any adversely affected participant:

- the reduction of the exercise, purchase, or strike price of any outstanding award;
- the cancellation of any outstanding option or stock appreciation right and the grant in substitution therefore of other awards, cash, or other consideration; or
- any other action that is treated as a repricing under generally accepted accounting principles.

Stock Options. ISOs and NSOs are granted under stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for stock options, within the terms and conditions of the 2020 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Options granted under the 2020 Plan vest at the rate specified in the stock option agreement as determined by the plan administrator.

Tax Limitations on ISOs. The aggregate fair market value, determined at the time of grant, of our common stock with respect to ISOs that are exercisable for the first time by an option holder during any calendar year under all of our stock plans may not exceed \$100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our affiliates unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant, and (2) the option is not exercisable after the expiration of five years from the date of grant.

Restricted Stock Unit Awards. Restricted stock units are granted under restricted stock unit award agreements adopted by the plan administrator. Restricted stock units may be granted in consideration for any form of legal consideration that may be acceptable to the Board and permissible under applicable law. A restricted stock unit may be settled by cash, delivery of stock, a combination of cash and stock as deemed appropriate by the plan administrator, or in any other form of consideration set forth in the restricted stock unit agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit. Except as otherwise provided in the applicable award agreement or other written agreement between us and the participant, restricted stock units that have not vested will be forfeited once the participant's continuous service ends for any reason.

Restricted Stock Awards. Restricted stock awards are granted under restricted stock award agreements adopted by the plan administrator. A restricted stock award may be awarded in consideration for cash, check, bank draft or money order, past services to us, or any other form of legal consideration that may be acceptable to the Board and permissible under applicable law. The plan administrator determines the terms and conditions of restricted stock awards, including vesting and forfeiture terms. If a participant's service relationship with us ends for any reason, we may receive any or all of the shares of common stock held by the participant that have not vested as of the date the participant terminates service with us through a forfeiture condition or a repurchase right.

Stock Appreciation Rights. Stock appreciation rights are granted under stock appreciation grant agreements adopted by the plan administrator. The plan administrator determines the purchase price or strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of our common stock on the date of grant. A stock appreciation right granted under the 2020 Plan vests at the rate specified in the stock appreciation right agreement as determined by the plan administrator.

Performance Awards. The 2020 Plan permits the grant of performance-based stock and cash awards. The plan administrator may structure awards so that the shares of our stock, cash, or other property will be issued or paid only following the achievement of certain pre-established performance goals during a designated performance period. The performance criteria that will be used to establish such performance goals may be based on any measure of performance selected by the plan administrator.

The performance goals may be based on a company-wide basis, with respect to one or more business units, divisions, affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise (i) in the award agreement at the time the award is granted or (ii) in such other document setting forth the performance goals at the time the goals are established, we will appropriately make adjustments in the method of calculating the attainment of performance goals as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of items that are “unusual” in nature or occur “infrequently” as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by us achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of our common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under our bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; and (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles. In addition, we retain the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of the goals. The performance goals may differ from participant to participant and from award to award.

Other Stock Awards. The plan administrator may grant other awards based in whole or in part by reference to our common stock. The plan administrator will set the number of shares under the stock award and all other terms and conditions of such awards.

Non-Employee Director Compensation Limit. The aggregate value of all compensation granted or paid to any non-employee director with respect to any period commencing on the date of our annual meeting of stockholders for a particular year and ending on the day immediately prior to the date of the meeting for the next subsequent year, including stock awards granted and cash fees paid by us to such non-employee director, will not exceed \$750,000 in total value, or in the event such non-employee director is first appointed or elected to the Board during such annual period, \$1,000,000 in total value (in each case, calculating the value of any such stock awards based on the grant date fair value of such stock awards for financial reporting purposes).

Changes to Capital Structure. In the event there is a specified type of change in our capital structure, such as a stock split, reverse stock split, or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the 2020 Plan, (2) the class and maximum number of shares by which the share reserve may increase automatically each year, (3) the class and maximum number of shares that may be issued on the exercise of incentive stock options, and (4) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards.

