
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

X4 Pharmaceuticals, Inc.

(Name of Registrant as Specified In Its Charter)

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

Payment of filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

Title of each class of securities to which transaction applies:

Aggregate number of securities to which transaction applies:

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

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- Fee paid previously with preliminary materials.
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Filing Party:

Date Filed:

**X4 PHARMACEUTICALS, INC.
61 North Beacon Street, 4th Floor
Boston, Massachusetts 02134**

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held On June 2, 2021

Dear Stockholder of X4 Pharmaceuticals, Inc.:

You are cordially invited to attend the 2021 Annual Meeting of Stockholders of X4 Pharmaceuticals, Inc., a Delaware corporation (the "Company"). Due to the public health concerns regarding the ongoing COVID-19 pandemic, the Annual Meeting will be held virtually and exclusively online via live audio-only webcast, on Wednesday, June 2, 2021 at 11:00 a.m. Eastern Time. The Annual Meeting will be held for the following purposes:

1. To elect the three (3) nominees named in the accompanying proxy statement (the "Proxy Statement"), David McGirr, M.B.A., Paula Ragan, Ph.D. and Michael S. Wyzga, to the Board of Directors to hold office until the 2024 Annual Meeting of Stockholders and until their successors are duly elected and qualified.
2. To ratify the selection by the Audit Committee of the Board of Directors of PricewaterhouseCoopers LLP as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2021.
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.

You will be able to attend the Annual Meeting online, submit your questions during the Annual Meeting and vote your shares electronically during the meeting by visiting www.proxyvote.com. **Because the Annual Meeting is being held electronically, you will not be able to attend the Annual Meeting in person.**

The record date for the Annual Meeting is April 5, 2021. Only stockholders of record at the close of business on that date may vote at the Annual Meeting or any adjournment or postponement thereof.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting to Be Held on June 2, 2021

The Notice & Proxy Statement and Annual Report on Form 10-K
are available at <https://www.proxyvote.com>.

By Order of the Board of Directors,



Paula Ragan, Ph.D.
President, Chief Executive Officer, Corporate Secretary
and Director

Boston, Massachusetts
April 20, 2021

You are cordially invited to attend the Annual Meeting. Whether or not you expect to attend the Annual Meeting, please vote by telephone or through the Internet, or, if you receive a paper proxy card by mail, by completing and returning the proxy card mailed to you, as promptly as possible in order to ensure your representation at the Annual Meeting. Voting instructions are provided in the Notice of Internet Availability of Proxy Materials, or, if you receive a paper proxy card by mail, the instructions are printed on your proxy card and included in the accompanying proxy statement. If you participate virtually in the annual meeting, you may vote at that time, even if you previously submitted your vote. Please note, however, that if your shares are held of record by a brokerage firm, bank or other agent and you wish to vote at the Annual Meeting, you must obtain a proxy issued in your name from that agent in order to vote your shares that are held in such agent's name and account.

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X4 PHARMACEUTICALS, INC.
61 North Beacon Street, 4th Floor
Boston, Massachusetts 02134

**PROXY STATEMENT
FOR THE 2021 ANNUAL MEETING OF STOCKHOLDERS**

June 2, 2021

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 X4 Pharmaceuticals, Inc. (sometimes referred to as the “Company” or “X4”) is soliciting your proxy to vote at the 2021 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 23, 2021 to all stockholders of record entitled to vote at the Annual Meeting.

Why are you holding a virtual Annual Meeting?

As part of our effort to maintain a safe and healthy environment for our directors, members of management and stockholders who wish to attend the Annual Meeting, in light of the ongoing COVID-19 pandemic we believe that hosting a virtual meeting is in the best interest of the Company and its stockholders and enables increased stockholder attendance and participation because stockholders can participate from any location around the world. Stockholders will have the same rights and opportunities to participate as they would have at an in-person meeting.

Will I receive any other proxy materials by mail?

We may send you a proxy card, along with a second Notice, on or after May 3, 2021.

How do I attend the Annual Meeting?

You cannot attend the Annual Meeting physically. You can attend the annual meeting by visiting www.virtualshareholdermeeting.com/XFOR2021, where you will be able to listen to the Annual Meeting live, submit questions and vote online.

The meeting will be held on Wednesday, June 2, 2021 at 11:00 a.m. Eastern Time. We encourage you to access the Annual Meeting 15 minutes prior to the start time to allow time for online check-in. We have worked to offer the same participation opportunities as would be provided at an in-person meeting while further enhancing the online experience available to all stockholders regardless of their location. However, please be aware that you must bear any costs associated with your internet access, such as usage charges from internet access providers and telephone companies. If you experience technical difficulties during the Annual Meeting, you should call the technical support phone number provided when you log in to the Annual Meeting.

In order to enter the Annual Meeting virtually, you will need the unique 16-digit control number, which is included in the Notice or on your proxy card if you are a stockholder of record of the shares, or included with your voting instruction card and voting instructions received from your broker, bank, trustee, or nominee if you are the beneficial owner of the shares held in “street name.”

What if I cannot virtually attend the Annual Meeting?

You may vote your shares electronically before the meeting by internet, by proxy or by telephone as described below. You do not need to access the Annual Meeting audio-only webcast to vote if you submitted your vote via proxy, by internet or by telephone in advance of the Annual Meeting.

Who can vote at the Annual Meeting?

Only stockholders of record at the close of business on April 5, 2021 will be entitled to vote at the Annual Meeting. On this record date, there were 23,665,660 shares of common stock outstanding and entitled to vote. A list of stockholders entitled to vote at the Annual Meeting will be available at our principal executive offices for examination during normal business hours by any stockholder for any purpose germane to the Annual Meeting for a period of ten days prior to the Annual Meeting through the close of the Annual Meeting.

Stockholder of Record: Shares Registered in Your Name

If on April 5, 2021, your shares were registered directly in your name with our transfer agent, Computershare Trust Company, N.A., then you are a stockholder of record. As a stockholder of record, you may vote at the Annual Meeting virtually or vote by proxy prior to the Annual Meeting. Whether or not you plan to attend the Annual Meeting, we urge you to vote by proxy electronically through the Internet, over the telephone or by completing and returning a printed proxy card that you may request or that we may elect to deliver at a later time to ensure your vote is counted.

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

If on April 5, 2021, your shares were held not in your name but rather in an account at a brokerage firm, bank or other similar organization, then you are the beneficial owner of shares held in "street name" and the Notice is being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the Annual Meeting. As a beneficial owner, you have the right to direct your broker, bank or other agent regarding how to vote the shares in your account. You are also invited to attend the Annual Meeting. However, since you are not the stockholder of record, you may not vote your shares at the Annual Meeting even if you participate virtually unless you request and obtain a valid proxy from your broker, bank or other agent.

What am I voting on?

There are two matters scheduled for a vote:

- Election of three (3) directors to hold office until the 2024 Annual Meeting of Stockholders (Proposal 1); and
- Ratification of selection by the Audit Committee of the Board of Directors of PricewaterhouseCoopers LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2021 (Proposal 2).

What if another matter is properly brought before the Annual Meeting?

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

How do I vote?

With respect to Proposal 1, you may either vote "FOR" all the nominees to the Board or you may "WITHHOLD" your vote for any nominee you specify. With respect to Proposal 2, 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 electronically over the internet before or during the Annual Meeting, vote by proxy through the Internet, vote by proxy over the telephone, or vote by proxy using a proxy card that you may request or that we may elect to deliver at a later time. Whether or not you plan to attend the virtual Annual Meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the Annual Meeting virtually and vote electronically even if you have already voted by proxy.

- To vote through the Internet before the Annual Meeting, go to www.proxyvote.com to complete an electronic proxy card. You will be asked to provide the 16-digit control number from the Notice. Your Internet vote must be received by 11:59 p.m., Eastern Time, on June 1, 2021 to be counted.
- To vote your shares electronically at the Annual Meeting, you will need to visit www.virtualshareholdermeeting.com/XFOR2021 during the Annual Meeting while the polls are open and follow the instructions provided. You will be asked to provide the control number from the Notice and follow the instructions.
- To vote over the telephone from a location in the United States, dial toll-free 1-800-690-6903 using a touch-tone phone and follow the recorded instructions. You will be asked to provide the control number from the Notice. Your telephone vote must be received by 11:59 p.m., Eastern Time, on June 1, 2021 to be counted.
- To vote by using a printed proxy card that may be delivered to you, simply complete, sign and date the proxy card 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.

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

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

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

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of April 5, 2021.

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 a proxy card, by telephone, through the Internet or electronically 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 of our independent registered public accounting firm. If any other matter is properly presented at the Annual Meeting, your proxyholder (one of the individuals named on your proxy card) will vote your shares using his or her best judgment.

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

If you are a beneficial owner of shares held in street name and you do not instruct your broker, bank or other agent how to vote your shares, your broker, bank or other agent may still be able to vote your shares in its discretion. In this regard, under the rules of the New York Stock Exchange (“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 this proposal 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. Accordingly, if you own shares through a nominee, such as a broker, bank or other agent, please be sure to instruct your nominee how to vote to ensure that your vote is counted on all of the proposals.

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.

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 each of 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 (which automatically revokes the earlier proxy)
- 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 our Corporate Secretary at 61 North Beacon Street, 4th Floor, Boston, Massachusetts 02134.
- You may attend the Annual Meeting virtually and vote electronically. Simply attending the Annual Meeting virtually will not, by itself, revoke your proxy. Even if you plan to attend the Annual Meeting virtually, we recommend that you also submit your proxy or voting instructions or vote by telephone or through the Internet so that your vote will be counted if you later decide not to attend the Annual Meeting.

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.

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 24, 2021, to our Corporate Secretary, c/o X4 Pharmaceuticals, Inc., 61 North Beacon Street, 4th Floor, Boston, Massachusetts 02134.

Our bylaws also establish an advance notice procedure if you wish to present a proposal (including a director nomination) before an annual meeting of stockholders but you are not requesting that your proposal or nomination be included in next year's proxy materials. To be timely for our 2022 Annual Meeting of Stockholders, our Corporate Secretary must receive the written notice at our principal executive offices not later than the close of business on March 4, 2022 nor earlier than the close of business on February 2, 2022. However, if we hold our 2022 Annual Meeting of Stockholders more than 30 days before or after June 2, 2022 (the one-year anniversary date of the 2021 Annual Meeting of Stockholders), then timely notice of a stockholder proposal that is not intended to be included in our proxy statement must be received not earlier than the close of business on the 120th day prior to the 2022 Annual Meeting of Stockholders and not later than the close of business on the later of (a) the 90th day prior to the 2022 Annual Meeting of Stockholders and (b) the 10th day following the day on which the one of the following first occurs: (i) mailing of notice of the date of the 2022 Annual Meeting of Stockholders and (ii) the

first public announcement of the date of the 2022 Annual Meeting of Stockholders. You are also advised to review our bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations.

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 (Proposal 1), votes “For,” “Withhold” and broker non-vote, and, with respect to Proposal 2, votes “For” and “Against,” abstentions and, if applicable, broker non-votes. Abstentions will be counted towards the vote total for Proposal 2 and will have the same effect as “Against” votes. Broker non-votes on Proposal 1 will have no effect and will not be counted towards the vote total for any of those proposals.

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.” The NYSE has advised us that Proposal 1 is considered to be “non-routine” under NYSE rules and we therefore expect broker non-votes to exist in connection with that 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?

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

Proposal Number	Proposal Description	Vote Required for Approval	Effect of Abstentions	Effect of Broker Non-Votes
1	Election of directors	The three nominees receiving the most “For” votes; withheld votes will have no effect.	No effect	No effect
2	Ratification of the selection of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the year ending December 31, 2021	The affirmative vote of a majority of the votes cast by the holders of shares present in person or by proxy and entitled to vote at the Annual Meeting.	Against	Not applicable ⁽¹⁾

⁽¹⁾ Proposal 2 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 in voting power of the outstanding shares entitled to vote are present at the Annual Meeting in person or represented by proxy. On the record date, there were 23,655,660 shares outstanding and entitled to vote. **Thus, the holders of 11,827,381 shares must be present in person 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 electronically the Annual Meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the holders of a majority of shares present at the Annual Meeting in person or represented by proxy may adjourn the Annual 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.

How does the March 2019 merger affect the disclosures in this Proxy Statement?

