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

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934

Filed by Registrant	X

Filed by a Party other than the Registrant

Check the appropriate box:

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

- ☑ Definitive Proxy Statement
- Definitive Additional Materials
- □ Soliciting Material Under Rule 14a-12

MUSTANG BIO, INC.

(Name of Registrant as Specified In Its Charter)

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

Payment of Filing Fee (Check the appropriate box):

- ⊠ No fee required
- \Box Fee paid previously with preliminary materials
- □ Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a6(i)(1) and 0-11



377 Plantation Street Worcester, Massachusetts 01605

Dear Stockholder:

You are cordially invited to the Annual Meeting of Stockholders (the "Annual Meeting") of Mustang Bio, Inc. ("Mustang" or the "Company"), to be held virtually at 1:00 p.m. Eastern Time, on Wednesday, June 21, 2023. The Annual Meeting can be accessed by visiting www.virtualshareholdermeeting.com/MBIO2023, where you will be able to listen to the meeting live, submit questions and vote online. At the Annual Meeting, the stockholders will be asked to (i) elect six directors for a term of one year, (ii) ratify the appointment of KPMG LLP as our independent registered public accounting firm for the year ending December 31, 2023, (iii) approve the compensation of our named executive officers, in an advisory vote, (iv) approve the frequency with which we will hold an advisory vote on the compensation of our named executive officers, in an advisory vote, (v) vote on an amendment to the Company's 2019 Employee Stock Purchase Plan to increase the number of shares subject to a Purchase Right thereunder to 5,000 and (vi) transact any other business that may properly come before the Annual Meeting or any adjournment of the Annual Meeting. You will also have the opportunity to ask questions at the meeting.

In accordance with the rules and regulations of the Securities and Exchange Commission, we are furnishing our proxy statement and annual report to stockholders for the year ended December 31, 2022 on the Internet. You may have already received our "Important Notice Regarding the Availability of Proxy Materials," which was mailed on or about April 28, 2023. That notice described how you can obtain our proxy statement and annual report. You can also receive paper copies of our proxy statement and annual report upon request.

It is important that your stock be represented at the Annual Meeting regardless of the number of shares you hold. You are encouraged to specify your voting preferences by marking our proxy card and returning it as directed. If you do attend the Annual Meeting virtually and wish to vote at the meeting, you may revoke your proxy at the meeting.

If you have any questions about the proxy statement or the accompanying 2022 Annual Report, please contact Matthew Wein, our General Counsel and Corporate Secretary at info@mustangbio.com.

We look forward to seeing you at the Annual Meeting.

Sincerely,

/s/ Manuel Litchman, M.D. Manuel Litchman, M.D. President and Chief Executive Officer

April 28, 2023 Worcester, Massachusetts



MUSTANG BIO, INC. 377 Plantation Street Worcester, Massachusetts 01605

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

The Annual Meeting of Stockholders of Mustang Bio, Inc. will be held virtually on June 21, 2023, at 1:00 p.m., Eastern Time. At the Annual Meeting, stockholders will consider and act on the following items:

- 1. The election of six directors for a term of one year;
- The ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the year ending December 31, 2023;
- 3. An advisory vote to approve the compensation of our named executive officers in this proxy statement;
- An advisory vote to approve the frequency with which we will hold an advisory vote on the compensation of our named executive officers;
- 5. An amendment to the Company's 2019 Employee Stock Purchase Plan to increase the number of shares issuable by 400,000 shares and increase the number of shares subject to a Purchase Right thereunder to 5,000; and
- 6. The transaction of any other business that may properly come before the Annual Meeting or any adjournment of the Annual Meeting.

Only those stockholders of record as of the close of business on April 25, 2023, are entitled to vote at the Annual Meeting or any postponements or adjournments thereof. A complete list of stockholders entitled to vote at the Annual Meeting will be available for your inspection 10 days preceding our Annual Meeting, at our offices located at 377 Plantation Street, Worcester, Massachusetts 01605, between the hours of 10:00 a.m. and 5:00 p.m., ET, each business day, or if we determine that a physical in-person inspection is not practicable, such list of stockholders may be made available electronically, upon request. You or your proxyholder may participate, vote, and examine our stockholder list at the Annual Meeting by visiting www.virtualshareholdermeeting.com/MBIO2023 and using your 16-digit control number.

Please note the technical requirements for virtual attendance at the Annual Meeting, as described in the enclosed Proxy Statement under the heading "Questions and Answers."

Pursuant to rules promulgated by the Securities and Exchange Commission, we are providing access to our proxy materials over the internet. On or about April 28, 2023, we will mail a Notice of Internet Availability of Proxy Materials (the "Internet Notice") to each of our stockholders of record and beneficial owners at the close of business on the record date. On the date of mailing the Internet Notice, all stockholders will have the ability to access all the proxy material on a website referred to in the Internet Notice. These proxy materials will be available free of charge.

YOUR VOTE IS IMPORTANT!

Instructions on how to vote your shares via the internet are contained on the "Important Notice Regarding the Availability of Proxy Materials," which was mailed on or about April 28, 2023. Instructions on how to obtain a paper copy of our proxy

statement and annual report to stockholders for the year ended December 31, 2022, are listed on the "Important Notice Regarding the Availability of Proxy Materials." These materials can also be viewed online by following the instructions listed on the "Important Notice Regarding the Availability of Proxy Materials."

If you choose to receive a paper copy of our proxy statement and annual report, you may vote your shares by completing and returning the proxy card that will be enclosed.

Submitting your proxy does not affect your right to vote virtually if you decide to virtually attend the Annual Meeting. You are urged to submit your proxy as soon as possible, regardless of whether or not you expect to virtually attend the Annual Meeting. You may revoke your proxy at any time before it is voted at the Annual Meeting by (i) delivering written notice to our General Counsel and Corporate Secretary, Matthew Wein, at our address above, (ii) submitting a later dated proxy card, (iii) voting again via the internet as described in the "Important Notice Regarding the Availability of Proxy Materials" or (iv) attending the Annual Meeting and voting virtually. No revocation under (i) or (ii) will be effective unless written notice or the proxy card is received by our General Counsel and Corporate Secretary at or before the Annual Meeting.

When you submit your proxy, you authorize Manuel Litchman, M.D. or his designee to vote your shares at the Annual Meeting and on any adjournments of the Annual Meeting in accordance with your instructions.

By Order of the Board of Directors,

/s/ Matthew Wein Matthew Wein General Counsel and Corporate Secretary

April 28, 2023 Worcester, Massachusetts

MUSTANG BIO, INC. 377 Plantation Street Worcester, Massachusetts 01605 Phone: 718-652-4500

PROXY STATEMENT

This proxy statement is being made available via internet access, beginning on or about April 28, 2023, to the owners of shares of common stock of Mustang Bio, Inc. (the "Company," "our," "we," or "Mustang") as of April 25, 2023, in connection with the solicitation of proxies by our Board of Directors for our 2023 Annual Meeting of Stockholders (the "Annual Meeting"). On or about April 28, 2023, we sent an "Important Notice Regarding the Availability of Proxy Materials" to our stockholders. If you received this notice by mail, you will not automatically receive by mail our proxy statement and annual report to stockholders for the year ended December 31, 2022. If you would like to receive a printed copy of our proxy statement, annual report and proxy card, please follow the instructions for requesting such materials in the notice. Upon request, we will promptly mail your paper copies of such materials free of charge.

The Annual Meeting will occur virtually on June 21, 2023, at 1:00 p.m., Eastern Time. Our Board of Directors encourages you to read this document thoroughly and take this opportunity to vote, via proxy, on the matters to be decided at the Annual Meeting. As discussed below, you may revoke your proxy at any time before your shares are voted at the Annual Meeting.