Corporate Transactions. The following applies to stock awards under the 2020 Plan in the event of a corporate transaction, unless otherwise provided in a participant’s stock award agreement or other written agreement with us or one of our affiliates or unless otherwise expressly provided by the plan administrator at the time of grant.

In the event of a corporate transaction, any stock awards outstanding under the 2020 Plan may be assumed, continued or substituted for by any surviving or acquiring corporation (or its parent company), and any reacquisition or repurchase rights held by us with respect to the stock award may be assigned to the successor (or its parent company). If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then with respect to any such stock awards that are held by participants whose continuous service has not terminated prior to the effective time of the transaction, or current participants, the vesting (and exercisability, if applicable) of such stock awards will be accelerated in full to a date prior to the effective time of the transaction (contingent upon the effectiveness of the transaction), and such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the transaction, and any reacquisition or repurchase rights held by us with respect to such stock awards will lapse (contingent upon the effectiveness of the transaction). With respect to performance awards with multiple vesting levels depending on performance level, unless otherwise provided by an award agreement or by the administrator, the award will accelerate at 100% of target. If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then with respect to any such stock awards that are held by persons other than current participants, such awards will

terminate if not exercised (if applicable) prior to the effective time of the transaction, except that any reacquisition or repurchase rights held by us with respect to such stock awards will not terminate and may continue to be exercised notwithstanding the transaction. The plan administrator is not obligated to treat all stock awards or portions of stock awards in the same manner and is not obligated to take the same actions with respect to all participants.

In the event a stock award will terminate if not exercised prior to the effective time of a corporate transaction, the plan administrator may provide, in its sole discretion, that the holder of such stock award may not exercise such stock award but instead will receive a payment equal in value to the excess (if any) of (1) the value of the property the participant would have received upon the exercise of the stock award over (2) any exercise price payable by such holder in connection with such exercise.

Under our 2020 Plan, a corporate transaction is defined to include the consummation of: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of at least 50% of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction, and (4) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding before such transaction are converted or exchanged into other property by virtue of the transaction, unless otherwise provided in an award agreement or other written agreement between us and the award holder.

Change in Control. In the event of a change in control, as defined under our 2020 Plan, awards granted under our 2020 Plan will not receive automatic acceleration of vesting and exercisability, although this treatment may be provided for in an award agreement.

Under the 2020 Plan, a change in control is defined to include (1) the acquisition by any person or company of more than 50% of the combined voting power of our then outstanding stock; (2) a consummated merger, consolidation or similar transaction in which our stockholders immediately before the transaction do not own, directly or indirectly, more than 50% of the combined voting power of the surviving entity (or the parent of the surviving entity); (3) the approval by the stockholders or the board of directors of a plan of complete dissolution or liquidation of the company, or the occurrence of a complete dissolution or liquidation of the company, except for a liquidation into a parent corporation; (4) a consummated sale, lease, exclusive license or other disposition of all or substantially all of our assets other than to an entity more than 50% of the combined voting power of which is owned by our stockholders; and (5) an unapproved change in the majority of the board of directors.

Transferability. A participant may not transfer stock awards under our 2020 Plan other than by will, the laws of descent and distribution, or as otherwise provided under our 2020 Plan.

Plan Amendment or Termination. The Board has the authority to amend, suspend, or terminate our 2020 Plan, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of our stockholders. No incentive stock options may be granted after the tenth anniversary of the date the Board adopted our 2020 Plan. No stock awards may be granted under our 2020 Plan while it is suspended or after it is terminated.

Amended and Restated 2016 Equity Incentive Plan

Our 2016 Plan was originally adopted by the Board and approved by our stockholders in April 2016. It was subsequently amended in October 2019 and amended and restated in February 2020. Our 2016 Plan allows for the grant of ISOs to employees, including employees of any parent or subsidiary, and for the grant of NSOs, restricted stock awards, restricted stock units and other stock-based awards to employees, directors, and consultants, including employees and consultants of our affiliates.

No further grants can be made under our 2016 Plan following the effectiveness of our 2020 Plan. Any outstanding awards granted under our 2016 Plan will remain subject to the terms of our 2016 Plan and applicable award agreements.

Authorized Shares. The maximum number of shares of our common stock that may be issued under our 2016 Plan is 2,697,738 shares.