On March 13, 2019, X4 (formerly Arsanis, Inc.) completed its business combination in accordance with the terms of the Agreement and Plan of Merger, dated as of November 26, 2018, as amended on December 20, 2018 and March 8, 2019, or the Merger Agreement, by and among X4, X4 Therapeutics, Inc. (formerly X4 Pharmaceuticals, Inc., or “Private X4”) and Artemis AC Corp., a Delaware corporation and a wholly-owned subsidiary of the Company (the “Merger Sub”), pursuant to which, among other matters, Merger Sub merged with and into Private X4, with Private X4 continuing as a wholly-owned subsidiary of X4 and the surviving corporation of the merger (the “Merger”). Following the Merger, on March 13, 2019, X4 effected a 1-for-6 reverse stock split of its common stock (the “Reverse Stock Split”), and changed its name to “X4 Pharmaceuticals, Inc.” Following the completion of the Merger, the business conducted by X4 became primarily the business conducted by Private X4, a clinical-stage biopharmaceutical company focused on the research, development and commercialization of novel therapeutics for the treatment of rare diseases. All references to common stock shares and per share amounts in this Proxy Statement have been retroactively adjusted to reflect, where applicable, the Reverse Stock Split, as indicated.

PROPOSAL 1

ELECTION OF DIRECTORS

Our 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 only 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 eight members. There are three directors in the class whose term of office expires at our Annual Meeting: David McGirr, M.B.A., Paula Ragan, Ph.D. and Michael S. Wyzga. If elected at the Annual Meeting, each of these nominees would serve until the 2024 annual meeting and until his or her successor has been duly elected and qualified, or, if sooner, until the director's death, resignation or removal. It is our policy that all directors and nominees for director make every effort to attend the Annual Meeting. All of the then-serving directors attended the 2020 Annual Meeting of stockholders, which was also held in virtual format.

Vote Required

Directors are elected by a plurality of the votes of the holders of shares present in person 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. Shares represented by executed proxies will be voted, if authority to do so is not withheld, for the election of the three nominees named below. If any nominee becomes unavailable for election as a result of an unexpected occurrence, shares that would have been voted for that nominee will instead be voted for the election of a substitute nominee proposed by us. Each person nominated for election has agreed to serve if elected. We have no reason to believe that any nominee will be unable to serve.

Director Nominees and Continuing Directors

The following is a brief biography and the ages of each nominee and each director whose term will continue after the Annual Meeting, and a discussion of the specific experience, qualifications, attributes or skills of each nominee that led the Nominating and Corporate Governance Committee to recommend that person as a nominee for director, as of the date of this Proxy Statement.

There are no family relationships between or among any of our directors or nominees. There is no arrangement or understanding between any of our directors or nominees and any other person or persons pursuant to which he or she is to be selected as a director or nominee.

There are no legal proceedings to which any of our directors is a party adverse to us or any of our subsidiaries or in which any such person has a material interest adverse to us or any of our subsidiaries.

Nominees for Election as a Class I Director for a Three-Year Term Expiring at the 2024 Annual Meeting of Stockholders

David McGirr, M.B.A., age 66, became a member of the board of directors of Arsanis, Inc. in September 2017 and continues to serve as a member of our Board following the completion of the Merger in March 2019. From March 2013 until June 2014, Mr. McGirr was Senior Advisor to the chief executive officer of Cubist Pharmaceuticals, Inc., a biopharmaceutical company where he also served as Senior Vice President and Chief Financial Officer from November 2002 to March 2013. Prior to joining Cubist in 2002, Mr. McGirr was the President and Chief Operating Officer of hippo inc., a venture-financed internet technology company. From 1996 to 1999, he was the President of GAB Robins North America, Inc., a risk management company, serving also as Chief Executive Officer from 1997 to 1999. Mr. McGirr was a private equity investor from 1995 to 1996. From 1978 to 1995, Mr. McGirr served in various positions within the S.G. Warburg Group, ultimately as Chief Financial Officer, Chief Administrative Officer and Managing Director of S.G. Warburg & Co., Inc., a position held from 1992 to 1995. Mr. McGirr is currently a member of the board of directors of Insmmed Incorporated, a publicly traded biopharmaceutical company, where he has served since October 2013, and Rhythm Pharmaceuticals, Inc., a publicly traded biopharmaceutical company, where he has served since November 2015. Mr. McGirr previously served on the board of directors of Roka Bioscience, Inc., a molecular diagnostics company, from December 2013 to January 2018 and Menlo

Therapeutics, Inc., a publicly traded biopharmaceutical company, from November 2017 until its merger with Foamix Pharmaceuticals, Ltd., another publicly traded biopharmaceutical company, in March 2019. Mr. McGirr received a B.Sc. in Civil Engineering from the University of Glasgow and received an M.B.A. from The Wharton School at the University of Pennsylvania. We believe that Mr. McGirr's extensive experience with public and private pharmaceutical companies provides him with the qualifications and skills to serve on our Board.

Paula Ragan, Ph.D., age 51, has served as our President, Chief Executive Officer, Secretary and a member of our board of directors since July 2014. Prior to joining us, from August 2012 to September 2014, Dr. Ragan consulted as Chief Business Officer at Lysosomal Therapeutics Inc., a private biopharmaceutical company, where she led the company's business development activities. Prior to then, from January 2007 to August 2012, Dr. Ragan held leadership roles in corporate development and operations at Genzyme Corporation, a Sanofi company, where she led strategic partnering efforts for Genzyme's Rare Disease business and headed the supply chain planning for Genzyme's flagship commercial products. Other professional roles include business roles at Hydra Biosciences, Oscient Corporation and Celera Corporation. Dr. Ragan received her B.S. from Tufts University and her Ph.D. from Massachusetts Institute of Technology and completed post-doctoral studies at Harvard Medical School. We believe that Dr. Ragan's perspective and experience as our President and Chief Executive Officer, which provides the Board with historic knowledge, operational expertise and continuity, provides her with the qualifications and skills to serve on our Board.

Michael S. Wyzga, age 66, became a member of the board of directors of X4 Pharmaceuticals, Inc., a private company, in July 2018 and continues to serve as a member of our Board and our Chairman following the completion of the Merger in March 2019. Mr. Wyzga is currently the President of MSW Consulting Inc., a strategic consulting group focused in the life sciences area. From December 2011 until November 2013, Mr. Wyzga served as President and Chief Executive Officer and a member of the board of directors of Radius Health, Inc., a publicly traded biopharmaceutical company. Prior to that, Mr. Wyzga served in various senior management positions at Genzyme Corporation, a publicly traded global biotechnology company. Mr. Wyzga joined Genzyme in February 1998 and most recently served as Executive Vice President, Finance from May 2003 until November 2011 and as chief financial officer from July 1999 until November 2011. Mr. Wyzga is also a member of the boards of directors of Exact Sciences Corporation, a publicly traded medical technology company, where he has served since February 2015; LogicBio Therapeutics, Inc., a publicly traded genetic medicines company, where he has served since September 2018; GenSight Biologics S.A., a Euronext traded biopharmaceutical company, where he has served since February 2016 and currently holds the position as chairman of the board of directors. He previously served at Mereo BioPharma Group plc (formerly Oncomed Pharmaceuticals, Inc.), where he served from October 2013 through the business combination in April 2019 and Akebia Therapeutics, Inc., a publicly traded biopharmaceutical company, from February 2014 to December 2018. He received an M.B.A. from Providence College and a B.S. from Suffolk University. We believe that Mr. Wyzga's senior management experience at biopharmaceutical and biotechnology companies, his current and past experience on boards of directors of public companies, and his financial expertise qualify him to serve as a member of our Board.

**THE BOARD OF DIRECTORS RECOMMENDS
A VOTE IN FAVOR OF EACH NAMED NOMINEE.**

Class II Directors Continuing in Office Until the 2022 Annual Meeting of Stockholders

William E. Aliski, MPA, age 73, has served as a member of our Board since September 2019. Since 2011, Mr. Aliski has served as an independent consultant to life sciences companies focused on orphan diseases. Prior to 2011, he served as Chief Commercial Officer for FoldRX Pharmaceuticals, an early stage company purchased by Pfizer in 2011, served as General Manager for Biomarin Europe, a biopharmaceutical company focused on rare diseases with genetic causes, and held executive level positions at Transkaryotic Therapies (TKT)/Shire and Genzyme Corp., both biopharmaceutical companies. Currently, Mr. Aliski serves as a member of the boards of directors of Ultragenyx Pharmaceutical Inc. and Applied Genetic Therapies Corporation. Mr. Aliski holds a M.P.A. from Harvard University and a Master of Social Planning from Boston College. We believe that Mr. Aliski's experience, in both consulting and operational roles, with life sciences companies focused on orphan diseases, as well as his public company board experience, qualify him to serve on our Board.

Alison Lawton, age 59, has served as a member of our Board since October 5, 2020. Ms. Lawton currently serves as a special advisor to Kaleido Biosciences, Inc. She most recently served as the President and Chief Executive Officer of Kaleido Biosciences from August 2018 to June 2020, and prior to then as its President and Chief Operating Officer from December

2017 to August 2018. Prior to joining Kaleido Biosciences, Ms. Lawton served as Chief Operating Officer at Aura Biosciences, Inc., an oncology therapeutics company, from January 2015 until December 2017, and, prior to joining Aura, served as a consultant to Aura from March 2014 to December 2014. Before that, Ms. Lawton served as Chief Operating Officer at OvaScience Inc., a life sciences company, from January 2013 to January 2014. In addition, from 2014 to 2017, Ms. Lawton served as a biotech consultant for various companies, including as a part-time Chief Operating Officer consultant to the Company from 2014 to 2016. Prior to that, Ms. Lawton spent more than 20 years in various positions of increasing responsibility at Genzyme Corporation, a global biopharmaceutical company, and subsequently at Sanofi S.A., also a global biopharmaceutical company, following the acquisition of Genzyme by Sanofi in 2011. Ms. Lawton currently serves as a member of the board of directors of Kaleido Biosciences and ProQR Therapeutics N.V. and has served on those boards since August 2018 and September 2014 respectively. Ms. Lawton previously served as a member of the board of directors of Verastem Inc., from 2012 to 2020, CoLucid Pharmaceuticals, Inc. from 2016 until its acquisition by Eli Lilly in 2017, and Magenta Therapeutics, Inc. from May 2017 to March 2018. She holds a B.Sc. in pharmacology from Kings College, University of London. We believe that Ms. Lawton's experience as a senior executive in the pharmaceutical and biotechnology industries qualify her to serve on our Board.

René Russo, Pharm.D., age 46, became a member of the board of directors of Arsanis, Inc. in April 2016 and continues to serve as a member of our Board following the completion of the Merger in March 2019. Since May 2019, Dr. Russo has served as the Chief Executive Officer of Xilio Therapeutics (formerly Akrevia Therapeutics), a privately held biopharmaceutical company focused on developing tumor-selective, immuno-oncology therapeutics. Prior to then, she served as President and Chief Executive Officer of Arsanis, Inc. from April 2016 to November 2018, and as its Chief Development Officer from July 2015 until April 2016. Prior to joining Arsanis, Dr. Russo served in various roles of increasing responsibility over an 11-year period at Cubist Pharmaceuticals, Inc., a public pharmaceutical development company, focused on the development and commercialization of infectious disease therapeutics, from 2003 until its acquisition by Merck in May 2015, most recently as its Vice President, Global Medical Affairs. From 1999 to 2004, she held roles of increasing responsibility at Bristol-Myers Squibb following a Postdoctoral Fellow in Industrial Pharmacy Infectious Diseases. Prior to joining the biotechnology industry, Dr. Russo held clinical positions at Robert Wood Johnson University Hospital and Princeton Hospital. Dr. Russo received her Pharm.D. and B.S. from Rutgers University. We believe that Dr. Russo's expertise and experience as an executive at public and private pharmaceutical companies and her expertise in clinical development and commercialization of therapeutics targeting infectious diseases, provide her with the qualifications and skills to serve on our Board.

Class III Directors Continuing in Office Until the 2023 Annual Meeting of Stockholders

Gary J. Bridger, Ph.D., age 58, became a member of the board of directors of X4 Pharmaceuticals, Inc., a private company, in October 2018 and continues to serve as a member of our Board following the completion of the Merger in March 2019. From February 2015 to December 2017, Dr. Bridger served as a consultant to Xenon Pharmaceuticals Inc., a biopharmaceutical company, where he previously served as the Executive Vice President of Research and Development from January 2013 to February 2015. From October 2013 to October 2015, Dr. Bridger served as a Managing Director at Five Corners Capital Inc. From June 2010 to June 2012, Dr. Bridger served as a venture partner at Venture West Capital Management, a venture capital firm. From November 2006 to December 2007, Dr. Bridger served as Senior Vice President of Research and Development of Genzyme Corporation, a biotechnology company, which was acquired by Sanofi, S.A. In June 1996, Dr. Bridger co-founded AnorMED Inc., a biopharmaceutical company, and was its Vice President of Research and Development and Chief Scientific Officer from 2000 until its acquisition by Genzyme in November 2006. Dr. Bridger has served on the board of directors of Aquinox Pharmaceuticals, Inc., a pharmaceutical company, since 2013, has served on the board of directors of Liminal BioSciences Inc., a biotechnology company, since May 2019, and previously served on the board of directors of Alder BioPharmaceuticals, Inc., a biopharmaceutical company, from 2013 to 2016. Dr. Bridger serves on the scientific advisory board of Alectos Therapeutics Inc., a biopharmaceutical company. Dr. Bridger holds a Ph.D. in Organic Chemistry from the University of Manchester Institute of Science and Technology. We believe that Dr. Bridger's experience as an executive officer or director of several public and private life sciences companies provides him with the qualifications and skills to serve on our Board.