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Article I. QUESTIONS AND ANSWERS

- Q: Why did I receive an "Important Notice Regarding the Availability of Proxy Materials"?
- A. In accordance with Securities and Exchange Commission ("SEC") rules, instead of mailing a printed copy of our proxy materials, we may send an "Important Notice Regarding the Availability of Proxy Materials" to stockholders. All stockholders will have the ability to access the proxy materials on a website referred to in the notice or to request a printed set of these materials at no charge. You will not receive a printed copy of the proxy materials unless you specifically request one from us. Instead, the notice instructs you as to how you may access and review all of the important information contained in the proxy materials via the internet and submit your vote via the internet.

Q: When is the Annual Meeting?

- A. The Annual Meeting will be held at 1:00 p.m., Eastern Time, on June 21, 2023.
- Q: Where will the Annual Meeting be held?
- A. The Annual Meeting will be held virtually by means of a live webcast, as further described herein, which can be accessed at www.virtualshareholdermeeting.com/MBIO2023 when you enter your 16-digit control number included with the Notice of Internet Availability or proxy card.
- Q: What is the purpose of the Annual Meeting?
- A. At the Annual Meeting, our stockholders will act upon the matters outlined in the Notice of Annual Meeting of Stockholders accompanying this proxy statement, including (i) the election of six directors for a term of one year, (ii) the ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the year ending December 31,2023, (iii) an advisory vote to approve the compensation of our named executive officers, (iv) an advisory vote to approve the frequency with which we will hold an advisory vote on the compensation of our named executive officers, (v) the approval of an amendment to the Mustang Bio, Inc. 2019 Employee Stock Purchase Plan (the "ESPP") to increase the number of shares issuable by 400,000 shares and increase the number of shares subject to a Purchase Right thereunder to 5,000, and (vi) the transaction of any other business that may properly come before the Annual Meeting or any adjournment thereof.

Q. Who is entitled to vote at our Annual Meeting?

A. Only stockholders of record at the close of business on, April 25, 2023, which we refer to as the Record Date, are entitled to receive notice of the Annual Meeting and to vote the shares that they held on that date at the Annual Meeting, or any adjournment or postponement thereof. As of the close of business on the Record Date, we had 7,307,960 shares of common stock outstanding, 845,385 shares of Class A common stock outstanding, and 250,000 shares of Class A Preferred Stock outstanding. Each share of common stock entitles its holder to one vote at the Annual Meeting, each share of Class A common stock entitles its holder to one-fifteenth of one vote, and each share of Class A Preferred Stock entitled its holder to the number of votes that is equal to one and one-tenth times a fraction, the numerator of which is the sum of (A) the shares of outstanding common stock and (B) the whole shares of common stock into which the shares of outstanding Class A common stock and the Class A Preferred Stock are convertible and the denominator of which is the number of shares of outstanding Class A Preferred Stock. Our Amended and Restated Certificate of Incorporation, as amended (the "Certificate") provides that the holders of the Class A common stock are entitled to the number of votes equal to the number of whole shares of common stock into which the shares of Class A common stock held by such holder are convertible as of the Record Date. On April 3, 2023 we effected a reverse stock of our common stock. As a result, in accordance with the applicable provisions of the Certificate, each share of Class A common stock is entitled to one-fifteenth of one vote. A list of stockholders entitled to vote at the Annual Meeting may be examined at our offices located at 377 Plantation Street, Worcester, Massachusetts 01605, between the hours of 10:00 a.m. and 5:00 p.m., Eastern Time, each business day during the 10 days preceding the Annual Meeting, however, if we determine that a physical in-person inspection is not practicable, such list of stockholders may be made available electronically, upon request. In addition, you may examine our stockholder list



during the Annual Meeting by visiting www.virtualshareholdermeeting.com/MBIO2023 and using your 16-digit control number.

- Stockholders of Record: Shares Registered in Your Name. If on the Record Date your shares were registered directly in your name with our transfer agent, VStock Transfer LLC, then you are a stockholder of record. As a stockholder of record, you may vote virtually at the Annual Meeting or vote by proxy. Whether or not you plan to participate live during the Annual Meeting, we urge you to fill out and return the enclosed proxy card, to ensure your vote is counted.
- Beneficial Owner: Shares Registered in the Name of a Broker, Bank, Custodian or Other Nominee. If on the Record Date your shares were held in an account at a brokerage firm, bank, custodian or other nominee, then you are the beneficial owner of shares held in "street name" and these proxy materials are being forwarded to you by that organization. The organization holding your account is considered 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, custodian or other nominee on how to vote the shares in your account. You are also invited to attend the Annual Meeting. However, because you are not the stockholder of record, you may not vote your shares virtually at the Annual Meeting unless you request and obtain a valid proxy from your broker, bank, custodian or other nominee.
- Q: How many votes do I have?
- A. On each matter to be voted upon, each holder of common stock has one vote for each share of common stock owned as of the Record Date; each holder of Class A common stock has one-fifteenth of one for each share of Class A common stock owned as of the Record Date; and each holder of Class A Preferred Stock has the number of votes that is equal to one and one-tenth times a fraction, the numerator of which is the sum of (A) the shares of outstanding common stock and (B) the whole shares of common stock into which the shares of outstanding Class A Preferred Stock, for each share of Class A Preferred Stock owned as of the Record Date.
- Q: How do I vote?
- A. You may vote during the Annual Meeting by following the instructions posted at www.proxyvote.com and entering your 16-digit control number included with the Notice of Internet Availability or proxy card, by use of a proxy card if you receive a printed copy of our proxy materials, via internet as directed in our "Important Notice Regarding the Availability of Proxy Materials," or by telephone as indicated in the proxy card.

Whether you hold shares directly as the stockholder of record or indirectly as the beneficial owner of shares held for you by a broker or other nominee (i.e., in "street name"), you may direct your vote without attending the Annual Meeting. You may vote by granting a proxy or, for shares you hold in street name, by submitting voting instructions to your broker or nominee. In most instances, you will be able to do this by internet, telephone or by mail. Please refer to the summary instructions below and those included on your proxy card or, for shares you hold in street name, the voting instruction card provided by your broker or nominee.

- By Internet If you have internet access, you may authorize your proxy from any location in the world as directed in our "Important Notice Regarding the Availability of Proxy Materials."
- By Telephone If you are calling from the United States or Canada, you may authorize your proxy by following the "By Telephone" instructions on the proxy card or, if applicable, the telephone voting instructions that may be described on the voting instruction card sent to you by your broker or nominee.
- By Mail You may authorize your proxy by signing your proxy card and mailing it in the enclosed, postage-prepaid and addressed envelope. For shares you hold in street name, you may sign the voting instruction card included by your broker or nominee and mail it in the envelope provided.



Q: What if I have technical difficulties or trouble accessing the virtual Annual Meeting?

A. We will have technicians ready to assist you with any technical difficulties you may have accessing the virtual Annual Meeting. If you encounter any difficulties accessing the virtual Annual Meeting during the check-in or meeting time, please call the technical support number located on the meeting page.

B. Q: What is a proxy?

A. A proxy is a person you appoint to vote your shares on your behalf. If you are unable to attend the Annual Meeting, our Board of Directors is seeking your appointment of a proxy so that your shares may be voted. If you vote by proxy, you will be designating Manuel Litchman, M.D., our President and Chief Executive Officer as your proxy. In such event, Dr. Litchman may act on your behalf and has the authority to appoint a substitute to act as your proxy.

Q: How will my shares be voted if I vote by proxy?