Shares used to pay the exercise price of a stock award or to satisfy the tax withholding obligations related to a stock award become available for future grant under our 2016 Plan.

Plan Administration. The Board or a duly authorized committee of the Board (referred to herein as the plan administrator) administers our 2016 Plan and the stock awards granted under it. Under our 2016 Plan, the plan

administrator has the authority to determine the terms of awards, including: (i) recipients; (ii) the exercise, purchase or strike price of stock awards, if any; (iii) the number of shares subject to each stock award; (iv) the vesting schedule applicable to the awards, together with any vesting acceleration; and (v) the form of consideration, if any, payable on exercise or settlement of the award.

Under the 2016 Plan, the plan administrator also generally has the authority to amend, modify or terminate any outstanding stock awards, including, but not limited to, substituting the award, changing the date of exercise or settlement, and converting an incentive stock option to a nonstatutory stock option; the holder's consent is required unless the plan administrator determines that the action would not materially and adversely affect the holder or the action is otherwise permitted by the 2016 Plan.

Stock Options. ISOs and NSOs are granted pursuant to award agreements adopted by the plan administrator. The plan administrator determines the exercise price for a stock option, within the terms and conditions of the 2016 Plan, provided that the exercise price of a stock option generally cannot be less than 100% (or 110% in the case of ISOs granted to certain stockholders) of the fair market value of our common stock on the date of grant. Options granted under the 2016 Plan vest at the rate specified by the plan administrator. Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (1) cash or check, (2) a broker-assisted cashless exercise, (3) delivery or attestation of shares of our common stock previously owned by the holder, (4) a net exercise of the stock option, (5) delivery of a promissory note, (6) other good and valuable consideration, or (7) any combination of the above. The plan administrator determines the term of stock options granted under the 2016 Plan, up to a maximum of ten years (or five years in the case of ISOs granted to certain stockholders). The plan administrator shall determine the effect on a stock award of the disability, death, retirement, authorized leave of absence, or any other change or purported change in a holder's status. Unless the plan administrator provides otherwise, stock options generally are not transferable except by will, the laws of descent and distribution.

Transactions. Our 2016 Plan provides that, in the event of a change in control, certain significant corporate transactions (including, but not limited to, a merger, reorganization or sale of all or substantially all of our assets), any unusual or nonrecurring transaction or event affecting the company or our financial statements, or any change in any applicable laws or accounting principles, the plan administrator may take any of the following actions that it deems appropriate in order to (x) prevent dilution or enlargement of the benefits or potential benefits intended by us to be made available under the 2016 Plan or with respect to any stock award, (y) to facilitate such transaction or event or (z) give effect to such changes in applicable laws or accounting principles:

- provide for the cancellation of any stock award in exchange for an amount of cash or other property with a value equal to what could have been obtained on exercise or settlement of the vested portion of such equity award;
- provide for acceleration of vesting of any stock award;
- provide for the assumption of or substitution of the stock award by the successor or surviving corporation, or a parent or subsidiary thereof,
- make adjustments in the number and type of shares of common stock underlying stock awards and/or terms and conditions of stock awards;
- replace a stock award with other rights or property; and/or
- provide that a stock award shall terminate and cannot vest, be exercised or become payable after the applicable event.

Notwithstanding the above, if a change in control occurs, and a stock award is not continued, converted, assumed, or replaced with a substantially similar award by us or the successor entity, or its parent or subsidiary, and provided that the holder's service with us has not terminated, then immediately prior to the change in control, such stock award shall become fully vested, exercisable and/or payable, as applicable, and all restrictions on the stock award shall lapse. Such awards shall be cancelled upon the consummation of the change in control in exchange for the right to receive the consideration payable to all holders of our common stock in connection with the change in control.

The plan administrator may treat holders and stock awards (or portions thereof) differently.