Murray W. Stewart, M.D., age 60, has served as a member of our Board since March 2019. Dr. Stewart has served as Chief Medical Officer of Rhythm Pharmaceuticals, Inc., a biopharmaceutical company focused on developing and commercializing therapies for the treatment of rare genetic disorders of obesity, since October 2018. He previously served as Head of Research and Development for Novilion Therapeutics Inc., a biopharmaceutical company focused on developing new standards of care for individuals living with rare disease, from November 2017 to October 2018. Prior to that, Dr. Stewart held various positions of increasing responsibility at GlaxoSmithKline, including serving as Chief Medical Officer from April 2014 to November 2017, with global responsibility for patient well-being across the vaccine, pharmaceutical, and consumer business units. He also held multiple research and development leadership roles, including Chief Medical Officer for the

pharmaceutical business, Clinical Head of the Biopharma Unit, and Therapy Area Head for metabolic and cardiovascular diseases. Prior to his tenure to joining GlaxoSmithKline, he worked as a consultant physician and honorary senior lecturer at the Diabetes Center in Newcastle upon Tyne in the United Kingdom. Dr. Stewart holds an M.D. from Southampton Medical School and is a Fellow of the Royal College of Physicians. We believe that Dr. Stewart's extensive biopharmaceutical leadership experience, including experience in research, clinical development and regulatory strategy, provide him with the qualifications and skills to serve on our 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 standards, 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 its 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 pertinent listing standards of Nasdaq, 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 the following five directors are independent directors within the meaning of the applicable Nasdaq listing standards: Mr. Aliski, Ms. Lawton, Mr. McGirr, Dr. Stewart and Mr. Wyzga. 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. Dr. Ragan is employed by us and is therefore not independent under Nasdaq listing standards, and Dr. Russo was employed by us during the past three years and is therefore not independent under Nasdaq listing standards. Dr. Bridger provides us with consulting services pursuant to a consulting agreement described under “Transactions with Related Persons and Indemnification – Certain Related-Person Transactions.”

BOARD LEADERSHIP STRUCTURE

The Board has an independent Chairman, Mr. Wyzga, who has authority, among other things, to call and preside over Board meetings, including meetings of the independent directors, to set meeting agendas and to determine materials to be distributed to the Board. Accordingly, the Chairman has substantial ability to shape the work of the Board. We believe that separation of the positions of Chairman and Chief Executive Officer reinforces the independence of the Board in its oversight of our business and affairs. Our Board also recognizes the time, effort and energy that our Chief Executive Officer must devote to her position in the current business environment, as well as the commitment required to serve as our Chairman, particularly as the board of directors’ oversight responsibilities continue to grow. In addition, we believe that having an independent Chairman creates an environment that is more conducive to objective evaluation and oversight of management’s performance, increasing management accountability and improving the ability of the Board to monitor whether management’s actions are in the best interests of our Company and our stockholders. As a result, we believe that having an independent Chairman can enhance the effectiveness of the Board as a whole.

ROLE OF THE BOARD IN RISK OVERSIGHT

One of the Board’s key functions is informed oversight of our 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. For example, in determining whether and under what circumstances we will engage in financing transactions or enter into licensing, collaboration or similar arrangements, the Board is involved in our management of risks related to our financial condition or of the risks inherent in drug development and commercialization. As part of its oversight, our Board receives reports by each committee chair regarding the committee’s considerations and actions. In particular, the Audit Committee is responsible for discussing the adequacy of our risk management activities with management and our independent registered public accounting firm. The Audit Committee’s primary emphasis is managing our financial risk exposures, including our internal control over financial reporting. The Audit Committee also monitors compliance with legal and regulatory requirements and considers and approves or disapproves any related person transactions. In addition, the Compensation Committee is responsible for considering whether our compensation programs and practices are reasonably likely to have a material adverse effect on us.

At each of its meetings, the Board receives business updates from various members of management. These updates may identify matters that have emerged within that member of management’s scope of responsibility that involve operational, financial, legal or regulatory risks and, in these cases, the Board provides guidance to management. Our Board believes that full and open communication between management and the Board is essential for effective risk management and oversight.

In carrying out their risk oversight functions, the Board and its committees routinely request and review management updates, reports from the independent auditors and legal and regulatory advice from outside experts, as appropriate, to assist in discerning and managing important risks that may be faced by us. The Board of Directors is committed to continuing to ensure and evolve its risk oversight practices as appropriate given the stage of our evolution as a late-stage clinical biopharmaceutical company and the fast-paced changes of the life sciences industry. Regarding the COVID-19 pandemic, our management is meeting regularly to address concerns of our employees and business, as well as updating and communicating

with the full Board regularly. The full Board has oversight and has been engaged concerning the monitoring and identification of risks to our Company, and actions we are taking to mitigate risks related to this pandemic.

MEETINGS OF THE BOARD OF DIRECTORS

The Board met seven times during the last fiscal year. Each of our incumbent Board members attended 75% or more of the aggregate number of meetings of the Board and of the committees on which he or she served, held during the portion of the last fiscal year for which he or she was a director or committee member.

INFORMATION REGARDING COMMITTEES OF THE BOARD OF DIRECTORS

The Board has three standing committees: an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee. Each of these committees has authority to engage legal counsel or other experts or consultants, as it deems appropriate to carry out its responsibilities. The composition and function of each of these committees are described below.

Audit Committee

The Audit Committee is currently composed of three members: Mr. McGirr (chair), Ms. Lawton and Mr. Wyzga. The Audit Committee met five times during 2020. The Board has adopted a written Audit Committee charter that is available to stockholders on our website at <http://investors.x4pharma.com/>.

The Audit Committee 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 our corporate accounting and financial reporting processes and audits of our financial statements. For this purpose, the Audit Committee performs several functions. The Audit Committee:

- appoints, evaluates, retains, and when necessary, terminates the engagement of the independent auditors;
- oversees the independent auditors and sets the compensation of the independence auditor;
- reviews and approves the retention of the independent auditors to perform any proposed permissible non-audit services;
- oversees the work of the independent auditor, including resolution of disagreements between our management and the independent auditor regarding financial reporting;
- reviews our annual audited financial statements and quarterly financial statements with management and the independent auditor, including our disclosures under "Management's Discussion and Analysis of Financial Condition and Results of Operations;"
- discusses the type and presentation of information to be disclosed in our earnings releases;
- coordinates the Board's oversight of our internal control over financial reporting, disclosure procedures, and code of business conduct and ethics;
- discusses our policies with respect to risk assessment and risk management, including guidelines and policies to govern the process by which our exposure to risk is handled;
- establishes procedures, as required under applicable law, for the receipt, retention and treatment of complaints received by us regarding accounting, internal accounting controls or auditing matters and the confidential and anonymous submission by employees of concerns regarding questionable accounting or auditing matters; and
- reviews our policies and procedures for reviewing and approving related person transactions.

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

The Board has also determined that each of Mr. McGirr and Mr. Wyzga qualifies as an "audit committee financial expert," as defined in applicable SEC rules.

Report of the Audit Committee of the Board of Directors

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.

The Audit Committee has reviewed and discussed the audited financial statements for the fiscal year ended December 31, 2020 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 Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

Respectfully submitted,

David McGirr, M.B.A (Chairman)
Alison Lawton
Michael S. Wyzga

Compensation Committee

The Compensation Committee is currently composed of three directors: Dr. Stewart (chair), Mr. Aliski and Ms. Lawton. All members of our Compensation Committee are independent (as independence is currently defined in Rule 5605(d)(2) of the Nasdaq Listing Rules.) The Compensation Committee met nine times during 2020. The Board has adopted a written Compensation Committee charter that is available to stockholders on our website at <http://investors.x4pharma.com/>.

The Compensation Committee acts on behalf of the Board to review, approve or recommend for approval by the Board and oversee our compensation strategy, policies, plans and programs, including:

- review and approval, or review and recommendation to the Board for approval, the compensation and other terms of employment or service, including salary, bonus and incentive compensation levels, deferred compensation, executive perquisites, equity compensation, severance arrangements and change-in-control benefits, of our Chief Executive Officer and the other executive officers;
- oversight of the evaluation of our senior executives, including determining the nature and frequency of the evaluation and the persons subject to the evaluation, supervising the conduct of the evaluation, and preparing assessments of the senior executives’ performance;
- review and approval or review and recommendation to the Board of our incentive-compensation and equity-based plans and approval of any tax-qualified, non-discriminatory employee benefit plans for which stockholder approval is not sought and pursuant to which options or stock may be acquired by our officers, directors, employees or consultants;
- administration of our equity compensation plans; and
- review and recommendation to the Board with respect to director compensation.

Compensation Committee Processes and Procedure

In setting base salaries and bonuses and granting equity incentive awards for our executive officers, our Compensation Committee considers compensation for comparable positions in the market, the historical compensation levels of our executives, individual and corporate performance as compared to our expectations and objectives, our desire to motivate our employees to achieve short- and long-term results that are in the best interests of our stockholders, and a long-term commitment to our company. As part of this process, Dr. Ragan, as our president and chief executive officer, prepares performance evaluations for the other executive officers and recommends annual salary increases, annual stock option awards and cash bonuses to the Compensation Committee. The Compensation Committee also conducts a performance evaluation of Dr. Ragan. As necessary, the Compensation Committee consults with the Board as to the achievement of corporate objectives that drive contingent compensation awards.

We have utilized Arnosti Consulting, a compensation consultant with expertise in the local biotechnology market to help assess executive and employee compensation and to help inform our compensation strategy.

Nominating and Corporate Governance Committee

The Nominating and Corporate Governance Committee is currently composed of three directors: Mr. Aliski (chair), Mr. McGirr, and Mr. Wyzga. All members of the Nominating and Corporate Governance Committee are independent (as independence is currently defined in Rule 5605(a)(2) of the Nasdaq Listing Rules). The Nominating and Corporate Governance Committee met two times during 2020. The Board has adopted a written Nominating and Corporate Governance Committee charter that is available to our stockholders on our website at <http://investors.x4pharma.com/>.

The Nominating and Corporate Governance Committee of the Board is responsible for identifying, reviewing and evaluating candidates to serve as directors of the Company (consistent with criteria approved by the Board), reviewing and evaluating incumbent directors, recommending to the Board candidates for election to the Board, making recommendations to the Board regarding the membership of the committees of the Board (including with respect to making changes or rotation of members, the creation of additional Board committees, or changes in Committee charters), overseeing an annual self-assessment of the Board, overseeing succession planning for senior executives of the Company, and developing and recommending to the Board a set of corporate governance principles for the Company.

The Nominating and Corporate Governance Committee believes that candidates for director should have certain minimum qualifications, including a reputation for integrity, honesty and adherence to high ethical standards; demonstrated business acumen, experience and the ability to exercise sound judgements in matters that relate to the current and long-term objectives of the Company and a willingness and ability to contribute positively to the decision-making process of the Company; a commitment to understand the Company and its industry and to regularly attend and participate in meetings of the Board and its committees; the interest and ability to understand the sometimes conflicting interests of the various constituencies of the Company, which include stockholders, employees, customers, governmental units, creditors and the general public, and to act in the interests of all stockholders; and the ability to serve for at least three years before reaching the age of 75. The Nominating and Corporate Governance Committee also believes that candidates for director should not have, nor appear to have, a conflict of interest that would impair the candidate's ability to represent the interests of all the Company's stockholders and to fulfill the responsibilities of a director. However, the Nominating and Corporate Governance 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, and the Nominating and Corporate Governance Committee has direct input from the Chairman of the Board and the Chief Executive Officer.

Our Nominating and Corporate Governance Committee has not adopted a formal diversity policy in connection with the consideration of director nominations or the selection of nominees but believes that our Board, taken as a whole, should embody a diverse set of skills, experiences and backgrounds. In this regard, the Nominating and Corporate Governance Committee will consider issues of diversity among its members in identifying and considering nominees for director, and strive where appropriate to achieve a diverse balance of backgrounds, perspectives, experience, age, gender, ethnicity and country of citizenship on our board of directors and its committees. The Nominating and Corporate Governance Committee does not make any particular weighting of diversity or any other characteristic in evaluating nominees and directors.

The Nominating and Corporate Governance Committee appreciates the value of thoughtful Board refreshment, and regularly identifies and considers 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 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 and Corporate Governance Committee also takes into account the results of the Board's self-evaluation, conducted annually on a group and individual basis. In the case of new director candidates, the Nominating and Corporate Governance Committee also determines whether the nominee is independent for Nasdaq purposes, which determination is based upon applicable Nasdaq listing standards, applicable SEC rules and regulations and the advice of counsel, if necessary. The Nominating and Corporate Governance 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 and Corporate Governance 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 and Corporate Governance Committee meets to discuss and consider the candidates' qualifications and then selects a nominee for recommendation to the Board by majority vote.