- A. Your proxy will be voted according to the instructions you provide. If you complete and submit your proxy but do not otherwise provide instructions on how to vote your shares, your shares will be voted (i) "FOR" the individuals nominated to serve as members of our Board of Directors, (ii) "FOR" the ratification of KPMG LLP as our independent registered public accounting firm for the year ending December 31, 2023, (iii) "FOR" the approval the compensation of our named executive officers, in an advisory vote, (iv) "three years" as the frequency with which we will hold an advisory vote on the compensation of our named executive officers, in an advisory vote, (v) "FOR" the amendment to the ESPP to increase the number of shares issuable by 400,000 shares and increase the number of shares subject to a Purchase Right thereunder to 5,000. Presently, our Board does not know of any other matter that may come before the Annual Meeting. However, your proxies are authorized to vote on your behalf, using their discretion, on any other business that properly comes before the Annual Meeting
- Q: Can I change my vote after I return my proxy card?
- A. Yes. You may revoke your proxy at any time before the final vote at the Annual Meeting by:

If you are the record holder of your shares, you may revoke your proxy in any one of three ways:

- You may send a written notice that you are revoking your proxy to our General Counsel and Corporate Secretary, Matthew Wein, at our address above (so long as we receive such notice no later than the close of business on the day before the Annual Meeting);
- You may submit a later dated proxy card or voting again via the internet as described in the "Important Notice Regarding the Availability of Proxy Materials;" or
- You may attend the virtual Annual Meeting and notify the election officials at the Annual Meeting that you wish to revoke your proxy and vote live during the Annual Meeting by following the instructions posted at www.virtualshareholdermeeting.com/MBIO2023. Simply attending the Annual Meeting will not, by itself, revoke your proxy.

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

- Q: Is my vote confidential?
- A. Yes. All votes remain confidential.

Q: How are votes counted?

- A. Before the Annual Meeting, our Board of Directors will appoint one or more inspectors of election for the meeting. The inspector(s) will determine the number of shares represented at the meeting, the existence of a quorum and the validity and effect of proxies. The inspector(s) will also receive, count, and tabulate ballots and votes and determine the results of the voting on each matter that comes before the Annual Meeting.
- Q: What is the effect of abstentions or broker nonvotes?
- A. Abstentions and votes withheld, and shares represented by proxies reflecting abstentions or votes withheld, will be treated as present for purposes of determining the existence of a quorum at the Annual Meeting. They will not be considered as votes "for" or "against" any matter for which the stockholder has indicated their intention to abstain or withhold their vote. Broker non-votes occur when shares are held indirectly through a broker, bank or other nominee or intermediary on behalf of a beneficial owner (referred to as held in "street name") and the broker submits a proxy, but does not cast a vote on a matter because the broker has not received voting instructions from the beneficial owner, and (i) the broker does not have discretionary voting authority on the matter or (ii) the broker chooses not to vote on a matter for which it has discretionary authority. Pursuant to the New York Stock Exchange ("NYSE"), which governs brokers' use of discretionary authority, brokers are permitted to exercise discretionary voting authority only on "routine" matters when voting instructions have not been timely received from a beneficial owner.

Only the ratification of the selection of KPMG LLP as our independent registered public accounting firm for the year ending December 31, 2023, is considered a "routine" matter for which brokers, banks or other nominees may vote uninstructed shares. The other proposals to be voted on at the meeting are not considered "routine" under NYSE rules, so your broker, bank or other nominee cannot vote your shares on any of these other proposals unless you provide to your broker, bank or other nominee voting instructions for each of these matters. If you do not provide voting instruction son a non-routine matter, your shares will not be voted on that matter, which is a "broker non-vote."

Q: What constitutes a quorum at the Annual Meeting?

In accordance with Delaware law (the law under which we are incorporated) and our Bylaws, holders of a majority of the outstanding voting power of the Company, calculated in accordance with our Certificate of Incorporation, as amended, present in person or represented by proxy, constitute a quorum, thereby permitting the stockholders to conduct business at the Annual Meeting. Abstentions, votes withheld, and broker non-votes will be included in the calculation of the number of shares considered present at the Annual Meeting for purposes of determining the existence of a quorum.

If a quorum is not present at the Annual Meeting, a majority of the stockholders present virtually and represented by proxy may adjourn the meeting to another date. If an adjournment is for more than 30 days or a new record date is fixed for the adjourned meeting by our Board, we will provide notice of the adjourned meeting to each stockholder of record entitled to vote at the adjourned meeting. At any adjourned meeting at which a quorum is present, any business may be transacted that might have been transacted at the originally called meeting.

Q: What vote is required to elect our directors for a one-year term?

The affirmative vote of a plurality of the votes of the shares present or represented by proxy at the Annual Meeting is required for the election of each of the nominees for director. "Plurality" means that the six nominees receiving the largest number of votes will be duly elected as directors. Abstentions, votes withheld, and broker or nominee non-votes will not affect the outcome of director elections.

Q: What vote is required to ratify KPMG LLP as our independent registered public accounting firm for the year ending December 31, 2023?

A. The affirmative vote of a majority of the shares present or represented by proxy and entitled to vote at the Annual Meeting is required to approve the ratification of KPMG LLP as our independent registered public accounting firm



for the year ending December 31, 2023. Abstentions will have the same effect as a negative vote. Because the ratification of KPMG LLP as our independent registered public accounting firm for the year ending December 31, 2023, is a "routine" proposal where brokers have discretionary authority to vote in the absence of instruction, we do not expect any broker non-votes.

Q: What vote is required to approve the approval of the compensation of our named executive officers?

A: The affirmative vote of a majority of the shares present or represented by proxy and entitled to vote at the Annual Meeting is required to approve the compensation of our named executive officers, in an advisory vote. Abstentions will have the same effect as a negative vote. However, broker non-votes will not have the effect of a vote against this proposal as they are not considered to be present and entitled to vote on this matter.

Q: What vote is required to approve the frequency with which we will hold an advisory vote on the compensation of our named executive officers?

A: The affirmative vote of a majority of the shares present or represented by proxy and entitled to vote at the Annual Meeting is required to approve the frequency of an advisory vote on the compensation of our named executive officers, in an advisory vote. In the event that none of the options of every one year, every two years or every three years for the frequency of the vote on the compensation of our named executive officers receives the required vote for approval, the frequency that receives the highest number of votes will be considered by our board of directors to be the stockholders' preference, as expressed on an advisory basis. Abstentions and broker non-votes will not be counted as votes for or against this proposal and will have no effect on the outcome of the vote.

Q: What vote is required to approve an amendment to the ESPP to increase the number of shares issuable by 400,000 shares and increase the number of shares subject to a Purchase Right thereunder to 5,000?

A: The affirmative vote of the majority of shares present or represented by proxy and entitled to vote at the Annual Meeting is required to approve the amendment to the ESPP to increase the number of shares issuable by 400,000 shares and increase the number of shares subject to a Purchase Right thereunder to 5,000. Abstentions will have the same effect as a negative vote. Abstentions will have the same effect as a negative vote. Abstentions will have the same effect of a vote against this proposal as they are not considered to be present and entitled to vote on this matter.

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

A. We will announce preliminary voting results at the Annual Meeting. We will also disclose voting results on a Form 8-K filed with the SEC, within four business days after the Annual Meeting.

Q: What percentage of our outstanding common stock do our directors and executive officers own?

A. As of March 31, 2023, our directors and executive officers owned, or have the right to acquire, approximately 2.0% of our outstanding common stock. See the discussion under the heading "Stock Ownership of Our Directors, Executive Officers, and 5% Beneficial Owners" on page 27 for more details.

Q: Who was our independent public accountant for the year ending December 31, 2022? Will they be represented at the Annual Meeting?

- A. KPMG LLP was the independent registered public accounting firm that audited our financial statements for the year ended December 31, 2022. We expect a representative of KPMG LLP to be present at the Annual Meeting.
- Q: Who is paying for this proxy solicitation?
- A. We will pay the entire cost of preparing, assembling, printing, mailing, and distributing these proxy materials and soliciting votes. If you choose to vote over the internet, you are responsible for internet access charges you may incur. If you choose to vote by telephone, you are responsible for telephone charges you may incur. In addition to the mailing

of these proxy materials, the solicitation of proxies or votes may be made in person, by telephone or by electronic communication by our directors, officers and employees, who will not receive any additional compensation for such solicitation activities. Proxies also may be solicited by employees and our directors by mail, telephone, facsimile, e-mail or in person.

Q: *How can I obtain a copy of our annual report on Form 10-K*?