Under our 2016 Plan, a change in control generally means (i) a merger or consolidation of the company with or into any other corporation or other entity or person; (ii) a sale, lease, exchange, or transfer, in one transaction or a series of related transactions, of all or substantially all of our assets; or (iii) any other transaction, including a sale of new shares of our capital stock or a transfer of our existing shares of capital stock, resulting in a third party that is not an affiliate of the company or one of our stockholders immediately prior to such transaction acquiring or holding a majority of our outstanding voting power immediately following such transaction. The following transactions shall not constitute a change in control: (i) a transaction (other than a sale of all or substantially all of our assets) in which the holders of our outstanding voting securities immediately prior to the merger or consolidation hold, directly or indirectly, at least a majority of the voting securities in the successor corporation or its parent immediately after the merger or consolidation; (ii) a sale, lease, exchange, or other transaction in one transaction or a series of related transactions of all or substantially all of our assets to our affiliate; (iii) an initial public offering; (iv) a reincorporation solely to change our jurisdiction; or (v) a transaction undertaken for the primary purpose of creating a holding company that will be owned in substantially the same proportion by the persons who held our securities immediately before such transaction.

Plan Amendment or Termination. The Board has the authority to amend, suspend, or terminate our 2016 Plan; provided that no amendment of the 2016 Plan shall materially and adversely affect any outstanding stock award without the consent of the affected holder. Certain material amendments require the approval of our stockholders.

2020 Employee Stock Purchase Plan

The Board adopted our 2020 Employee Stock Purchase Plan (the “ESPP”), in September 2020 and our stockholders approved our ESPP in October 2020. The ESPP became effective immediately prior to the execution of the underwriting agreement related to our initial public offering. The purpose of the ESPP is to secure the services of new employees, to retain the services of existing employees, and to provide incentives for such individuals to exert maximum efforts toward our success and that of our affiliates. The ESPP includes two components. One component is designed to allow eligible U.S. employees to purchase our common stock in a manner that may qualify for favorable tax treatment under Section 423 of the Internal Revenue Code of 1986, as amended (the “Code”). In addition, purchase rights may be granted under a component that does not qualify for such favorable tax treatment because of deviations necessary to permit participation by eligible employees who are foreign nationals or employed outside of the U.S. while complying with applicable foreign laws.

Share Reserve. The ESPP initially authorized the issuance of 220,640 shares of our common stock under purchase rights granted to our employees or to employees of any of our designated affiliates. The number of shares of our common stock reserved for issuance is subject to an automatic increase on January 1 of each calendar year through January 1, 2030, by the lesser of 1% of the total number of shares of our common stock outstanding on the last day of the calendar month before the date of the automatic increase, and (2) 441,280 shares; provided, that before the date of any such increase, the Board may determine that such increase will be less than the amount set forth in clauses (1) and (2). Pursuant to the automatic increase provision of the ESPP, the number of shares of our common stock reserved for issuance under our ESPP was increased by 234,918 shares on January 1, 2022, and 236,010 shares on January 1, 2023.

Administration. The Board has delegated its authority to administer the ESPP to the Compensation Committee. The ESPP is implemented through a series of offerings under which eligible employees are granted purchase rights to purchase shares of our common stock on specified dates during such offerings. Under the ESPP, we may specify offerings with durations of not more than 27 months, and may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of our common stock will be purchased for employees participating in the offering. Our initial offering under the ESPP commenced enrollment in October 2020 for an offering period of 27 months, and with an initial purchase period commencing June 2021. In the future, we currently intend to have 24-month offerings with multiple purchase periods (of approximately six months in duration) per offering. An offering under the ESPP may be terminated under certain circumstances.

Payroll Deductions. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates, may participate in the ESPP and may contribute, normally through payroll deductions, up to 15% of their earnings (as defined in the ESPP) for the purchase of our common stock under the ESPP. Unless otherwise determined by the Board, common stock will be purchased for the accounts of employees participating in the ESPP at a price per share that is at least the lesser of (1) 85% of the fair market value of a share of our common

stock on the first date of an offering, or (2) 85% of the fair market value of a share of our common stock on the date of purchase.

Limitations. Employees may have to satisfy one or more of the following service requirements before participating in the ESPP, as determined by the Board, including: (1) being customarily employed for more than 20 hours per week, (2) being customarily employed for more than five months per calendar year, or (3) continuous employment with us or one of our affiliates for a period of time (not to exceed two years). No employee may purchase shares under the ESPP at a rate in excess of \$25,000 worth of our common stock based on the fair market value per share of our common stock at the beginning of an offering for each year such a purchase right is outstanding. Finally, no employee will be eligible for the grant of any purchase rights under the ESPP if immediately after such rights are granted, such employee has voting power over 5% or more of our outstanding capital stock measured by vote or value under Section 424(d) of the Code.