The Nominating and Corporate Governance Committee will consider director candidates recommended by stockholders. The Nominating and Corporate Governance 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 and Corporate Governance Committee to become nominees for election to the Board may do so by delivering a written recommendation to the Nominating and Corporate Governance Committee at the following address: c/o X4 Pharmaceuticals, Inc., 61 North Beacon Street, 4th Floor, Boston, Massachusetts 02134 at least 120 days prior to the anniversary date of the mailing of our proxy statement for the last Annual Meeting of Stockholders. 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 our common stock and has been a holder for at least one year. 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.

STOCKHOLDER COMMUNICATIONS WITH THE BOARD OF DIRECTORS

These communications will be reviewed by one or more employees of the Company designated by the Board, who will determine whether the communication should be presented to the Board. Stockholders who wish to communicate with our Board of Directors, or any individual director, may do so by sending written communications addressed to our Corporate Secretary at 61 North Beacon Street, 4th Floor, Boston, Massachusetts 02134.

Communications will be distributed to Board of Directors, or to any individual director or directors as appropriate, depending on the facts and circumstances outlined in the communications. Items that are unrelated to the duties and responsibilities of our Board of Directors may be excluded, such as:

- junk mail and mass mailings;
- resumes and other forms of job inquiries;
- surveys; and
- solicitations or advertisements.

In addition, any material that is unduly hostile, threatening, or illegal in nature may be excluded, in which case it will be made available to any outside director upon request.

CODE OF ETHICS

We have adopted a Code of Business Conduct and Ethics that applies to all of our officers, directors and employees. The Code of Business Conduct and Ethics is available on our website at <http://investors.x4pharma.com>. If the Company makes any substantive amendments to the Code of Business Conduct and Ethics or grants any waiver from a provision of the Code of Business Conduct and Ethics to any executive officer or director, the Company will promptly disclose the nature of the amendment or waiver on its website.

PROPOSAL 2

RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of the Board has selected PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2021 and has further directed that management submit the selection of its independent registered public accounting firm for ratification by the stockholders at the Annual Meeting. PricewaterhouseCoopers LLP has audited our financial statements since 2016 and also served as our auditor when we were a private company since 2016. Representatives of PricewaterhouseCoopers LLP are expected to be 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 our Bylaws nor other governing documents or law require stockholder ratification of the selection of PricewaterhouseCoopers LLP as our independent registered public accounting firm. However, the Audit Committee of the Board is submitting the selection of PricewaterhouseCoopers LLP to the stockholders for ratification as a matter of good corporate practice. If the stockholders fail to ratify the selection, the Audit Committee of the Board will reconsider whether or not to retain that firm. Even if the selection is ratified, the Audit Committee of the Board 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 our best interests and our stockholders.

PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table represents aggregate fees billed to us for the fiscal years ended December 31, 2020 and December 31, 2019 by PricewaterhouseCoopers LLP, our principal accountant.

	For the year ended	
	2020	2019
Audit Fees ⁽¹⁾	\$ 1,102,700	\$ 1,422,363
Audit-related Fees ⁽²⁾	—	—
Tax Fees ⁽³⁾	—	10,000
All Other Fees ⁽⁴⁾	2,756	2,400
Total Fees	\$ 1,105,456	\$ 1,434,763

- (1) Consists of fees billed for professional services provided to us in connection with the annual audit of our consolidated financial statements, the review of our quarterly condensed consolidated financial statements, as well as audit services that are normally provided by an independent registered public accounting firm in connection with statutory and regulatory filings or engagements for those fiscal years, such as statutory audits. Included in 2020 Audit Fees are fees of \$385,000 in connection with the filing of registration statements and issuance of comfort letters. Included in 2019 Audit Fees are fees of \$762,363 in connection with filing of registration statements.
- (2) Consist of fees billed by an independent registered public accounting firm for assurance and related services that are reasonably related to the performance of the audit or review of financial statements and which are not reported under "Audit Fees." There were no such fees incurred in 2020 or 2019.
- (3) Consists of fees billed for tax compliance, tax advice and tax planning services, including the review and preparation of federal and state income tax returns.
- (4) Consists of subscription fees paid for access to online accounting research software applications and data.

All fees described above were pre-approved by the Audit Committee. There were no services that were approved by the Audit Committee pursuant to Rule 2-01(c)(7)(i)(C) (relating to the approval of a *de minimis* amount of non-audit services after the fact but before completion of the audit).

The Audit Committee has adopted a policy and procedures for the pre-approval of audit and non-audit services rendered by our independent registered public accounting firm, PricewaterhouseCoopers LLP. Prior to engagement of an independent registered public accounting firm for the next year's audit, management will submit an aggregate of services expected to be rendered during that year for each of four categories of services (audit services, audit-related services, tax services and other fees) to the Audit Committee for approval. Prior to engagement, the Audit Committee pre-approves these services by

category of service. The fees are budgeted, and the Audit Committee requires our independent registered public accounting firm and management to report actual fees versus the budget periodically throughout the year by category of service. During the year, circumstances may arise when it may become necessary to engage our independent registered public accounting firm for additional services not contemplated in the original pre-approval. In those instances, the Audit Committee requires specific pre-approval before engaging our independent registered public accounting firm. The pre-approval of services may be delegated to one or more of the Audit Committee's members, but the decision must be reported to the full Audit Committee at its next scheduled meeting.

The Audit Committee has determined that the rendering of services other than audit services by PricewaterhouseCoopers LLP is compatible with maintaining the principal accountant's independence.

Vote Required

The affirmative vote of a majority of the votes cast by the holders of shares present in person or by proxy and entitled to vote at the Annual Meeting will be required to ratify the selection of PricewaterhouseCoopers LLP.

**THE BOARD OF DIRECTORS RECOMMENDS
A VOTE IN FAVOR OF PROPOSAL 2.**

EXECUTIVE OFFICERS

The following table sets forth information with respect to our executive officers and their ages as of the date of this Proxy Statement. There are no family relationships between any of our executive officers, and there is no arrangement or understanding between any executive officer and any other person pursuant to which the executive officer was selected.

Name	Age	Position
Paula Ragan, Ph.D.	51	President, Chief Executive Officer, Corporate Secretary and Director
Adam S. Mostafa	41	Chief Financial Officer and Treasurer
Diego Cadavid, M.D.	55	Chief Medical Officer
Arthur Taveras, Ph.D.	57	Chief Scientific Officer
Derek Meisner, J.D.	50	General Counsel

Paula Ragan, Ph.D. Biographical information for Dr. Ragan is presented above under the caption “Nominees for Election as a Class I Director for a Three-Year Term Expiring at the 2024 Annual Meeting of Stockholders”

Adam S. Mostafa. Mr. Mostafa has served as our Chief Financial Officer and Treasurer since the Merger in March 2019. Prior to the Merger, Mr. Mostafa served as Private X4’s Chief Financial Officer since September 2018. Prior to joining Private X4, Mr. Mostafa served as chief financial officer of Abpro Corporation, a biotechnology company focused on antibody therapeutics, from June 2016 to August 2018. Prior to that, Mr. Mostafa was a managing director in the healthcare investment banking group at Cantor Fitzgerald from January 2015 to May 2016, and from June 2011 to January 2015, Mr. Mostafa was a senior banker in the healthcare investment banking group at Needham & Company. Prior to that, Mr. Mostafa was a vice president in the investment banking group at CRT Capital Group from March 2007 to May 2011, and from September 2003 to March 2007, Mr. Mostafa was a portfolio management associate in the global stock selection group at AQR Capital. Mr. Mostafa began his career as an analyst in the healthcare investment banking group at Salomon Smith Barney. Mr. Mostafa earned an A.B. in Economics from Brown University.

Diego Cadavid, M.D. Dr. Cadavid has served as our Chief Medical Officer since December 2020. Previously, from September 2016 to November 2020, Dr. Cadavid was Vice President of Clinical Development and then Senior Vice President and Head of Clinical Development at Fulcrum Therapeutics, a public biopharmaceutical company. Dr. Cadavid served in various roles of increasing responsibility at Biogen from 2008 until September 2016, ultimately departing as Senior Medical Director, Multiple Sclerosis Clinical Development Group. From 2008 until 2015, Dr. Cadavid was also a consultant at the Center for Immunology and Inflammatory Diseases at Massachusetts General Hospital. He is a licensed physician and a board-certified neurologist. Additionally, Dr. Cadavid has served as an Affiliate Instructor in Neurology at the University of Massachusetts Medical School since May 2018, and he previously taught at the Rutgers-New Jersey Medical School for 9 years. Dr. Cadavid received undergraduate and graduate medical education at Pontificia Universidad Javeriana in Colombia, and conducted his post-doctoral fellowship training and residency training at the University of Texas Health Science Center, the Armed Forces Institute of Pathology, and Georgetown University Medical Center and Affiliated Hospitals.

Arthur Taveras, Ph.D. Dr. Taveras has served as our Chief Scientific Officer since November 2020. Previously, from August 2018 to July 2020, Dr. Taveras served as Chief Scientific Officer of Comet Therapeutics, Inc., a private biotechnology company. From May 2015 to the present, Dr. Taveras has served in various capacities as Chief Scientific Officer, Head of Drug Discovery and/or Owner of Transform Therapeutics, a private company he founded that is focused on developing novel therapeutics for cancer, neurodegenerative diseases and immunologic disorders. Dr. Taveras also served as President & Chief Scientific Officer of Shanghai ChemPartner Co., Ltd., a research organization serving the pharmaceutical and biotechnology industry, from October 2013 to December 2014. Earlier in his career, he held leadership positions at Biogen, Atlantos Pharmaceuticals (later acquired by Amgen), and Schering-Plough Research Institute (later acquired by Merck). Dr. Taveras received his Ph.D., M.S and B.S. degrees from Rensselaer Polytechnical Institute.

Derek Meisner, J.D. Mr. Meisner has served as our General Counsel since November 2019. From September 2018 until October 2019, Mr. Meisner held the role of General Counsel at Genocoea Biosciences, a publicly traded, clinical-stage

biopharmaceutical company. Prior to Genocea, he served as General Counsel of multiple Boston-based financial services firms, including Quantopian, Inc., a venture-backed start-up, from April 2016 until September 2018, and life science investor RA Capital Management from January 2015 to April 2016. Mr. Meisner was also previously a partner at the international law firm K&L Gates and Branch Chief in the Division of Enforcement of the U.S. Securities and Exchange Commission.

Mr. Meisner holds a B.A. from the University of Michigan and a J.D. from the Washington College of Law at American University.

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

The following table sets forth certain information regarding the ownership of the Company's common stock as of April 5, 2021 by: (i) each director and nominee for director; (ii) each of the executive officers named in the Summary Compensation Table; (iii) all current executive officers and directors of the Company as a group; and (iv) all those known by the Company to be beneficial owners of more than five percent of its common stock. Applicable percentages are based on 23,655,660 shares outstanding on April 5, 2021, adjusted as required by rules promulgated by the SEC. Unless otherwise noted below, the address of each stockholder below is c/o X4 Pharmaceuticals, Inc., 61 North Beacon Street, 4th Floor, Boston, Massachusetts 02134.

Beneficial Owner	Beneficial Ownership ⁽¹⁾	
	Number of Shares	Percent of Total
5% Stockholders		
Entities affiliated with Ikarian Capital, LLC ⁽¹⁾	2,624,988	11.10 %
Entities affiliated with Biotechnology Value Fund L.P. ⁽²⁾	2,625,726	9.99 %
Entities affiliated with RA Capital Management, L.P. ⁽³⁾	2,565,962	9.99 %
Entities affiliated with Bain Capital Life Sciences Fund, L.P. ⁽⁴⁾	2,390,240	9.99 %
Entities affiliated with OrbiMed Advisors LLC ⁽⁵⁾	1,835,993	7.61 %
Named Executive Officers, Directors and Director Nominees		
Paula Ragan, Ph.D. ⁽⁶⁾	288,812	1.91 %
Adam S. Mostafa ⁽⁷⁾	50,653	*
Derek Meisner ⁽⁷⁾	21,771	*
William E. Aliski ⁽⁷⁾	7,235	*
Gary J. Bridger, Ph.D. ⁽⁷⁾	23,740	*
Alison Lawton	—	—
David McGirr, M.B.A. ⁽⁷⁾	12,686	*
René Russo, Pharm.D. ⁽⁷⁾	87,515	*
Murray W. Stewart, M.D. ⁽⁷⁾	8,377	*
Michael S. Wyzga ⁽⁷⁾	73,032	*
All directors and current executive officers as a group (12 people) ⁽⁸⁾	742,628	3.06 %

* Less than one percent.