A. We have filed our annual report on Form 10-K for the year ended December 31, 2022, with the SEC. The annual report on Form 10-K is also included in the 2022 Annual Report to Stockholders. You may obtain, free of charge, a copy of our annual report on Form 10-K, including financial statements, by writing to our General Counsel and Corporate Secretary, Matthew Wein, or by email at info@Mustangbio.com. Upon request, we will also furnish any exhibits to the annual report on Form 10-K as filed with the SEC.

CORPORATE GOVERNANCE

Our Board of Directors

Our Bylaws provide that our Board shall consist of between one and nine directors, and such number of directors within this range may be determined from time to time by resolution of our board of directors or our stockholders. Currently, we have six directors. The following individuals are being nominated to serve on our Board (See "Proposal 1 — Election of Directors; Nominees"):

Name	Age	Position	Director Since
Michael S. Weiss	57	Chairman of the Board of Directors and	2015
		Executive Chairman	
Lindsay A. Rosenwald, M.D.	68	Director	2015
Neil Herskowitz	66	Director	2015
Manuel Litchman, M.D.	69	President and Chief Executive Officer, and	2017
		Director	
Adam J. Chill	55	Director	2017
Michael J. Zelefsky, M.D.	62	Director	2017

The Board does not have a formal policy regarding the separation of the roles of Chief Executive Officer and Chairman of the Board, as the Board believes that it is in the best interests of the Company to make that determination based on the direction of the Company and the current membership of the Board. The Board has determined that having a director who is also the chief executive officer serve as the Chairman is not in the best interest of the Company's stockholders at this time.

Mustang has a risk management program overseen by Manuel Litchman, M.D., our President and Chief Executive Officer. Dr. Litchman and management identify material risks and prioritize them for our Board. Our Board regularly reviews information regarding our credit, liquidity, operations, and compliance as well as the risks associated with each.

The following biographies set forth the names of our directors and director nominees, their ages, the year in which they first became directors, their positions with us, their principal occupations and employers for at least the past five years, any other directorships held by them during the past five years in companies that are subject to the reporting requirements of the Securities Exchange Act of 1934 (the "Exchange Act"), or any company registered as an investment company under the Investment Company Act of 1940, as well as additional information, all of which we believe sets forth each director nominee's qualifications to serve on the Board. There is no family relationship between and among any of our executive officers or directors. On April 7, 2017, we entered into an Executive Employment Agreement with Dr. Litchman, pursuant to which, among other things, the Company agreed to use its best efforts to cause Dr. Litchman to be nominated and reelected to the Board. Except as described herein, there are no arrangements or understandings between any of our executive officers or directors and any other person pursuant to which any of them are elected as an officer or director.

Mustang adheres to the corporate governance standards adopted by The Nasdaq Stock Market LLC ("Nasdaq"). Nasdaq rules require our Board to make an affirmative determination as to the independence of each director. Consistent with these rules, our Board completed its annual review of director independence on March 28, 2023. During the review, our Board considered relationships and transactions during 2022 between each director or any member of his immediate family, on the one hand, and the Company and our subsidiaries and affiliates, on the other hand. The purpose of this review was to determine whether any such relationships or transactions were inconsistent with a determination that the director is independent. Based on this review, our Board determined that Adam Chill, Neil Herskowitz, and Michael Zelefsky, M.D. are independent under the criteria established by Nasdaq and our Board.

Fortress Biotech, Inc. ("Fortress") beneficially owns capital stock representing more than 50% of the voting power of our outstanding voting stock eligible to vote in the election of directors. As a result, we qualify as a "controlled company" and avail ourselves of certain "controlled company" exemptions under the Nasdaq corporate governance rules. As a controlled company, we are not required to have a majority of "independent directors" on our Board as

defined under the Nasdaq rules, or have a compensation, nominating or governance committee composed entirely of independent directors. Despite qualifying as a controlled company, we have a separately constituted Compensation Committee consisting entirely of independent directors.

Current Directors/Nominees

Michael S. Weiss - Chairman of the Board of Directors and Executive Chairman

Mr. Weiss has served as Chairman of our Board of Directors since May 2015 and has also served as our Executive Chairman since January 2017. He previously served as our interim President & Chief Executive Officer from March 2015 to April 2017. He is also the Executive Vice Chairman, Strategic Development of Fortress Biotech, Inc., a position he has held since February 2014, and the Chairman of the Board of Directors of Checkpoint Therapeutics, Inc., where he previously served as interim President & Chief Executive Officer from March 2015 to December 2016. Mr. Weiss was also a board member of Avenue Therapeutics, Inc. from March 2015 to February 2018 and the Chairman of the Board of National Holdings Corporation from September 2016 to June 2018. Since December 2011, Mr. Weiss has served in multiple capacities at TG Therapeutics, Inc., and is currently its Executive Chairman, Chief Executive Officer and President. Mr. Weiss earned his J.D. from Columbia Law School and his B.S. in Finance from The University at Albany. He began his professional career as a lawyer with Cravath, Swaine & Moore LLP. In 1999, Mr. Weiss founded Access Oncology which was later acquired by Keryx Biotechnology and pharmaceutical industry experience, as well as his extensive management experience, the Board of Directors believes that Mr. Weiss has the appropriate set of skills to serve as a member of the Board in light of the Company's business and structure.

Effective January 1, 2017, the Board of Directors of the Company approved and authorized the execution of a Board Advisory Agreement with Caribe BioAdvisors, LLC (the "Advisor"), which is owned by Michael S. Weiss, to provide the Board with the advisory services of Mr. Weiss as Chairman of the Board of Directors and Executive Chairman. Pursuant to the Advisory Agreement, the Advisor will be paid an annual cash fee of \$60,000, in addition to any and all annual equity incentive grants paid to members of the Board.

Lindsay A. Rosenwald, M.D.

Dr. Rosenwald has served as a member of our Board of Directors since inception. Dr. Rosenwald has been a member of the Board of Directors of Fortress Biotech, Inc. since October 2009 and has served as its Chairman, President and Chief Executive Officer since December 2013. From November 2014 to August 2015, Dr. Rosenwald served as Interim President and CEO of Checkpoint Therapeutics, Inc. and remains on that company's board of directors. He also serves on the board of directors of Avenue Therapeutics, Inc. Prior to that, from 1991 to 2008, he served as the Chairman of Paramount BioCapital, Inc. Over the last 25 years, Dr. Rosenwald has acted as a biotechnology entrepreneur and has been involved in the founding and recapitalization of numerous public and private biotechnology and life sciences companies. Dr. Rosenwald received his B.S. in finance from Pennsylvania State University and his M.D. from Temple University School of Medicine. The Board believes that Dr. Rosenwald's extensive biotechnology, pharmaceutical and finance expertise, as well as his medical background and in-depth understanding of the Company's businesses, make him an exemplary candidate to continue serving on the Company's board.

Neil Herskowitz

Mr. Herskowitz has served as a member of our Board of Directors since August 2015. Mr. Herskowitz has served as the managing member of the ReGen Group of companies, located in New York, since 1998, which include ReGen Capital Investments LLC and Riverside Claims Investments LLC. He has also served as the President of its affiliate, Riverside Claims LLC, since June 2004. Mr. Herskowitz serves as a member of the board of directors for two of our affiliates, Checkpoint Therapeutics, Inc. and Avenue Therapeutics, Inc. Mr. Herskowitz received a B.B.A. in Finance from Bernard M. Baruch College in 1978. Based on Mr. Herskowitz's financial industry experience and indepth understanding of our business, the Board of Directors believes that Mr. Herskowitz has the appropriate set of skills to serve as a member of the Board.