Changes to Capital Structure. In the event that there occurs a change in our capital structure through such actions as a stock split, merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, liquidating dividend, combination of shares, exchange of shares, change in corporate structure, or similar transaction, the board of directors will make appropriate adjustments to: (1) the number of shares reserved under the ESPP, (2) the maximum number of shares by which the share reserve may increase automatically each year, (3) the number of shares and purchase price of all outstanding purchase rights, and (4) the number of shares that are subject to purchase limits under ongoing offerings.

Corporate Transactions. In the event of certain significant corporate transactions, including the consummation of (1) a sale of all or substantially all of our assets, (2) the sale or disposition of more than 50% of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction, or (4) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction, any then-outstanding rights to purchase our stock under the ESPP may be assumed, continued or substituted for by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue, or substitute for such purchase rights, then the participants' accumulated payroll contributions will be used to purchase shares of our common stock within ten business days before such corporate transaction, and such purchase rights will terminate immediately.

ESPP Amendment or Termination. The Board has the authority to amend or terminate our ESPP, provided that except in certain circumstances such amendment or termination may not materially impair any outstanding purchase rights without the holder's consent. We will obtain stockholder approval of any amendment to our ESPP as required by applicable law or listing requirements.

Equity Compensation Plan Information

The following table provides certain information as of December 31, 2022, with respect to all of our equity compensation plans in effect on that date.

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights	Weighted-average Exercise Price of Outstanding Options, Warrants and Rights ⁽³⁾	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders ⁽¹⁾	5,162,322 ⁽²⁾	\$ 2.66	1,541,880 ⁽⁴⁾
Equity compensation plans not approved by security holders	1,000,000	\$ 4.59	—
Total	6,162,322 ⁽²⁾	\$ 3.38	1,541,880 ⁽⁴⁾

- (1) Consists of the 2016 Plan, the 2020 Plan and the 2020 Employee Stock Purchase Plan (the "ESPP"). The number of shares of our common stock reserved for issuance under the 2020 Plan is subject to an automatic increase on January 1st of each year, for a period of ten years, commencing on January 1, 2021 and ending on (and including) January 1, 2030, in an amount equal to 5% of the total number of shares of our common stock outstanding on December 31 of the preceding year; provided, however, that the Board may act prior to January 1st of a given year to provide that the increase for such year

will be a lesser number of shares of our common stock. The number of shares of our common stock reserved for issuance under the ESPP is subject to an automatic increase on January 1st of each year, for a period of ten years, commencing on January 1, 2021 and ending on (and including) January 1, 2030, in an amount equal to the lesser of (i) 1% of the total number of shares of our common stock outstanding on December 31st of the preceding calendar year, (ii) 441,280 shares of our common stock and (iii) a number of shares of our common stock designated by action of the Board prior to the applicable January 1st. On January 1, 2023, the numbers of shares of our common stock reserved for issuance under the 2020 Plan and the ESPP were increased by 1,180,050 shares and 236,010 shares, respectively, pursuant to the automatic increase provisions of such plans.

- (2) Consists of shares of our common stock issuable upon exercise of 4,166,194 outstanding stock options and vesting of 1,996,128 outstanding RSUs and PSUs.
- (3) The weighted-average exercise price excludes RSUs and PSUs.
- (4) Consists of shares available for future issuance under the 2020 Plan and the ESPP. As of December 31, 2022, 940,061 shares of our common stock were available for issuance under the 2020 Plan, and 601,819 shares of our common stock were available for issuance under the ESPP.

Limitations on Liability and Indemnification

Our amended and restated certificate of incorporation contains provisions that limit the liability of our current and former directors for monetary damages to the fullest extent permitted by Delaware law. Delaware law provides that directors of a corporation will not be personally liable for monetary damages for any breach of fiduciary duties as directors, except liability for:

any breach of the director's duty of loyalty to the corporation or its stockholders;

- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions; or
- any transaction from which the director derived an improper personal benefit.

Such limitation of liability does not apply to liabilities arising under federal securities laws and does not affect the availability of equitable remedies such as injunctive relief or rescission.