(1) Based on a Schedule 13G filed on April 8, 2021. Consists of shares held by by Ikarian Capital, LLC ("Ikarian Capital"), Ikarian Healthcare Master Fund, L.P. (the "Ikarian Fund"), Ikarian Healthcare Fund GP, L.P., ("Ikarian GP"), Chart Westcott and Neil Shahrestani (such individuals, together with Ikarian Capital, Ikarian Fund and Ikarian GP, the "Ikarian Parties"). The Ikarian Fund and the Ikarian Managed Accounts are the record and direct beneficial owners of the shares of common stock. Ikarian Capital is the investment manager of, and may be deemed to indirectly beneficially own securities owned by, the Ikarian Fund. Ikarian GP is the general partner of, and may be deemed to indirectly beneficially own securities owned by, the Fund. Ikarian Capital is also the general partner of, and may be deemed to indirectly beneficially own, securities beneficially owned by Ikarian GP. Ikarian Capital is a sub-advisor for certain separate managed accounts (collectively, the "Ikarian Managed Accounts") and may be deemed to indirectly beneficially own securities owned by the Ikarian Managed Accounts. Ikarian Capital is ultimately owned and controlled by Chart Westcott Living Trust, of which Mr. Westcott serves as the sole trustee (the "Westcott Trust"), and indirectly by Mr. Shahrestani. Accordingly, each of Mr. Westcott, as sole trustee of the Westcott Trust, and Mr. Shahrestani may be deemed to indirectly beneficially own securities beneficially owned by Ikarian Capital. The Ikarian Fund disclaims beneficial ownership of the shares held by the Ikarian Managed Accounts. The address of the Ikarian Parties is c/o Ikarian Capital, LLC, 100 Crescent Court, Suite 1620, Dallas, Texas 75201.

(2) Based in part on information provided in a Schedule 13G/A filed by entities affiliated with Biotechnology Value Fund, L.P. ("BVF") on February 16, 2021. Consists of (i) 448,467 shares of common stock held by BVF, 293,248 shares of common stock held by Biotechnology Value Fund II, L.P. ("BVF II"), and 48,836 shares of common stock held by Biotechnology Value Trading Fund OS LP ("Trading Fund OS"), (ii) 530,425 shares of common stock issuable upon the exercise of pre-funded warrants issued in April 2019 ("April Pre-Funded Warrants") held by BVF, 428,704 shares of common stock issuable upon the exercise of April Pre-Funded Warrants held by BVF 2, 76,534 shares of common stock issuable upon the exercise of April Pre-Funded Warrants held by Trading Fund OS, and 37,377 shares of common stock issuable upon the exercise of April Pre-Funded Warrants held by a certain BVF Partners L.P. ("Partners") managed account (the "Partners Managed Account"), (iii) 69,814 shares of common stock issuable upon the exercise of Class A warrants to purchase common stock ("Class A Warrants") held by BVF, 64,996 shares of common stock issuable

upon the exercise of Class A Warrants held by Trading Fund OS, and 31,630 shares of common stock issuable upon the exercise of Class A Warrants held by the Partners Managed Account, (iv) 259,739 shares of common stock issuable upon the exercise of pre-funded warrants issued in November 2019 (the “November Pre-Funded Warrants”) held by BVF, 204,465 shares of common stock issuable upon the exercise of November Pre-Funded Warrants held by BVF 2, and 35,796 shares of common stock issuable upon the exercise of November Pre-Funded Warrants held by Trading Fund OS, and (v) 66,236 shares of common stock issuable upon the exercise of Class B warrants to purchase common stock (“Class B Warrants”) held by Trading Fund OS and 29,459 shares of common stock issuable upon the exercise of Class B Warrants held by the Partners Managed Account. Each of the April Pre-Funded Warrants, the Class A Warrants, the November Pre-Funded Warrants, and the Class B Warrants contain provisions that restrict the exercise of such securities to the extent that such exercises would, (i) in the case of the Class A warrants, Class B warrants, the April Pre-Funded Warrants and the November Pre-Funded warrants, cause the number of shares then beneficially owned by the holder, together with its affiliates and other attribution parties, to exceed 9.99% of the total number of shares of common stock then outstanding, or (ii) in the case of the April Pre-Funded Warrants and the November Pre-Funded Warrants, cause the combined voting power of our securities beneficially owned by the holder, together with its affiliates, to exceed 9.99% of the combined voting power of all of our securities then outstanding immediately after giving effect to the exercise (together, the “Ownership Caps”). As a result of the Ownership Caps, the following have been excluded from the amounts reported above as beneficially owned: (a) 380,500 shares of common stock issuable upon the exercise of Class A Warrants held by BVF and 363,810 shares of common stock issuable upon the exercise of Class A Warrants held by BVF 2 and (b) 518,856 shares of common stock issuable upon the exercise of Class B Warrants held by BVF and 385,449 shares of common stock issuable upon the exercise of Class B Warrants held by BVF 2. BVF Partners OS Ltd. (“Partners OS”), as the general partner of Trading Fund OS, may be deemed to beneficially own the securities beneficially owned by Trading Fund OS. Partners, as the general partner of BVF, BVF II, the investment manager of Trading Fund OS, and the sole member of Partners OS, may be deemed to beneficially own the securities beneficially owned by BVF, BVF II, Trading Fund OS, and the Partners Managed Account. BVF Inc., as the general partner of Partners, may be deemed to beneficially own the securities beneficially owned by Partners. Mark N. Lampert, as a director and officer of BVF Inc., may be deemed to beneficially own the securities beneficially owned by BVF Inc. Partners OS disclaims beneficial ownership of the securities beneficially owned by Trading Fund OS. Each of Partners, BVF Inc. and Mr. Lampert disclaims beneficial ownership of the securities beneficially owned by BVF, BVF II, Trading Fund OS, and the Partners Managed Account. The address of BVF, BVF II, Partners, BVF, Inc. and Mr. Lampert is 44 Montgomery St., 40th Floor, San Francisco, California 94104 and the address of Trading Fund OS and Partners OS is P.O. Box 309 Uglund House, Grand Cayman, KY1-1104, Cayman Islands.

- (3) Based in part on a Schedule 13G/A filed by RA Capital Management, L.P. (“RA Capital”), Peter Kolchinsky, and Rajeev Shah on February 16, 2021. Consists of (i) 536,962 shares of common stock held by RA Capital Healthcare Fund, L.P. (the “RA Fund”), (iii) 898,873 shares of common stock issuable upon the exercise of April Pre-Funded Warrants held by the Fund, (iii) 158,127 shares of common stock issuable upon the exercise of April Pre-Funded Warrants held by the Account, (iv) 966,054 shares of common stock issuable upon the exercise of Class A Warrants held by the Fund and (v) 5,946 shares of common stock issuable upon the exercise of Class A Warrants held by the account. As a result of the Ownership Caps, 164,000 shares of common stock issuable upon the exercise of Class A Warrants held by the RA Fund have been excluded from amounts reported above as beneficially owned. RA Capital Healthcare Fund GP, LLC is the general partner of the RA Fund. The general partner of RA Capital is RA Capital Management GP, LLC, of which Dr. Kolchinsky and Mr. Shah are the controlling persons. RA Capital serves as investment adviser for the RA Fund and the Account and may be deemed a beneficial owner of any securities held by the Fund and the Account. The RA Fund has delegated to RA Capital the sole power to vote and the sole power to dispose of all securities held in the Fund’s portfolio, including the shares of our common stock. Because the RA Fund has divested voting and investment power over the shares of our securities it holds and may not revoke that delegation on less than 61 days’ notice, the RA Fund disclaims beneficial ownership of our securities it holds. As managers of RA Capital, Dr. Kolchinsky and Mr. Shah may be deemed beneficial owners of our securities beneficially owned by RA Capital. RA Capital, Dr. Kolchinsky, and Mr. Shah disclaim beneficial ownership of our securities. The address of the RA Fund, RA Capital and Dr. Kolchinsky is c/o RA Capital Management, LLC, 200 Berkeley Street, 18th Floor, Boston, MA 02116.
- (4) Based in part of a Schedule 13G filed by Bain Capital Life Sciences Fund, L.P. (“BCLS”), Bain Capital Life Sciences Fund II, L.P. (“BCLS II”), and BCIP Life Sciences Associates, LP, (“BCIP LS” and, together with BCLS and BCLS II, the “Bain Capital Holders”) on December 9, 2019. Consists of (i) 566,966 shares of common stock and 270,700 shares of common stock issuable upon exercise of November Pre-Funded Warrants held by BCLS, (ii) 1,332,276 shares of common stock held by BCLS II, and (iii) 220,298 shares of common stock held by BCIP LS. As a result of the Ownership Caps and similar ownership limitations included in certain prefunded warrants to purchase common stock issued in March 2021 (the “March Pre-Funded Warrants”), the following have been excluded from the amounts reported above as beneficially owned: (a) 296,266 shares of common stock issuable upon exercise of November Pre-Funded Warrants and 1,133,932 shares of common stock issuable upon exercise of Class B Warrants held by BCLS, (b) 557,143 shares of common stock issuable upon exercise of November Pre-Funded Warrants, 1,114,285 shares of common stock issuable upon exercise of Class B Warrants, and 44,571 shares of common stock issuable upon exercise of March Pre-Funded Warrants held by BCLS II, and (c) 125,891 shares of common stock issuable upon exercise of November Pre-Funded Warrants, 251,782 shares of common stock issuable upon exercise of Class B Warrants, and 5,429 shares of common stock issuable upon exercise of March Pre-Funded Warrants held by BCIP LS. Bain Capital Life Sciences Investors, LLC, (“BCLSI”), whose managers are Jeffrey Schwartz and Adam Koppel, is (i) the general partner of Bain Capital Life Sciences Partners, LP, a Cayman exempted limited partnership (“BCLSP”), which is the general partner of BCLS and (ii) the manager of Bain Capital Life Sciences Investors II, LLC, (“BCLSI II”), which is the general partner of BCLS II. Boylston Coinvestors, LLC, a Delaware limited liability company (“Boylston”), is the general partner of BCIP LS. BCLSI governs the investment strategy and decision-making process with respect to investments held by BCIP LS. As a result, each of BCLSI, Mr. Schwartz and Dr. Koppel may be deemed to share voting and dispositive power with respect to the securities held by the Bain Capital Holders. The address of each of the Bain Capital Holders, BCLSI, BCLSP, BCLSI II, Boylston, Mr. Schwartz and Dr. Koppel is 200 Clarendon Street, Boston, MA 02116.

- (5) Based on a Schedule 13G/A filed by OrbiMed Advisors LLC (“Advisors”) on March 25, 2021. Consists of 1,373,493 shares of common stock held by OrbiMed Private Investments IV, LP (“OPI IV”), and 462,500 shares of common stock issuable upon the exercise of Class A and Class B warrants to purchase common stock held by OPI IV. Advisors is an investment advisor and is the Managing Member of OrbiMed Capital GP IV LLC (“GP IV”). GP IV is the sole general partner of OPI IV. As a result, Advisors and GP IV share the power to direct the vote and the disposition of the securities held by OPI IV. Advisors exercises this investment and voting power through a management committee comprised of Carl L. Gordon, Sven H. Borho and Jonathan T. Silverstein. On the basis of these relationships, GP IV and Advisors may be deemed to share beneficial ownership of the securities held by OPI IV. The address of Advisors, OPI IV, GP IV, Carl L. Gordon, Sven H. Borho and Jonathan T. Silverstein is 601 Lexington Avenue, 54th Floor, New York, NY 10022.
- (6) Consists of 168,809 shares of common stock, 274,828 shares of common stock underlying options that were exercisable as of April 5, 2021 or will become exercisable within 60 days after such date, and 13,982 shares of common stock underlying restricted stock units that were vested as of April 15, 2021 or will become exercisable within 60 days after such date.
- (7) Consists of shares of common stock underlying options that were exercisable as of April 5, 2020 or will become exercisable within 60 days after such date.
- (8) Consists of 168,809 shares of common stock, 559,837 shares of common stock underlying options that were exercisable as of April 15, 2020 or will become exercisable within 60 days after such date, and 13,982 shares of common stock underlying restricted stock units that were vested as of April 5, 2020 or will become exercisable within 60 days after such date.

EXECUTIVE COMPENSATION

Our Compensation Committee is primarily responsible for establishing and reviewing our general compensation strategy, see the section captioned “Compensation Committee Processes and Procedure.”

SUMMARY COMPENSATION TABLE

The following table shows the total compensation paid or accrued during the fiscal years ended December 31, 2020 and December 31, 2019 to (1) the individual who served as our Chief Executive Officer during the fiscal year ended December 31, 2020 and (2) our two next most highly compensated executive officers who earned more than \$100,000 during the fiscal year ended December 31, 2020 and were serving as executive officers as of such date. We refer to these individuals in this Proxy Statement as our Named Executive Officers.