Manuel Litchman, M.D. - President and Chief Executive Officer

Dr. Litchman has served as our President and Chief Executive Officer, and as a member of our Board of Directors, since April 2017. Dr. Litchman joined Mustang from Arvinas, LLC, where he served as President and Chief Executive Officer. While at Arvinas, Dr. Litchman oversaw the advancement of the company's pipeline of protein-degradation therapeutics for the treatment of cancers and other diseases toward Investigational New Drug applications, and secured multi-target discovery collaborations with Merck and Genentech. Prior to Arvinas, Dr. Litchman spent more than 18 years with Novartis Pharmaceuticals Corporation, where he held positions of increasing responsibility related to the development of Novartis' oncology pipeline. Most recently, Dr. Litchman served as Senior Vice President and Executive Global Program Head, CTL019, Cell & Gene Therapies Unit, where he led a collaboration with the University of Pennsylvania investigating chimeric antigen receptor modified T cells (CAR Ts) directed against CD19 on B cell malignancies. Prior to the CTL019 collaboration, Dr. Litchman served as Novartis' Vice President and Head, Oncology Business Development & Licensing. Earlier in his career, Dr. Litchman received his M.D. from Yale University School of Medicine, and his B.A. from Princeton University. He completed his internal medicine residency and hematology-oncology fellowship at New York-Presbyterian/Weill Cornell Medical Center. Based on Dr. Litchman's biotechnology and pharmaceutical industry experience and in-depth understanding of our business, the Board of Directors believes that Dr. Litchman has the appropriate set of skills to serve as a member of the Board.

Adam J. Chill

Mr. Chill has served as a member of our Board of Directors since June 2017. Mr. Chill is the President of and a Portfolio Manager at Kingsbrook Partners LP, an alternative asset management firm he co-founded in March 2009. From February 2001 to March 2009, Mr. Chill was a Portfolio Manager and Managing Director at Highbridge Capital Management, LLC, an alternative asset management firm owned by J.P. Morgan Asset Management. At Highbridge, Mr. Chill was responsible for structuring, negotiating and monitoring Highbridge's portfolio of structured investments in public and private companies worldwide. From April 2000 to February 2001, Mr. Chill worked at Angelo, Gordon & Co., an alternative asset management firm. From October 1992 to April 2000, Mr. Chill was a corporate attorney specializing in securities and mergers and acquisitions at Stroock & Lavan LLP. Mr. Chill is a co-founder of the Bayit School of Law, where he was a Harlan Fiske Stone Scholar. Based on Mr. Chill's extensive investment experience and knowledge of the biotechnology industry, the Board of Directors believes that Mr. Chill has the appropriate set of skills to serve as a member of the Board.

Michael J. Zelefsky, M.D.

Dr. Zelefsky has served as a member of our Board of Directors since June 2017. Dr. Zelefsky has served as a Member at Memorial Sloan-Kettering Cancer Center Department of Radiation Oncology since 2005. He has served as Chief of Memorial Sloan-Kettering's Brachytherapy Service since 2000, and has been a Professor of Radiation Oncology at Weill Cornell Medical College, Cornell University since 1994. He is a recognized expert in radiation therapy and has helped develop and enhance Memorial Sloan-Kettering's prostate brachytherapy program during his tenure. Dr. Zelefsky received a Bachelor of Arts in Biology (summa cum laude) from Yeshiva University in 1982 and a Medical Doctor degree from Albert Einstein College of Medicine in 1986. Dr. Zelefsky is currently Editor-in-Chief of *Brachytherapy* and has previously served as president of the American Brachytherapy Society. Based on Dr. Zelefsky's extensive experience and background in oncology, the Board of Directors believes that Dr. Zelefsky has the appropriate set of skills to serve as a member of the Board.

During 2022, our Board held four meetings. During 2022, each incumbent director who served their full term and are standing for election attended at least 75% of the meetings of the Board of Directors and the meetings of those committees on which each incumbent director served, in each case during the period that such person was a director. The permanent committees established by our Board of Directors are the Audit Committee and the Compensation Committee, descriptions of which are set forth in more detail below. Our directors are expected to attend each Annual Meeting of Stockholders, and it is our expectation that all of the directors standing for election will attend this year's Annual Meeting. Last year, all of our directors attended the 2022 Annual Meeting of Stockholders.

Communicating with the Board of Directors

Our Board has established a process by which stockholders can send communications to the Board. You may communicate with the Board as a group, or to specific directors, by writing to Matthew Wein, our General Counsel and Corporate Secretary, at our offices located at 377 Plantation Street, Worcester, Massachusetts 01605. The Corporate Secretary will review all such correspondence and regularly forward to our Board a summary of all correspondence and copies of all correspondence that, in the opinion of the Corporate Secretary, deals with the functions of the Board that he otherwise determines requires their attention. Directors may at any time review a log of all correspondence we receive that is addressed to members of our Board and request copies of any such correspondence. Concerns relating to accounting, internal controls, or auditing matters may be communicated in this manner, or may be submitted on an anonymous basis via e-mail at *info@mustangbio.com*. These concerns will be immediately brought to the attention of our Audit Committee and handled in accordance with procedures established by our Audit Committee.

Board Selection and Diversity

On August 6, 2021, the SEC approved amendments to the Listing Rules of NASDAQ related to board diversity. Listing Rule 5605(f) (the "Diverse Board Representation Rule") requires each NASDAQ-listed company, subject to certain exceptions, (1) to have at least one director who self-identifies as female, and (2) to have at least one director who self-identifies as Black or African American, Hispanic or Latinx, Asian, Native American or Alaska Native, Native Hawaiian or Pacific Islander, two or more races or ethnicities, or as LGBTQ+, or (3) to explain why the company does not have at least two directors on its board who self- identify in the categories listed above. In addition, new Listing Rule 5606 (the "Board Diversity Disclosure Rule") requires each NASDAQ-listed company, subject to certain exceptions, to provide statistical information about the company's current board of directors, in a uniform format, related to each director's self-identified gender, race, and self-identification as LGBTQ+. Although we are not required to fully comply with the Diverse Board Representation Rule until December 31, 2025, we believe we will meet the requirements of that rule by the applicable compliance date.

The table below provides certain highlights of the composition of our Board members. Each of the categories listed in the table below has the meaning as it is used in Nasdaq Rule 5605(f).

Board Diversity Matrix (As of March 28, 2023)										
Board Size:										
Total Number of Directors: 6										
	Female	Male	Non-Binary	Did not Disclose Gender						
Gender:										
Directors	0	5	0	1						
Demographic Background			·							
African American or Black	0	0	0	0						
Alaskan Native or Native American	0	0	0	0						
Asian (other than South Asian)	0	0	0	0						
South Asian	0	0	0	0						
Hispanic or Latinx	0	0	0	0						
Native Hawaiian or Pacific Islander	0	0	0	0						
White	0	5	0	0						
Two or More Races or Ethnicities	0	0	0	0						
LGBTQ+	LGBTQ+ 0									
Persons with Disabilities			0							
Did Not Disclose Demographic Background			1							

Audit Committee

The Audit Committee currently consists of Adam J. Chill, Neil Herskowitz, and Michael J. Zelefsky, M.D. Mr. Chill chairs the Audit Committee.

The Audit Committee held four meetings during the fiscal year ended December 31, 2022. The duties and responsibilities of the Audit Committee are set forth in the Charter of the Audit Committee which was recently reviewed by our Audit Committee. A copy of the Charter of the Audit Committee is available on our website, located at irmustangbio.com. Among other things, the duties and responsibilities of the Audit Committee include reviewing and monitoring our financial statements and internal accounting procedures, the selection of our independent registered public accounting firm and consulting with, reviewing the services provided by our independent registered public accountants and management. Our Audit Committee has sole discretion over the retention, compensation, evaluation and oversight of our independent registered public accounting firm.

The SEC and Nasdaq have established rules and regulations regarding the composition of audit committees and the qualifications of audit committee members. Our Board of Directors has examined the composition of our Audit Committee and the qualifications of our Audit Committee members in light of the current rules and regulations governing audit committees. Based upon this examination, our Board of Directors has determined that each member of our Audit Committee is independent and is otherwise qualified to be a member of our Audit Committee in accordance with the rules of the SEC and Nasdaq.