Our amended and restated certificate of incorporation authorizes us to indemnify our directors, officers, employees, and other agents to the fullest extent permitted by Delaware law. Our amended and restated bylaws provide that we are required to indemnify our directors and officers to the fullest extent permitted by Delaware law and may indemnify our other employees and agents. Our amended and restated bylaws also provide that, on satisfaction of certain conditions, we will advance expenses incurred by a director or officer in advance of the final disposition of any action or proceeding, and permit us to secure insurance on behalf of any officer, director, employee, or other agent for any liability arising out of his or her actions in that capacity regardless of whether we would otherwise be permitted to indemnify him or her under the provisions of Delaware law. We have entered and expect to continue to enter into agreements to indemnify our directors, executive officers, and other employees as determined by the Board. With certain exceptions, these agreements provide for indemnification for related expenses including attorneys' fees, judgments, fines, and settlement amounts incurred by any of these individuals in any action or proceeding.

We believe that these amended and restated certificate of incorporation and amended and restated bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain customary directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted for directors, executive officers, or persons controlling us, we have been informed that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Director Compensation

The following table sets forth information concerning the compensation paid to our directors in 2022, other than (i) Dr. Szwarcberg, our Chief Executive Officer who commenced employment with us in January 2022 and received no additional compensation in connection with his service as a director and (ii) Mr. Grey, our Executive Chairman who received cash compensation in the amount of \$70,000 in connection with his service as a director and whose compensation is fully reported in the Summary Compensation Table of the section titled “Executive Compensation”. See the section titled “Executive Compensation” for more information regarding the compensation earned by Dr. Szwarcberg and Mr. Grey.

Director Compensation for Fiscal 2022

Name	Fees Earned or Paid in Cash (\$)	Option Awards (\$) ⁽¹⁾	All Other Compensation (\$)	Total (\$)
Tiba Aynечи, Ph.D.	50,000	29,700	—	79,700
Dina Chaya, Ph.D., C.F.A.	55,500	29,700	—	85,200
Bali Muralidhar, Ph.D.	45,000	29,700	—	74,700
Niall O’Donnell, Ph.D.	47,500	29,700	—	77,200
Daniel Spiegelman	55,000	29,700	—	84,700
Camilla Simpson, M.Sc.	49,000	29,700	—	78,700
Kirk Ways, M.D., Ph.D.	44,000	27,225	—	71,225

- (1) Amounts shown in this column do not reflect dollar amounts actually received by non-employee directors. Instead, these amounts reflect the aggregate grant date fair value of each stock option granted computed in accordance with the provisions of FASB ASC Topic 718. Assumptions used in the calculation of these amounts are included in Note 9 to our consolidated financial statements included in our Annual Report. Our non-employee directors will only realize compensation to the extent the trading price of our common stock is greater than the exercise price of such stock options. As of December 31, 2022, Dr. Aynечи held options to purchase 22,500 shares of our common stock; Dr. Chaya held options to purchase 32,500 shares of our common stock; Dr. Muralidhar held options to purchase 32,500 shares of our common stock; Dr. O’Donnell held options to purchase 32,500 shares of our common stock; Mr. Spiegelman held options to purchase 63,565 shares of our common stock; Ms. Simpson held options to purchase 97,617 shares of our common stock; and Dr. Ways held options to purchase 40,625 shares of our common stock.

We have reimbursed and will continue to reimburse all of our non-employee directors for their reasonable out-of-pocket expenses incurred in attending board of directors and committee meetings.

The Board adopted a non-employee director compensation policy in September 2020 that became effective immediately prior to the execution and delivery of the underwriting agreement related to our initial public offering, which is applicable to all of our non-employee directors. The non-employee director compensation policy was further amended in March 2023. This compensation policy provides that each such non-employee director will receive the following compensation for service on the Board:

- an annual cash retainer of \$40,000;
- an additional annual cash retainer of \$30,000 to the executive chairman of the Board;
- an additional annual cash retainer (not applicable to committee chairs) of \$7,500, \$5,000, and \$4,000 for service as a member of the audit committee, compensation committee and the nominating and corporate governance committee, respectively;
- an additional annual cash retainer of \$15,000, \$10,000, and \$8,000 for service as chair of the audit committee, compensation committee and the nominating and corporate governance committee, respectively;
- an initial option grant to purchase 60,000 shares of our common stock on the date of each such non-employee director’s appointment to the Board, vesting monthly over three years; and
- an annual option grant to purchase 30,000 shares of our common stock on the date of each of our annual stockholder meetings, vesting on the earlier of (i) the first anniversary of the grant date and (ii) the date of

the next annual meeting, provided that such grant is pro-rated based on the number of full months the director has served on the Board, if less than 12 months prior to the applicable annual stockholder meeting.