Our Named Executive Officers for 2020 who appear in the Summary Compensation Table are:

- Paula Ragan, Ph.D., our President, Chief Executive Officer, Corporate Secretary and Director;
- Adam S. Mostafa, our Chief Financial Officer and Treasurer; and
- Derek Meisner, J.D., General Counsel

SUMMARY COMPENSATION TABLE

Name and Principal Position	Year	Salary (\$)	Bonus (\$) ⁽¹⁾	Stock Awards (\$) ⁽²⁾⁽³⁾	Option Awards (\$) ⁽²⁾	Non-Equity Incentive Plan Compensation (\$) ⁽⁴⁾	All Other Compensation (\$)	Total (\$)
Paula Ragan, Ph.D. President, Chief Executive Officer, Corporate Secretary and Director	2020	543,400	—	1,690,827	—	271,700	8,169 ⁽⁶⁾	2,514,096
	2019	492,276	—	824,938	893,460	286,000	1,177	2,497,851
Adam S. Mostafa Chief Financial Officer and Treasurer	2020	400,000	—	612,950	—	163,600	564 ⁽⁶⁾	1,177,114
	2019	372,275	—	155,819	168,771	168,341	1,025	866,231
Derek Meisner General Counsel	2020	400,000 ⁽⁵⁾	67,500	471,500	—	162,400	11,964 ⁽⁶⁾	1,113,364

- (1) The amounts reported in the “Bonus” column reflect a “Start Bonus” payable to Mr. Meisner pursuant to his employment agreement totaling \$135,000, half of which was payable in 2019 and half of which was payable in 2020.
- (2) The amounts reported in the “Stock Awards” column and “Option Awards” column reflect the aggregate fair value of stock-based compensation awarded during the year computed in accordance with the provisions of Financial Accounting Standards Board, Accounting Standards Codification Topic 718, or ASC 718. See Note 12 to the X4 Pharmaceuticals Inc. Annual Report on Form 10-K for the year ended December 31, 2020 filed with the SEC on March 19, 2021, regarding assumptions underlying the valuation of equity awards.
- (3) The amounts reported in the “Stock Awards” column reflect the grant date fair value for performance-based restricted stock units (“RSUs”) granted to Dr. Ragan, Mr. Mostafa, and Mr. Meisner in fiscal 2020, which are reported based upon the probable outcome of the performance conditions on the grant date. The value of the RSUs granted in fiscal 2020, assuming achievement of the maximum performance level, would have been: Dr. Ragan: \$1,690,827, Mr. Mostafa: \$612,950, and Mr. Meisner: \$471,500.
- (4) For 2020, represents amounts earned for the 12-month period from January 1, 2020 to December 31, 2020 and paid in 2021, and excludes payments made in 2020 that were earned in 2019. For 2019, represents amounts earned for the 12-month period from January 1, 2019 to December 31, 2019 and paid in 2020, and excludes payments made in 2020 that were earned in 2019.
- (5) Mr. Meisner’s employment with X4 began on November 4, 2019. Accordingly, his salary for 2019 reflects the amount he earned from November 4, 2019 through the end of the calendar year.
- (6) Reflects \$564 in life insurance premiums the Company paid for a term life insurance policy to benefit each of Dr. Ragan, Mr. Mostafa, and Mr. Meisner, respectively, with a face value of \$300,000 and 401(k) matching contributions of \$7,605 and \$11,400 for Dr. Ragan and Mr. Meisner, respectively.

OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END

The following table shows for the fiscal year ended December 31, 2020, certain information regarding outstanding equity awards at fiscal year end for the Named Executive Officers.

OUTSTANDING EQUITY AWARDS AT DECEMBER 31, 2020

Name	Grant Date	Option Awards				Stock Awards			
		Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date	Equity incentive plan awards: number of unearned shares, units or other rights that have not vested (#)	Equity incentive plan awards: market or payout value of unearned shares, units or other rights that have not vested (\$)	Performance-based restricted stock awards: number of shares or units of stock that have not vested (#)	Performance-based restricted stock awards: market or payout value of shares or units of stock that have not vested (\$)
Paula Ragan, Ph.D.	1/19/2016 ⁽¹⁾	100,729	0	6.84	1/18/2026				
	1/24/2017 ⁽¹⁾	64,067 ⁽²⁾	1,363 ⁽²⁾	6.84	1/23/2027				
	1/31/2018 ⁽¹⁾	60,120 ⁽³⁾	20,040 ⁽³⁾	7.08	1/30/2028				
	6/17/2019 ⁽⁴⁾	31,460 ⁽⁵⁾	52,433 ⁽⁵⁾	14.75	6/16/2029				
	6/17/2019 ⁽⁴⁾					41,946 ⁽⁶⁾	269,713		
	4/13/2020 ⁽⁴⁾					59,768 ⁽¹¹⁾	384,308	89,652 ⁽¹²⁾	576,462
Adam S. Mostafa	10/4/2018 ⁽¹⁾	36,536 ⁽⁸⁾	26,097 ⁽⁸⁾	10.44	10/3/2028				
	6/17/2019 ⁽⁴⁾	5,943 ⁽⁵⁾	9,904 ⁽⁵⁾	14.75	6/16/2029				
	6/17/2019 ⁽⁴⁾					7,923 ⁽⁷⁾	50,945		
	4/13/2020 ⁽⁴⁾					21,666 ⁽¹¹⁾	139,312	32,500 ⁽¹²⁾	208,975
Derek Meisner	11/26/2019 ⁽⁹⁾	16,042 ⁽⁹⁾	38,958 ⁽¹⁰⁾	11.03	11/25/2029				
	4/13/2020 ⁽⁴⁾					16,666 ⁽¹¹⁾	107,162	25,000 ⁽¹²⁾	160,750

(1) This award was granted pursuant to the 2015 Plan.

(2) The shares underlying this option vest, subject to continued service, as follows: 25% of the shares vested on January 24, 2018 with the remainder vesting over the next three years in equal monthly installments thereafter.

(3) The shares underlying this option vest, subject to continued service, as follows: 25% of the shares vested on January 1, 2019 with the remainder vesting over the next three years in equal monthly installments on the 24th day of each month thereafter.

(4) This award was granted pursuant to the 2017 Plan, as amended.

(5) 25% of the shares subject to the option shall vest on June 17, 2020, with the remainder vesting in equal installments of 2.0833% of the shares subject to the option on the last day of each month thereafter for a period of 36 months, subject to continued service through each such date.

(6) Represents restricted stock units, with each restricted stock unit representing the contingent right to receive one share of common stock on the applicable vesting date. No amount was paid upon grant of the restricted stock units. The restricted stock units vest, subject to continued service, in four equal annual installments on May 31, 2020, 2021, 2022 and 2023.

(7) Represents restricted stock units, with each restricted stock unit representing the contingent right to receive one share of common stock on the applicable vesting date. No amount was paid upon grant of the restricted stock units. The restricted stock units vest, subject to continued service, in four equal annual installments on June 30, 2020, 2021, 2022 and 2023.

(8) The shares underlying this option vest, subject to continued service, as follows: 25% of the shares vest on September 5, 2019, with the remainder vesting over the next three years in equal monthly installments on 5th day of each month thereafter.

(9) This award was granted under the 2019 Plan.

(10) The shares underlying this option vest, subject to continued service, as follows: 25% of the shares subject to the option were to vest on November 4, 2020, with the remainder vesting in equal installments of 2.0833% of the shares subject to the option on the last day of each month thereafter for a period of 36 months.

- (11) Represents performance-based restricted stock units for which the performance criteria has been achieved, as certified by the Compensation Committee of the Board on August 14, 2020 and August 17, 2020, and which vest in four equal installments, subject to continued service, on August 14, 2021, August 17, 2021, August 14, 2022 and August 17, 2022.
- (12) Represents performance-based restricted stock units for which the performance criteria has not been achieved.

NARRATIVE TO SUMMARY COMPENSATION TABLE

The material terms of the elements of our executive compensation program are described below.

Base Salary

Each Named Executive Officer's base salary is a fixed component of annual compensation for performing specific duties and functions, and has been established by our Board taking into account each individual's role, responsibilities, skills, and experience. In February 2020, the Compensation Committee increased Dr. Ragan's base salary for 2020 to \$543,400 and increased Mr. Mostafa's base salary for 2020 to \$400,000.

Bonus

Pursuant to his employment agreement, Mr. Meisner was eligible to receive a "Start Bonus" in connection with the commencement of his employment equal to \$135,000, \$67,500 of which was payable in 2019 and \$67,500 of which was payable in March 2020. The payment of the bonus is subject to recoupment if Mr. Meisner's service is terminated before the one-year anniversary of the payment date.

Non-Equity Incentive Plan Compensation

Our annual bonus program is intended to reward our Named Executive Officers for meeting objective or subjective individual and/or company-wide performance goals for a fiscal year. For 2020 and 2019, our Named Executive Officers received incentive compensation based upon the Board or Compensation Committee's determination of their respective achievement of and performance with respect to corporate objectives. Dr. Ragan's, Mr. Mostafa's, and Mr. Meisner's bonus targets were 50%, 40% and 40%, respectively, of their respective base salaries.

The impact of the COVID-19 pandemic continues to be difficult to assess or predict and depends on numerous evolving factors that we may not be able to accurately predict or effectively respond to, including, without limitation: the duration and scope of the outbreak; actions taken by governments, businesses, and individuals in response to the outbreak; the effect on economic activity and actions taken in response. While COVID-19 did not have a significant impact on our results of operations for the 2020 fiscal year, the impact of the global pandemic on our business and financial outlook are currently unknown. Continued uncertainty associated with the pandemic could impact our future results. Despite the uncertainties associated with the pandemic, we did not change our performance metrics under our incentive programs in light of COVID-19.

In February 2021, the Compensation Committee completed an evaluation of our overall performance for 2020 and the Named Executive Officers' respective contributions in achieving this performance. The Compensation Committee's review was based on company performance against corporate objectives, including advancing research and clinical development of mavorixafor, expanding the pipeline of other assets, advancing CXCR4 molecules and other assets to further expand our pipeline, maintaining business sustainability, building organizational strength, and preparing the commercialization of medicines for commercial use. Following such review, the Compensation Committee determined that the corporate performance objective were achieved at 100%, and Dr. Ragan had earned 100% of her target bonus for 2020, equal to a bonus of \$271,700; Mr. Mostafa had earned 102% of his target bonus for 2020, equal to a bonus of \$163,600; and Mr. Meisner had earned 102% of his target bonus for 2020, equal to a bonus of \$162,400.

Long-Term Equity Incentives

Our equity grant program is intended to align the interests of our Named Executive Officers with those of our stockholders and to motivate them to make important contributions to our performance.

In April 2020, the Compensation Committee granted PRSUs to our Named Executive Officers, see the section captioned "Outstanding Equity Awards at Fiscal Year-End." The PRSUs are divided into four equal tranches, with each tranche having

its own separate corporate-based performance goal and service-based vesting conditions. The initial service-based vesting condition for each tranche requires continued service through the date the applicable corporate-based performance goal is certified as achieved by our Compensation Committee, and the remaining service-based vesting conditions require continued services through the first and second anniversaries of the date the applicable corporate-based performance goal is achieved. As of December 31, 2020, two of the four corporate-based performance goals have been achieved. In addition, 100% of the unvested portion of the PRSUs will vest upon the termination of the NEO's employment by the Company without "cause" (as defined in the 2017 Plan) upon or at any time within 12 months following a "change of control" (as defined in the 2017 Plan), subject to the terms of each individual's respective employment agreement.

Employment and Change in Control Arrangements

Paula Ragan, Ph.D.

On March 13, 2019, in connection with the closing of the Merger, we entered into an amended and restated executive employment agreement with Dr. Ragan, pursuant to which Dr. Ragan agreed to continue serving as our Chief Executive Officer. Pursuant to the agreement, Dr. Ragan's compensation consists of base salary at an annual rate approved by our Board or an appropriate committee thereof, a bonus as determined by our Board (provided that the target for such bonus shall be not less than 25% of Dr. Ragan's annual base salary), fringe benefits, vacation, reimbursement of ordinary and reasonable out-of-pocket expenses and coverage under our Directors' and Officers', or D&O, insurance policies, subject to the terms and conditions of such policies. Dr. Ragan's 2020 base salary was \$543,000, with an annual target bonus set at 50% of her annual base salary, subject to review and adjustment each year by the board of directors and in February 2021, Dr. Ragan's 2021 base salary was set at \$562,420.