Additionally, the SEC requires that at least one member of the Audit Committee have a "heightened" level of financial and accounting sophistication. Such a person is known as the "audit committee financial expert" under the SEC's rules. Our Board of Directors has determined that Mr. Chill is an "audit committee financial expert," as the SEC defines that term, and is an independent member of our Board of Directors and our Audit Committee. Please see Mr. Chill's biography under "Corporate Governance - Our Board of Directors" beginning on page 7 for a description of his relevant experience.

The report of the Audit Committee can be found on page 15 of this proxy statement.

Compensation Committee

The Compensation Committee currently consists of Adam J. Chill, Neil Herskowitz and Michael J. Zelefsky, M.D. Mr. Herskowitz chairs the Compensation Committee.

The Compensation Committee held one meeting during the fiscal year ended December 31, 2022. The duties and responsibilities of the Compensation Committee are set forth in the Charter of the Compensation Committee which was recently reviewed by our Compensation Committee. A copy of the Charter of the Compensation Committee is available on our website, located at ir.mustangbio.com. As discussed in its Charter, among other things, the duties and responsibilities of the Compensation Committee include approving any corporate goals and objectives relating to the compensation of our executive officers, evaluating the performance of our executive officers, and administering all of our executive compensation programs, including, but not limited to, our incentive and equity-based plans. The Compensation Committee evaluates the performance of all of our executive officers on an annual basis and reviews and approves on an annual basis all compensation programs and awards relating to such officers. The Compensation Committee applies discretion in the determination of individual executive compensation packages to ensure compliance with the Company's compensation philosophy. Our Chief Executive Officer makes recommendations to the Compensation Committee with respect to the compensation packages for officers other than himself.

Nasdaq has established rules and regulations regarding the composition of compensation committees and the qualifications of compensation committee members. Our Board of Directors has examined the composition of our Compensation Committee and the qualifications of our Compensation Committee members in light of the current rules and regulations governing compensation committees. Based upon this examination, our Board of Directors has determined that each member of our Compensation Committee is independent and is otherwise qualified to be a member of our Compensation Committee in accordance with such rules.



Nominating Process

We do not currently have a nominating committee or any other committee serving a similar function. Although we do not have a written charter in place to select director nominees, our Board of Directors has adopted resolutions regarding the director nomination process. We believe that the current process in place functions effectively to select director nominees who will be valuable members of our Board of Directors.

We identify potential nominees to serve as directors through a variety of business contacts, including current executive officers, directors, community leaders and stockholders. We may, to the extent deemed appropriate by the Board of Directors, retain a professional search firm and other advisors to identify potential nominees.

We will also consider candidates recommended by stockholders for nomination to our Board. A stockholder who wishes to recommend a candidate for nomination to our Board must submit such recommendation to our General Counsel and Corporate Secretary, Matthew Wein, at our offices located at 377 Plantation Street, Worcester, Massachusetts 01605. Any recommendation must be received not less than 50 calendar days nor more than 90 calendar days before the anniversary date of the previous year's annual meeting.

We believe that our Board as a whole should encompass a range of talent, skill, and expertise enabling it to provide sound guidance with respect to our operations and interests. Our independent directors evaluate all candidates to our Board by reviewing their biographical information and qualifications. If the directors determine that a candidate is qualified to serve on our Board, such candidate is interviewed by at least one of the directors and our Chief Executive Officer. Other members of the Board also have an opportunity to interview qualified candidates. The directors then determine, based on the background information and the information obtained in the interviews, whether to recommend to the Board that the candidate be nominated for approval by the stockholders to fill a directorship. With respect to an incumbent director's service during his or her term, including the number of meetings attended, level of participation, and overall contribution to the Board. The manner in which the directors evaluate a potential nominee will not differ based on whether the candidate is recommended by our directors or stockholders.

We consider the following qualifications, among others, when making a determination as to whether a person should be nominated to our Board: the independence of the director nominee; the nominee's character and integrity; financial literacy; level of education and business experience, including experience relating to biopharmaceutical companies; whether the nominee has sufficient time to devote to our Board; and the nominee's commitment to represent the long-term interests of our stockholders. We review candidates in the context of the current composition of the Board and the evolving needs of our business. We believe that each of the current members of our Board (who are also our director nominees) has the requisite business, biopharmaceutical, financial or managerial experience to serve as a member of the Board, as described above in their biographies under the heading "Corporate Governance – Current Directors/Nominees." We also believe that each of the current members of our Board has other key attributes that are important to an effective board, including integrity, high ethical standards, sound judgment, analytical skills, and the commitment to devote significant time and energy to service on the Board and its committees.

We do not have a formal policy in place with regard to diversity in considering candidates for our Board, but the Board strives to nominate candidates with a variety of complementary skills so that, as a group, the Board will possess the appropriate talent, skills and expertise to oversee our business.

Code of Business Conduct and Ethics

We have adopted a Code of Ethics, or the Code, which applies to all of our directors and employees, including our principal executive officer and principal financial officer. The Code includes guidelines dealing with the ethical handling of conflicts of interest, compliance with federal and state laws, financial reporting, and our proprietary information. The Code also contains procedures for dealing with and reporting violations of the Code. We have posted our Code of Ethics on our website, located at *www.mustangbio.com*.

Policy Prohibiting Hedging and Speculative Trading

Pursuant to our Insider Trading Policy, our officers, directors, and employees are prohibited from engaging in speculative trading, including hedging transactions or short sale transactions with respect to Company securities.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FEES AND OTHER MATTERS

KPMG LLP, the independent registered public accounting firm that audited our financial statements for the year ended December 31, 2022, has served as our independent registered public accounting firm since September 2021. We expect a representative of KPMG LLP to be present at the Annual Meeting. The representative will have an opportunity to make a statement and will be available to answer your questions.

As previously reported on the Form 8-K filed on September 24, 2021, the Company dismissed BDO USA, LLP as the Company's independent registered public accounting firm and, on September 28, 2021, appointed KPMG LLP as the Company's independent registered public accounting firm for the fiscal year ended December 31, 2021. The dismissal of BDO USA, LLP and the approval of KPMG were approved by the Audit Committee and the Board of Directors.

BDO did not provide a report on the Company's consolidated financial statements in the last two fiscal years; KPMG provided the consolidated financial statements for the fiscal years ended December 31, 2022 and 2021. During the Company's fiscal year ended December 31, 2020, and through September 20, 2021, the Company did not have any disagreements with BDO on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of BDO, would have caused it to make reference to the subject matter of the disagreements in connection with its reports on the consolidated financial statements for such time periods.

Our Board has asked the stockholders to ratify the selection of KPMG LLP as our independent registered public accounting firm. See "Proposal Two: Ratification of Appointment of KPMG LLP as Our Independent Registered Public Accounting Firm" on page 30 of this proxy statement. The Board has reviewed the fees described below and concluded that the payment of such fees is compatible with maintaining KPMG LLP's independence. All proposed engagements of KPMG LLP, whether for audit services, audit-related services, tax services, or permissible non-audit services, were pre-approved by our Board.

Audit Fees

For the fiscal year ended December 31, 2022 KPMG LLP billed us an aggregate of approximately \$385,000 in fees and professional services rendered in connection with the audit of our annual financial statements included in our Annual Reports on Form 10-K for the 2022 fiscal year, and the review of our financial statements included in our Quarterly Reports on Form 10-Q during that fiscal year.

For the fiscal year ended December 31, 2021 KPMG LLP billed us an aggregate of approximately \$260,000 in fees and professional services rendered in connection with the audit of our annual financial statements included in our Annual Reports on Form 10-K for the 2021 fiscal year and the review of our financial statements included in our third Quarterly Report on Form 10-Q during that fiscal year.

For the fiscal year ended December 31, 2021, BDO USA, LLP billed us an aggregate of approximately \$278,000 in fees for the professional services rendered in connection with the audits of our annual financial statements included in our Annual Reports on Form 10-K for the 2020 fiscal year, the review of our financial statements included in our Quarterly Reports on Form 10-Q for 2020 and 2021 through the quarter ended June 30, 2021, and other services provided in connection with registration statements.