Each of the option grants described above will be granted under our 2020 Plan, the terms of which are described in more detail under the section titled “Executive Compensation—Employee Benefit Plans—2020 Equity Incentive Plan.” Each such option grant will vest and become exercisable subject to the director’s continuous service to us, provided that each grant will vest in full upon a change in control of our company, as defined in the 2020 Plan. The term of each option will be ten years, subject to earlier termination as provided in the 2020 Plan.

TRANSACTIONS WITH RELATED PERSONS AND INDEMNIFICATION

The following includes a summary of transactions since January 1, 2021 to which we have been a party in which the amount involved exceeded or will exceed the lesser of \$120,000 or 1% of the average of our total assets at year end for the last two completed fiscal years, and in which any of our directors, director nominees, executive officers or, to our knowledge, beneficial owners of more than 5% of our capital 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 equity and other compensation, termination, change in control and other arrangements, which are described under “Executive Compensation.” We also describe below certain other transactions with our directors, executive officers and stockholders.

Participation in 2023 Private Placement Offering

In February 2023, we entered into Securities Purchase Agreement (the “Purchase Agreement”) with certain institutional investors, relating to a private placement of shares of our common stock, pre-funded warrants to purchase shares of our common stock and warrants to purchase shares of our common stock (the “Private Placement”). Pursuant to the Purchase Agreement, we issued and sold an aggregate of 16,116,000 shares of our common stock to the purchasers, along with 800,000 shares of common stock subject to a pre-funded warrant and 12,687,000 shares of common stock subject to warrants (collectively, the “Warrants”). Our Private Placement closed on February 16, 2023. Certain holders of more than 5% of our capital stock (including shares of common stock acquired in the Private Placement), including those holders affiliated with members of our Board, purchased shares of our common stock in the Private Placement at the offering price offered to other investors.

The following table sets forth the number of shares of our common stock purchased and the aggregate cash purchase price paid by each of these stockholders.

Name	Shares of Common Stock Purchased	Pre-funded Warrants Purchased	Warrants Purchased	Aggregate Cash Purchase Price \$
Novo Holdings A/S ⁽¹⁾	2,208,000	—	1,656,000	6,999,360
Entities affiliated with RiverVest Venture Fund III, L.P. ⁽²⁾	788,000	—	591,000	2,497,960
Abingworth Bioventures VII LP ⁽³⁾	1,104,000	—	828,000	3,499,680
HealthCap VIII, L.P. ⁽⁴⁾	944,000	—	708,000	2,992,480
Entities affiliated with Rock Springs Management LP ⁽⁵⁾	1,104,000	—	828,000	3,499,680
Armistice Capital Master Fund Ltd. ⁽⁶⁾	3,928,000	800,000	3,546,000	14,979,760
5AM Opportunities II, L.P. ⁽⁷⁾	2,364,000	—	1,773,000	7,493,880

- (1) Novo Holdings A/S is the beneficial owner of more than 5% of our outstanding capital stock. Tiba Aynechi, Ph.D. is a member of our board of directors and was previously employed as a Senior Partner at Novo Ventures (US) Inc., which provides certain consultancy services to Novo Holdings A/S.
- (2) Entities affiliated with RiverVest Venture Fund III, L.P. are the beneficial owners of more than 5% of our outstanding capital stock. Niall O’Donnell, Ph.D. is a member of our board of directors and serves as Managing Director at RiverVest Venture Partners.
- (3) Abingworth Bioventures VII LP is the beneficial owner of more than 5% of our outstanding capital stock. Bali Muralidhar, M.D., Ph.D. is a member of our board of directors and serves as Managing Partner of Abingworth LLP, an affiliate of Abingworth Bioventures VII LP.
- (4) HealthCap VIII, L.P. is the beneficial owner of more than 5% of our outstanding capital stock. Jonas Hansson, a former member of our board of directors, was formerly employed as a partner at HealthCap Advisor AB, an entity affiliated with HealthCap VIII, L.P.
- (5) Entities affiliated with Rock Springs Management LP collectively beneficially own more than 5% of our outstanding capital stock.
- (6) Armistice Capital Master Fund Ltd. is the beneficial owner of more than 5% of our outstanding capital stock.
- (7) 5AM Opportunities II, L.P. is the beneficial owner of more than 5% of our outstanding capital stock.