Pursuant to her amended and restated executive employment agreement, as amended in February 2020, if Dr. Ragan's employment is terminated for any reason, Dr. Ragan will be entitled to receive her accrued but unpaid salary, accrued but unused vacation days, the amount of any properly incurred expenses prior to termination not yet reimbursed and other benefits. In addition to the foregoing, if Dr. Ragan's employment is terminated by us without cause or if Dr. Ragan resigns for good reason, each term as defined in the agreement, Dr. Ragan will be entitled to the following: (a) a continuation of base salary for 12 months, (b) a pro-rated portion of her at-target annual bonus for the calendar year in which the termination occurs, (c) so long as Dr. Ragan is eligible for coverage under our health insurance plan, elects coverage, was covered prior to termination, and elects to exercise her rights under COBRA to continue participation in such plan, we will pay the normal share of costs we pay for current employees under such plan until the earlier of 12 months from the date of Dr. Ragan's termination, or the date Dr. Ragan is eligible to receive health benefits through another employer, and (d) Dr. Ragan will become vested in the additional number of outstanding time-based equity awards granted to Dr. Ragan by us that would have otherwise vested had Dr. Ragan remained employed for an additional 12 months after her termination date. In addition, if Dr. Ragan's employment is terminated without cause or if Dr. Ragan resigns for good reason within the one-year period following a change of control, as that term is defined in the agreement, Dr. Ragan will be entitled to the following: (a) a continuation of base salary for 18 months, (b) her full annual bonus for the calendar year in which the termination occurs, (c) so long as Dr. Ragan is eligible for coverage under our health insurance plan, elects coverage, was covered prior to termination, and elects to exercise her rights under COBRA to continue participation in such plan, we will pay the normal share of costs we pay for current employees under such plan until the earlier of 12 months from the date of Dr. Ragan's termination, or the date Dr. Ragan is eligible to receive health benefits through another employer, and (d) automatic vesting in all outstanding time-based equity awards granted to Dr. Ragan by us, subject to the terms and conditions of the agreement. As a condition to receiving the foregoing severance benefits, Dr. Ragan must execute and not revoke a separation agreement in a form acceptable to us and which will include a complete release of claims and terms related to non-disparagement, non-competition, confidentiality and cooperation.

In connection with the execution of her amended and restated employment agreement, Dr. Ragan also agreed to continue to abide by the terms of her non-competition, non-solicitation, non-disclosure and intellectual property agreement.

Adam S. Mostafa

On March 13, 2019, in connection with the closing of the Merger, we entered into an amended and restated executive employment agreement with Mr. Mostafa, pursuant to which Mr. Mostafa agreed to continue serving as our Chief Financial Officer. Pursuant to the agreement, Mr. Mostafa's compensation consists of base salary at an annual rate approved by our Board or an appropriate committee thereof, an annual bonus as determined by our Board (provided that the target for such bonus shall not be less than 25% of Mr. Mostafa's annual base salary), fringe benefits, vacation, reimbursement of ordinary and reasonable out-of-pocket expenses and coverage under our D&O insurance policies, subject to the terms and conditions of such policies. Mr. Mostafa's base salary in 2020 was \$400,000, with an annual target bonus set at 40% of his annual base salary, subject to review and adjustment each year by the Board and in February 2021, Mr. Mostafa's 2021 base salary was set at \$420,000.

Pursuant to his amended and restated executive employment agreement, as amended in February 2020, if Mr. Mostafa's employment is terminated for any reason, Mr. Mostafa is entitled to receive his accrued but unpaid salary, accrued but unused vacation days, the amount of any properly incurred expenses prior to termination not yet reimbursed and other benefits. In addition to the foregoing, if Mr. Mostafa's employment is terminated by us without cause or if Mr. Mostafa resigns for good reason, each term as defined in the agreement, Mr. Mostafa will be entitled to the following: (a) a continuation of base salary for six months, (b) a pro-rated portion of Mr. Mostafa's at-target annual bonus for the calendar year in which the termination occurs based on the period worked by Mr. Mostafa during such calendar year prior to termination, (c) so long as Mr. Mostafa is eligible for coverage under our health insurance plan, elects coverage, was covered prior to termination, and elects to exercise his rights under COBRA to continue participation in such plan, we will pay the normal share of costs we pay for current employees under such plan until the earlier of six months from the date of Mr. Mostafa's termination or the date Mr. Mostafa is eligible to receive health benefits through another employer, and (d) Mr. Mostafa will become vested in the additional number of outstanding time-based equity awards granted to Mr. Mostafa by us that would have otherwise vested had Mr. Mostafa remained employed for an additional six months after his termination date. In addition, if Mr. Mostafa's employment is terminated without cause or if Mr. Mostafa resigns for good reason within the one-year period following a change of control, as that term is defined in the agreement, Mr. Mostafa will be entitled to the following: (a) a continuation of base salary for 12 months, (b) Mr. Mostafa's full annual bonus for the calendar year in which the termination occurs, (c) so long as Mr. Mostafa is eligible for coverage under our health insurance plan, elects coverage, was covered prior to termination, and elects to exercise his rights under COBRA to continue participation in such plan, we will pay the normal share of costs we pay for current employees under such plan until the earlier of six months from the date of Mr. Mostafa's termination or the date Mr. Mostafa is eligible to receive health benefits through another employer, and (d) automatic vesting in all outstanding time-based equity awards granted to Mr. Mostafa by us, subject to the terms and conditions of the agreement. As a condition to receiving the foregoing severance benefits, Mr. Mostafa must execute and not revoke a separation agreement in a form acceptable to us and which will include a complete release of claims and terms related to non-disparagement, non-competition, confidentiality and cooperation.

In connection with the execution of his amended and restated employment agreement, Mr. Mostafa agreed to continue to abide by the terms of his non-competition, non-solicitation, non-disclosure and intellectual property agreement.

Derek Meisner

Pursuant to his amended and restated executive employment agreement, as amended in February 2020, Mr. Meisner's annual base salary for 2020 was \$400,000, and he is eligible for an annual incentive payment equal to 40% of his base salary. In February 2021, Mr. Meisner's 2021 base salary was set at \$418,000.

If Mr. Meisner's employment is terminated for any reason, Mr. Meisner is entitled to receive his accrued but unpaid salary, accrued but unused vacation days, the amount of any properly incurred expenses prior to termination not yet reimbursed and other benefits. In addition to the foregoing, if Mr. Meisner's employment is terminated by us without cause or if Mr. Meisner resigns for good reason, each term as defined in the agreement, Mr. Meisner will be entitled to the following: (a) a continuation of base salary for six months, (b) a pro-rated portion of Mr. Meisner's at-target annual bonus for the calendar year in which the termination occurs based on the period worked by Mr. Meisner during such calendar year prior to termination, (c) so long as Mr. Meisner is eligible for coverage under our health insurance plan, elects coverage, was covered prior to termination, and elects to exercise his rights under COBRA to continue participation in such plan, we will pay the normal share of costs we pay for current employees under such plan until the earlier of six months from the date of Mr. Meisner's termination or the date Mr. Meisner is eligible to receive health benefits through another employer, and (d) Mr. Meisner will become vested in the additional number of outstanding time-based equity awards granted to Mr. Meisner by us that would have otherwise vested had Mr. Meisner remained employed for an additional six months after his termination date. In addition, if Mr. Meisner's employment is terminated without cause or if Mr. Meisner resigns for good reason within the one-year period following a change of control, as that term is defined in the agreement, Mr. Meisner will be entitled to the following: (a) a continuation of base salary for 12 months, (b) Mr. Meisner's full annual bonus for the calendar year in which the termination occurs, (c) so long as Mr. Meisner is eligible for coverage under our health insurance plan, elects coverage, was covered prior to termination, and elects to exercise his rights under COBRA to continue participation in such plan, we will pay the normal share of costs we pay for current employees under such plan until the earlier of six months from the date of Mr. Meisner's termination or the date Mr. Meisner is eligible to receive health benefits through another employer, and (d) automatic vesting in all outstanding time-based equity awards granted to Mr. Meisner by us, subject to the terms and conditions of the agreement. As a condition to receiving the foregoing severance benefits, Mr. Meisner must execute and not revoke a separation agreement in a form acceptable to us and which will include a complete release of claims and terms related to non-disparagement, non-competition, confidentiality and cooperation.

See the section captioned “Long-Term Equity Incentives” for vesting acceleration applicable to PRSUs held by our Named Executive Officers.

401(k) Plan

We maintain a defined contribution retirement plan that provides eligible U.S. employees with an opportunity to save for retirement on a tax-advantaged basis. Eligible employees may defer eligible compensation on a pre-tax basis, up to the statutorily prescribed annual limits on contributions under the Code. Contributions are allocated to each participant’s individual account and are then invested in selected investment alternatives according to the participants’ directions. Employees are immediately and fully vested in their contributions. The 401(k) plan is intended to be qualified under Section 401(a) of the Code with the 401(k) plan’s 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 and earnings on those contributions are not taxable to the employees until distributed from the 401(k) plan.

Health and Welfare Benefits

All of our full-time employees and certain of our part-time employees are eligible to participate in our health and welfare benefit plans, including our medical, dental, life and long-term disability insurance plans. Our health and welfare benefit plans do not discriminate in scope, terms or operation in favor of our executive officers.

DIRECTOR COMPENSATION FOR FISCAL 2020

Name ⁽¹⁾	Fees Earned or Paid in Cash (\$)	Option Awards (\$) ⁽²⁾⁽³⁾	Total (\$)
William E. Aliski, MPA	\$ 41,912	\$ 21,728	\$ 63,640
Gary J. Bridger, Ph.D.	\$ 44,838	\$ 21,728	\$ 66,566
Alison Lawton ⁽⁴⁾	\$ 11,353	\$ 37,516	\$ 48,869
David McGirr, M.B.A.	\$ 54,000	\$ 21,728	\$ 75,728
René Russo., Pharm.D.	\$ 35,000	\$ 21,728	\$ 56,728
Murray W. Stewart, M.D.	\$ 50,700	\$ 21,728	\$ 72,428
Michael S. Wyzga	\$ 86,500	\$ 21,728	\$ 108,228

- (1) Dr. Ragan, one of our directors who also serves as our Chief Executive Officer, President and Secretary, did not receive any additional compensation for her service director. Dr. Ragan is a Named Executive Officer and, accordingly, the compensation that we pay to Dr. Ragan is described under “—Summary Compensation Table” and “—Narrative Disclosure to Summary Compensation Table.”
- (2) The amounts reported in the “Option Awards” column reflect the aggregate fair value of stock-based compensation awarded during the year computed in accordance with the provisions of ASC 718. See Note 12 to our consolidated financial statements appearing in our Annual Report on Form 10-K for the year ended December 31, 2020 filed with the SEC on March 19, 2021, regarding assumptions underlying the valuation of equity awards.
- (3) The aggregate number of shares subject to outstanding stock options held by each director listed in the table above as of December 31, 2020 was as follows: 10,281 shares for Mr. Aliski; 31,851 shares for Dr. Bridger; 6,854 for Ms. Lawton; 12,686 shares for Mr. McGirr; 33,520 shares for Dr. Russo; 10,281 shares for Dr. Stewart; and 80,605 shares for Mr. Wyzga.
- (4) Ms. Lawton joined our Board in October 2020.

NARRATIVE TO DIRECTOR COMPENSATION TABLE

Non-Employee Director Compensation Policy

We have historically granted to new non-employee directors, upon their initial election to the board of directors, an option to purchase 6,854 shares of our common stock at an exercise price equal to the closing price of our common stock on the date of grant. In February 2021, our Board, upon the recommendation of the Compensation Committee, approved an increase in this initial option grant to 12,250 shares of common stock. Each of these options has a term of 10 years from the date of the award and vests as to 33.3333% of the shares of common stock underlying such option on the first anniversary of the date of grant, with the remainder vesting in equal monthly installments of 2.7777% of the shares of common stock underlying such option until the 36-month anniversary of the date of grant, subject to the non-employee director's continued service as a director. This vesting accelerates as to 100% of the shares upon a change in control of the Company.

Further, on the dates of each of our annual meetings of stockholders, we have historically granted to each non-employee director that has served on our board of directors for at least six months an option to purchase 3,427 shares of our common stock at an exercise price equal to the closing price of our common stock on the date of the grant. In February 2021, our Board, upon the recommendation of the Compensation Committee, approved an increase in this annual option grant. Starting with the Annual Meeting, on the dates of each of our annual meetings of stockholders, each non-employee director that has served on our board of directors for at least six months will automatically receive an option to purchase 6,000 shares of our common stock at an exercise price equal to the closing price of our common stock on the date of the grant. Each of these options has a term of 10 years from the date of the award and vests in equal monthly installments of 8.333% of the shares of our common stock underlying such option until the 12-month anniversary of the date of grant (or, if earlier, the date of our next annual meeting of stockholders following the date of grant) unless otherwise provided at the time of grant, subject to the non-employee director's continued service as a director, with 100% acceleration of vesting upon a change in control of the Company.

We pay our non-employee directors a cash retainer for service on the Board of Directors and for service on each committee on which the director was a member. The Chairman of the Board, the Lead Independent Director and the Chair of each committee received higher retainers for such service. These fees are payable in arrears in four equal quarterly installments on the last day of each quarter, provided that the amount of such payment would be prorated for any portion of such quarter that the director was not serving on the Board of Directors, on such committee or in such position. The fees paid to non-employee directors for service on the Board of Directors, for service as a Lead Independent Director and for service on each committee of the Board of Directors on which the director was a member were as follows.