Audit-Related Fees

During the fiscal years ended December 31, 2022 and 2021 we were not billed by KPMG LLP for fees for audit-related services reasonably related to the performance of the audits and review for each of those fiscal years, in addition to the fees described above under the heading "Audit Fees."

During the fiscal year ended December 31, 2021, we were not billed by BDO USA, LLP for any fees for audit-related services reasonably related to the performance of the audits and reviews for that fiscal year, in addition to the fees described above under the heading "Audit Fees."

Tax Fees

During the fiscal years ended December 31, 2022 and 2021, we were not billed by KPMG LLP for fees for professional services rendered for tax compliance, tax advice, and tax planning services.

During the fiscal year ended December 31, 2021, we were not billed by BDO USA, LLP for fees for professional services rendered for tax compliance, tax advice, and tax planning services.

All Other Fees

During the fiscal years ended December 31, 2022 and 2021, we were not billed by KPMG LLP for fees for services, other than those described above, rendered to us for each of those fiscal years.

During the fiscal year ended December 31, 2021, BDO USA, LLP billed us \$25,000 in professional fees associated with workpaper access to our successor auditor for the 2021 fiscal year.

Pre-Approval of Services

Our Audit Committee has established a policy setting forth the procedures under which services provided by our independent registered public accounting firm will be pre-approved by our Audit Committee. The potential services that might be provided by our independent registered public accounting firm fall into two categories:

- Services that are permitted, including the audit of our annual financial statements, the review of our quarterly financial statements, related attestations, benefit plan audits and similar audit reports, financial and other due diligence on acquisitions, and federal, state, and non-US tax services; and
- Services that may be permitted, subject to individual pre-approval, including compliance and internal-control reviews, indirect tax services such as transfer pricing and customs and duties, and forensic auditing.

Services that our independent registered public accounting firm may not legally provide include such services as bookkeeping, certain human resources services, internal audit outsourcing, and investment or investment banking advice.

All proposed engagements of our independent registered public accounting firm, whether for audit services or permissible non-audit services, are pre-approved by our Audit Committee. We jointly prepare a schedule with our independent registered public accounting firm that outlines services which we reasonably expect we will need from our independent registered public accounting firm and categorize them according to the classifications described above. Each service identified is reviewed and approved or rejected by our Audit Committee.

REPORT OF THE AUDIT COMMITTEE

In monitoring the preparation of our financial statements, the Audit Committee met with both management and KPMG LLP, our independent registered public accounting firm for the year ended December 31, 2022, to review and discuss all financial statements prior to their issuance and to discuss any and all significant accounting issues. Management and our independent registered public accounting firm advised the Audit Committee that each of the financial statements were prepared in accordance with generally accepted accounting principles. The Audit Committee has discussed with KPMG LLP 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 discussed the independence of KPMG LLP the letter and written disclosures required by the applicable requirements of the PCAOB regarding its communications with the Audit Committee concerning independence.

Finally, the Audit Committee continues to monitor the scope and adequacy of our internal controls and other procedures, including any and all proposals for adequate staffing and for strengthening internal procedures and controls where appropriate and necessary. These measures include, without limitation, a quarterly review of related party transactions and relationships pursuant to regularly updated reports prepared by Fortress' internal legal counsel and our principal financial officer.

On the basis of these reviews and discussions, the Audit Committee approved the inclusion of our audited financial statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, for filing with the SEC.

By the Audit Committee

Adam J. Chill Neil Herskowitz Michael J. Zelefsky

April 28, 2023 Worcester, Massachusetts

OUR EXECUTIVE OFFICERS

Executive Officers

Our current executive officers are as follows:

Name	Age	Position
Manuel Litchman, M.D.	69	President and Chief Executive Officer
Eliot Lurier	65	Interim Chief Financial Officer

No executive officer is related by blood, marriage or adoption to any other director or executive officer.

Manuel Litchman, M.D.

Dr. Litchman's biography is presented under "Corporate Governance - Current Directors/Nominees" on page 9 of this proxy statement.

Eliot Lurier - Interim Chief Financial Officer

Mr. Lurier has served as Interim Chief Financial Officer since April 18, 2022. Mr. Lurier provides consulting services to the Company pursuant to a consulting agreement between the Company and Danforth Advisors, LLC. Prior to Mustang, Mr. Lurier served as a consultant to several companies through Danforth, an advisory firm that provides operational and strategic support services to life science companies. Prior to joining Danforth, from September 2014 to December 2020, Mr. Lurier was Chief Financial Officer of the Joslin Diabetes Center, Inc., a preeminent diabetes research, clinical care, and education organization. Prior to this, Mr. Lurier served as Chief Financial Officer for a wide variety of public and private pharmaceutical companies. Mr. Lurier holds a B.S. in Accounting from Syracuse University and is a Certified Public Accountant in Massachusetts.

EXECUTIVE COMPENSATION

Summary Compensation Table

As determined in accordance with SEC rules, our "named executive officers" ("NEOs") for purposes of this proxy statement are the three individuals set forth below, which includes all executive officers serving during 2022. The following table sets forth information concerning compensation paid by us to our NEOs for their services rendered to us in all capacities during the years ended December 31, 2022 and 2021.

	Salary		Bonus	Stock Awards			Ir	centive Plan	с	All Other ompensation	Total
Year	(\$)		(\$)	(\$)		(\$)		(\$)		(\$) ⁽²⁾	(\$)
		_			_						
2022	\$ 468,000	\$	150,000 (3)\$	37,820	\$		\$		\$	852 \$	656,672
2021	450,000		225,000 (4)	209,230		_				852	885,082
2022										282,825 (6)	282,825
2021			_			_				_	
2022	64,279										64,279
2021	278 543		97.490	47 925		_		_		_	423.958
	2022 2021 2022 2021	Year (\$) 2022 \$ 468,000 2021 450,000 2022 — 2021 — 2022 64,279	Year (\$) 2022 \$ 468,000 \$ 2021 450,000 2022 2021 2022 64,279	Year (\$) (\$) 2022 \$ 468,000 \$ 150,000 (3)\$ 2021 450,000 225,000 (4) 2022 - - - 2021 - - - 2021 - - - 2022 64,279 - -	Salary Bonus Awards Year (\$) (\$) (\$) 2022 \$ 468,000 \$ 150,000 37,820 2021 450,000 225,000 (4) 209,230 2022 — — — — 2021 — — — — 2021 — — — — 2021 — — — — 2022 64,279 — — —	Salary Bonus Awards A Year (\$) (\$) (\$) A 2022 \$ 468,000 \$ 150,000 (3)\$ 37,820 \$ 2021 450,000 225,000 (4) 209,230 2022 — — — 2021 — — — — — — — 2021 — — — — — — — 2021 — — — — — — — 2022 64,279 — — — — — —	Salary Bonus Awards Awards(1) Year (\$) (\$) (\$) (\$) 2022 \$ 468,000 \$ 150,000 (3)\$ 37,820 \$ 2021 450,000 225,000 (4) 209,230 2022 - - - 2021 - - - 2021 - - - 2021 - - - - 2022 64,279 - - - - - -	Salary Bonus Stock Awards Option Awards(1) In Column Column Column Year (\$) (\$) (\$) (\$) (\$) 2022 \$ 468,000 \$ 150,000 (3)\$ 37,820 \$ — \$ 2021 450,000 225,000 (4) 209,230 —	Salary Bonus Awards Awards ⁽¹⁾ Compensation Year (\$) (\$) (\$) (\$) (\$) (\$) 2022 \$ 468,000 \$ 150,000 ⁽³⁾ \$ 37,820 \$ — \$ — 2021 450,000 225,000 ⁽⁴⁾ 209,230 — — — 2022 — — — — — — — 2021 450,000 225,000 ⁽⁴⁾ 209,230 — — — — 2021 — — — — — — — — 2021 — … … … … … … … … … … … … … … … …<	Salary Bonus Stock Awards Option Awards(1) Incentive Plan Compensation C Year (\$) (\$) (\$) (\$) (\$) C 2022 \$ 468,000 \$ 150,000 (3)\$ 37,820 \$ — \$ 2021 450,000 225,000 (4) 209,230	Salary Bonus Stock Awards Option Awards(1) Incentive Plan Compensation All Other Compensation Year (\$) (\$) (\$) (\$) (\$) (\$) (\$) 2022 \$ 468,000 \$ 150,000 (3)\$ 37,820 \$ \$ 852 \$ 2021 450,000 225,000 (4) 209,230 282,825 (6) 2021 282,825 (6) 2021 2022 64,279

(1) The amounts in the "Stock Awards" and "Option Awards" columns reflect the aggregate grant date fair value of restricted stock units and stock options granted during the year computed in accordance with the provisions of FASB ASC Topic 718. The assumptions used in calculating these amounts are incorporated by reference to Note 9 to the financial statements in our annual report on Form 10-K filed with the SEC on March 30, 2023.