Employment Agreements, Consulting Agreement and Stock Option Grants to Directors and Executive Officers

We have entered into employment agreements and consulting agreements with certain of our named executive officers, and granted stock options to our named executive officers and certain of our directors, as more fully described in the sections titled “Executive Compensation” and “Management—Non-Employee Director Compensation”.

Investors’ Rights Agreement

In February 2020, we entered into an Amended and Restated Investors’ Rights Agreement (the “Rights Agreement”) with certain holders of more than 5% of our outstanding capital stock, including Abingworth Bioventures VII LP, Citadel Multi-Strategy Equities Master Fund Ltd., HealthCap VIII L.P., Novo Holdings A/S, Omega Fund VI, L.P., entities affiliated with RiverVest Venture Fund III, L.P., and Rock Springs Capital Master Fund LP, and including certain affiliates of our directors.

The Rights Agreement granted certain rights to the holders thereof, including certain registration rights with respect to the registrable securities held by them. In addition, the Rights Agreement imposed certain affirmative obligations on us, including our obligation to, among other things, grant each holder who holds at least 4,000,000 shares of our redeemable convertible preferred stock (the “Major Investors”) a right of first offer with respect to future sales of our equity, excluding the shares offered and sold in our initial public offering, and grant certain information and inspection rights to such Major Investors. Each of these obligations terminated in connection with our initial public offering in October 2020, except for the registration rights.

Indemnification Agreements

Our amended and restated certificate of incorporation contains provisions limiting the liability of directors, and our amended and restated bylaws provide that we will indemnify each of our directors and officers to the fullest extent permitted under Delaware law. Our amended and restated certificate of incorporation and amended and restated bylaws also provide the Board with discretion to indemnify our employees and other agents when determined appropriate by the Board. In addition, we have entered into an indemnification agreement with each of our directors and executive officers, which will require us to indemnify them. For more information regarding these agreements, see “Executive Compensation—Limitations on Liability and Indemnification Matters.”

Policies and Procedures for Transactions with Related Persons

We have adopted a written policy that our executive officers, directors, nominees for election as a director, beneficial owners of more than 5% of any class of our common stock and any members of the immediate family of any of the foregoing persons are not permitted to enter into a related person transaction with us without the approval or ratification of the Board or our Audit Committee. Any request for us to enter into a transaction with an executive officer, director, nominee for election as a director, beneficial owner of more than 5% of any class of our common stock, or any member of the immediate family of any of the foregoing persons, in which the amount involved exceeds \$120,000 (or, if less, 1% of the average of our total assets in a fiscal year) and such person would have a direct or indirect interest, must be presented to the Board or our Audit Committee for review, consideration and approval. In approving or rejecting any such proposal, the Board or our Audit Committee is to consider the material facts of the transaction, including whether the transaction is on terms comparable to the terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related person’s interest in the transaction.

HOUSEHOLDING OF PROXY MATERIALS

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) 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 Company stockholders will be “householding” the Company’s 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 the Company by telephone at (415) 655-4168 or by written request to 611 Gateway Boulevard, Suite 740, South San Francisco, California 94080, Attention: Corporate Secretary, and we will promptly deliver the requested documents or notice. 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.

OTHER MATTERS

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 such matters in accordance with their best judgment.

By Order of the Board of Directors

A handwritten signature in black ink, appearing to read 'J. Szwarcberg', with a horizontal line underneath.

Javier Szwarcberg, M.D., MPH
Chief Executive Officer
April 5, 2023