	Member Annual Fee	Chairman Annual Fee	Lead Independent Director Annual Fee
Board of Directors	\$ 35,000	\$ 75,000	\$ 50,000
Audit Committee	\$ 7,500	\$ 15,000	—
Compensation Committee	\$ 5,000	\$ 10,000	—
Nominating and Corporate Governance Committee	\$ 4,000	\$ 8,000	—

We also reimburse our non-employee directors for reasonable travel and other expenses incurred in connection with attending meetings of the Board of Directors and any committee of the Board of Directors on which they served.

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

EQUITY COMPENSATION PLAN INFORMATION

The following table provides certain information with respect to all of our equity compensation plans in effect as of December 31, 2020:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	488,043 ⁽¹⁾	\$ 23.85 ⁽²⁾	254,796 ⁽³⁾
Equity compensation plans not approved by security holders	1,386,471 ⁽⁴⁾	\$ 9.15 ⁽⁵⁾	162,156 ⁽⁶⁾
Total	1,874,514	\$ 12.94	416,952 ⁽⁷⁾

(1) Consists of (i) 86,573 shares to be issued upon exercise of outstanding options under the 2011 Plan, as of December 31, 2020, and (ii) 401,470 shares to be issued upon exercise of outstanding options under the 2017 Plan, as of December 31, 2020.

(2) Consists of the weighted-average exercise price of the 488,043 stock options outstanding on December 31, 2020.

(3) Consists of (i) 25,732 shares that remained available for future issuance under the 2017 Plan as of December 31, 2020 and (ii) 229,064 shares that remained available for future issuance under our 2017 Employee Stock Purchase Plan (the "2017 ESPP"), as of December 31, 2020. No shares remained available for future issuance under the 2010 Plan or the 2011 Plan, as of December 31, 2020.

(4) Consists of (i) 743,421 shares to be issued upon exercise of outstanding options under the 2015 Plan, as of December 31, 2020 and (ii) 643,050 shares to be issued upon exercise of outstanding options under our 2019 Inducement Equity Incentive Plan, as of December 31, 2020 (the "Inducement Plan"). Descriptions of the 2015 Plan and the Inducement Plan are contained in Note 12 of the notes to our consolidated financial statements contained in our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on March 19, 2021.

(5) Consists of the weighted-average exercise price of the 1,386,471 stock options outstanding on December 31, 2020.

(6) Consists of (i) 5,206 shares that remained available for future issuance under the 2015 Plan, as of December 31, 2020, (ii) 156,950 shares that remained available for future issuance under the Inducement Plan, as of December 31, 2020.

(7) The 2017 Plan has an evergreen provision, as amended, that allows for an annual increase in the number of shares available for issuance under the 2017 Plan to be added on the first day of each fiscal year, beginning with the fiscal year ended December 31, 2018 and continuing for each fiscal year until, and including, the fiscal year ending December 31, 2027. The evergreen provides for an automatic increase in the number of shares available for issuance equal to the least of (i) 4% of the number of outstanding such date and (ii) an amount determined by our Board. The 2017 ESPP has an evergreen provision that allows for an annual increase in the number of shares available for issuance under the 2017 ESPP to be added on the first day of each fiscal year, beginning on January 1, 2019 and ending on December 31, 2029, in an amount equal to the least of (i) 85,457 shares of our common stock, (ii) 2% of the total number of outstanding shares as of such date and (iii) an amount determined by our Board.

TRANSACTIONS WITH RELATED PERSONS AND INDEMNIFICATION

RELATED-PERSON TRANSACTIONS POLICY AND PROCEDURES

Our Board of Directors has adopted a written related person transaction policy to set forth policies and procedures for the review of any transaction, arrangement or relationship in which our company is a participant, the amount involved exceeds \$120,000, and one of our executive officers, directors, director nominees or 5% stockholders, or their immediate family members, each of whom we refer to as a “related person,” has a direct or indirect material interest.

If a related person proposes to enter into such a transaction, arrangement or relationship, which we refer to as a “related party transaction,” the related person must report the proposed related person transaction to our Chief Financial officer. The policy calls for the proposed related person transaction to be reviewed and approved by our Audit Committee. Whenever practicable, the reporting, review and approval will occur prior to entry into the transaction. If advance review and approval is not practicable, Audit Committee will review and, in its discretion, may ratify the related person transaction. The policy also permits the Chair of the Audit Committee to review and, if deemed appropriate, approve proposed related person transactions that arise between Audit Committee meetings, subject to ratification by the Audit Committee at its next meeting. Any related person transactions that are ongoing in nature will be reviewed annually.

A related person transaction reviewed under this policy will be considered approved or ratified if it is authorized by the Audit Committee in accordance with the standards set forth in the policy after full disclosure of the related person’s interests in the transaction. As appropriate for the circumstances, the policy provides that the Audit Committee will review and consider:

- the related person’s interest in the related person transaction;
- the approximate dollar value of the amount involved in the related person transaction;
- the approximate dollar value of the amount of the related person’s interest in the transaction without regard to the amount of any profit or loss;
- whether the transaction was undertaken in the ordinary course of our business;
- whether the terms of the transaction are no less favorable to us than the terms that could have been reached with an unrelated third party;
- the purpose of, and the potential benefits to us of, the transaction; and
- any other information regarding the related person transaction or the related person in the context of the proposed transaction that would be material to investors in light of the circumstances of the particular transaction.

The Audit Committee may approve or ratify the related person transaction only if the Audit Committee determines that, under all of the circumstances, the transaction is in our best interests. The Audit Committee may impose any conditions on the related person transaction as it deems appropriate. The policy also provides that transactions involving compensation of executive officers will be reviewed and approved by our Compensation Committee in the manner specified in its charter.

For purposes of the policy, we refer to certain related-party transactions below in which (a) we were a participant, (b) the amount involved exceeded or will exceed \$120,000 or, during such time as we qualify as a “smaller reporting company,” the lesser of (1) \$120,000 or (2) 1% of the average of our total assets for the last two completed fiscal years, and (c) one or more related persons had a direct or indirect material interest. Transactions involving compensation for services provided to us by an employee, director, consultant or individual performing in a similar capacity by a related person are not covered by this policy.

CERTAIN RELATED-PERSON TRANSACTIONS

Since January 1, 2019, we have engaged in, or currently propose to engage in, the following related-party transactions. We believe that all of these transactions were on terms comparable to terms that could have been obtained from unrelated third parties.

Agreements with Directors

Gary J. Bridger, Ph.D.

On September 17, 2020, we entered into an independent contractor agreement with Gary J. Bridger, Ph.D., pursuant to which Dr. Bridger was entitled to receive \$30,000 per month and a non-qualified stock option to purchase 30,000 shares of our common stock in consideration of his performance of certain consulting services to us during the period from September 17, 2020 to December 17, 2020. We granted Dr. Bridger an option to purchase 30,000 shares of our common stock at a strike price of \$7.33 on October 5, 2020.

Murray Stewart, M.D.

On September 17, 2020, we entered into an independent contractor agreement with Murray Stewart M.D., pursuant to which Dr. Stewart was entitled to receive \$450 per hour and a non-qualified stock option to purchase 10,000 shares of our common stock in consideration of his performance of certain consulting services to us during the period from September 17, 2020 to September 17, 2021. We granted Dr. Stewart an option to purchase 10,000 shares of our common stock at a strike price of \$7.27 on October 20, 2020.

Shares of Our Common Stock Issued in the Merger

On March 13, 2019, we completed the Merger and effected the Reverse Stock Split. In connection with the Merger, Paula Ragan, Ph.D., our President and Chief Executive Officer, received 181,366 shares of common stock in exchange for 1,870,000 shares of Private X4 common stock and 38,451 shares of Private X4 Series Seed preferred stock, as adjusted for the Reverse Stock Split. In addition, the following table sets forth the options to purchase Private X4 common stock held by our directors and executive officers that became exercisable for our common stock in connection with the Merger:

Name	Number of Shares of X4 Common Stock Underlying Private X4 Options (#)	Private X4 Option Exercise Price (\$)	Number of Shares of Post-Merger Common Stock Underlying Post-Merger Options (#)	Post-Merger Option Exercise Price (\$)
Paula Ragan, Ph.D.	1,059,935	0.65	100,729	6.84
	688,500	0.65	65,430	6.84
	843,496	0.67	80,160	7.08
Adam S. Mostafa	659,067	0.99	62,633	10.44
Michael S. Wyzga	740,000	0.99	70,324	10.44
Isaac Blech	744,967	0.65	70,796	6.84
Gary J. Bridger, Ph.D.	226,983	0.99	21,570	10.44

INDEMNIFICATION

We provide indemnification for our directors and executive officers so that they will be free from undue concern about personal liability in connection with their service to us. Under our Bylaws, we are required to indemnify our directors and executive officers to the extent not prohibited under Delaware or other applicable law. We has also entered into indemnity agreements with certain officers and directors. These agreements provide, among other things, that we will indemnify the officer or director, under the circumstances and to the extent provided for in the agreement, for expenses, damages, judgments, fines and settlements he or she may be required to pay in actions or proceedings which he or she is or may be made a party by reason of his or her position as a director, officer or other agent of the Company, and otherwise to the fullest extent permitted under Delaware law and our Bylaws.

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 X4 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 X4. Direct your written request to X4 Pharmaceuticals, Inc., Attn: Corporate Secretary, 61 North Beacon Street, 4th Floor, Boston, MA 02134 or contact the Corporate Secretary at (857) 529-8300. 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 of Directors 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 such matters in accordance with their best judgment.

By Order of the Board of Directors,

A handwritten signature in blue ink, appearing to read "Paula M. Ragan", with a long horizontal flourish extending to the right.

Paula Ragan
President, Chief Executive Officer, Corporate Secretary
and Director

April 20, 2021

A copy of the Company's Annual Report to the Securities and Exchange Commission on Form 10-K for the fiscal year ended December 31, 2020 is available without charge upon written request to: Corporate Secretary, X4 Pharmaceuticals, Inc., 61 North Beacon Street, 4th Floor, Boston, MA 02134.



X4 PHARMACEUTICALS
 X4 PHARMACEUTICALS, INC.
 61 N. BEACON STREET
 4TH FLOOR
 BOSTON, MA 02134

VOTE BY INTERNET

Before The Meeting - Go to www.proxyvote.com

Use the Internet to transmit your voting instructions and for electronic delivery of information. Vote by 11:59 p.m. Eastern Time on June 1, 2021. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

During The Meeting - Go to www.virtualshareholdermeeting.com/XFOR2021

You may attend the Annual Meeting via the Internet and vote during the Annual Meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions.

VOTE BY PHONE - 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions. Vote by 11:59 p.m. Eastern Time on June 1, 2021. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

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

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

D52167-P49510

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

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

X4 PHARMACEUTICALS, INC.

The Board of Directors Recommends a Vote **FOR** the nominees listed in proposal 1 and **FOR** proposal 2.

For All Withhold All For All Except

To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the number(s) of the nominee(s) on the line below.

- To elect three (3) nominees, David McGirr, M.B.A., Paula Ragan, Ph.D. and Michael S. Wyzga, to the Board of Directors to hold office until the 2024 Annual Meeting of Stockholders and until their successors are duly elected and qualified.

Nominees:

- 01) David McGirr, M.B.A.
- 02) Paula S. Ragan, Ph.D.
- 03) Michael S. Wyzga

For Against Abstain

- To ratify the selection by the Audit Committee of the Board of Directors of PricewaterhouseCoopers LLP as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2021.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

Signature [PLEASE SIGN WITHIN BOX] Date

Signature (Joint Owners) Date

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

D52168-P49510



**Proxy for Annual Meeting of Stockholders to be held
on Wednesday, June 2, 2021**

This proxy is being solicited on behalf of the Board of Directors

Please vote, date and sign this Proxy on the reverse side and return it in the enclosed envelope.

The Stockholder signing on the reverse side (the "undersigned"), having received the Annual Report and Proxy Statement, hereby appoint(s) Paula Ragan and Adam Mostafa, and each of them, Proxies of the undersigned (with full power of substitution) to attend the Annual Meeting of X4 Pharmaceuticals, Inc. (the "Company") to be held on Wednesday, June 2, 2021, and all adjournments and postponements thereof (the "Meeting"), and to vote all shares of Common Stock of the Company that the undersigned would be entitled to vote, if personally present, in regard to all matters that may properly come before the Meeting.

The undersigned hereby confer(s) upon the Proxies, and each of them, discretionary authority to consider and act upon such business, matters or proposals as may properly come before the Meeting. **The Proxy, when properly executed, will be voted in the manner specified herein. If no specification is made, the Proxies intend to vote FOR all nominees for director in Proposal 1 and FOR Proposal 2.**

Continued and to be signed on reverse side.