- (2) All other compensation for Dr. Litchman includes company-paid long term disability insurance premiums of \$852 for 2022 and \$852 for 2021.
- (3) In April 2023, the Compensation Committee approved Dr. Litchman's 2022 bonus, which was paid in April 2023.
- (4) In April 2022, the Compensation Committee approved Dr. Litchman's 2021 bonus, which was paid in May 2022.
- (5) Effective April 18, 2022, Mr. Lurier was appointed Interim Chief Financial Officer for the Company.
- (6) Mr. Lurier is a consulting Interim Chief Financial Officer employed by Danforth Advisors, LLC ("Danforth") and was contracted on a part time basis beginning in April 2022. We paid \$282,825 in consulting fees to Danforth for Mr. Lurier's services in fiscal year 2022.
- (7) Mr. Achenbach left his employment at Mustang in March 2022. After his departure, the Company entered into a consulting agreement with Mr. Achenbach to use his services as needed.

Narrative to Summary Compensation Table

Employment Agreements

Dr. Litchman

In April 2017, we entered into an employment agreement with Dr. Litchman, our Chief Executive Officer, pursuant to which he received an initial annual base salary of \$395,000. As part of his annual review in January 2022, the Board of Directors increased Dr. Litchman's annual base salary to \$468,000 effective as of April 1, 2022. The employment agreement further provides eligibility for an incentive bonus linked to the realization of certain corporate milestones to be established annually by the Board of Directors or the Compensation Committee. Dr. Litchman's target annual bonus is equal to fifty percent (50%) of his annual salary, and the Board of Directors or the Compensation Committee will determine the actual payout amount each year. Dr. Litchman's annual bonus for 2021 is described under "Annual Incentive Bonus" below. The employment agreement provides that if we terminate Dr. Litchman without cause or if he resigns for good reason, as those terms are defined in the employment agreement, he will be entitled to: (i) severance payments at a rate equal to his base salary then in effect for a period of 12 months following his termination date; (ii) a pro-rata share of the annual incentive bonus for the year in which the termination occurred, to be paid when and if such bonus would have been paid under the employment agreement; (iii) accelerated partial vesting of all unvested time-based equity awards with respect to the same number of shares that would have vested if Dr. Litchman had continued in employment for one year following the termination date; and (iv) if Dr. Litchman timely elects continued health insurance coverage under COBRA, the entire premium necessary to continue such coverage for Dr. Litchman and Dr. Litchman's eligible dependents until the conclusion of the time when Dr. Litchman is receiving continuation of base salary payments or until Dr. Litchman becomes eligible for group health insurance coverage under another employer's plan, whichever occurs first, provided however that we have the right to terminate such payment of COBRA premiums on behalf of Dr. Litchman and instead pay him a lump sum amount equal to the COBRA premium times the number of months remaining in the specified period if we determine in our discretion that continued payment of COBRA premiums is or may be discriminatory under Section 105(h) of the Internal Revenue Code. In addition, if Dr. Litchman is terminated without cause or resigns for good reason within twelve months following a change in control, 100% of the shares subject to options and other equity awards granted to him will fully vest. In the event Dr. Litchman's employment is terminated due to his death or disability, he or his estate will receive continuing salary payments for six months and a pro-rate share of the annual incentive bonus for the year in which the termination occurred, to be paid when and if such bonus would have been paid under the employment agreement. In each case, the severance benefits are conditioned upon Dr. Litchman's execution and non-revocation of a release of claims against the Company.

Mr. Lurier

Mr. Lurier provides consulting services to the Company pursuant to a consulting agreement between the Company and Danforth Advisors, LLC and receives no compensation from the Company.

Annual Incentive Bonus

In 2022, Dr. Litchman was eligible to earn a target annual cash incentive equal to 50% of his base salary per the terms of his Employment Agreement.

Dr. Litchman's annual cash incentive is based upon the Company's performance against pre-established corporate goals and objectives, which included a combination of clinical and nonclinical goals related to our products (weighted at an aggregate of 80% of the target awards) as well as other corporate development goals (weighted at 20% of the target awards), and his individual performance based upon subjective performance reviews. Also, reach goals were identified and provided additional opportunities of obtaining an annual incentive award. The goals were achieved at an aggregate level of 63% reflecting the successful achievement of clinical, and corporate development goals as well as some of our reach goals. Accordingly, Dr. Litchman was awarded approximately 64% of his target bonus amount. The actual amounts paid to the executives pursuant to his annual cash incentive award is reported in the "Summary Compensation Table" as bonus compensation.

Equity Awards

The Compensation Committee has granted Dr. Litchman equity awards under our Mustang Bio, Inc. 2016 Incentive Plan (the "2016 Plan"). In 2017, Dr. Litchman received an option to purchase 69,445 shares and he received awards of 4,067 restricted share units in 2021 and 4,067 restricted share units in 2022, which vest as described in footnotes (2) and (3), respectively, to the Outstanding Equity Awards table below.

Outstanding Equity Awards at Fiscal Year-End 2022

		Option Av		Stock Awards		
Name	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Option exercise price (\$)	Option Expiration Date	Number of	Market Value of Shares or Units of Stock That Have Not Vested ⁽¹⁾ (\$)
Manuel Litchman M.D.	43,404 (2)	26,041	2)\$ 85.95	4/24/2027	10,167 (3)	60,189
Eliot Lurier			_	_	_	
Brian Achenbach	_	_		_	_	

 Market value is based on \$5.92 per share, the closing price of our common stock on the Nasdaq Capital Market on December 31, 2022, the last trading day of the fiscal year.

- (2) The option vests as follows: (i) one half of the option will vest over time, with 25% of such shares vesting after twelve months of employment, and the remaining shares vesting in twelve equal quarterly installments thereafter, subject to Dr. Litchman's "continuous service" (as defined in the 2016 Plan) to the Company on each vesting date; (ii) the remaining one half of the option will vest and become exercisable upon the occurrence of the following milestones being achieved, in each case subject to Dr. Litchman's continuous service to the Company on the date of such occurrences: (A) 25% of such shares will vest upon the dosing of the first patient in the first Phase 2 clinical trial of any Company product candidate; (B) 25% of such shares will vest upon the dosing of the first patient in the first Phase 2 clinical trial of a second Company product candidate; (C) 25% of such shares will vest upon the Company's achievement of a fully-diluted market capitalization of \$500,000,000; and (D) 25% of such shares will vest upon the Company's achievement of a fully-diluted market capitalization of \$1 billion.
- (3) The restricted share units vest as follows: (i) 4,067 shares will vest on April 24, 2023; (ii) 3,050 shares will vest on April 24, 2024; (iii) 2,033 shares will vest on April 24, 2025; and (iv) 1,017 shares will vest on April 24, 2026, subject to Dr. Litchman's "continuous service" (as defined in the 2016 Plan) to the Company on each vesting date.

PAY VERSUS PERFORMANCE

The following table shows the past two fiscal years' total compensation for our named executive officers as set forth in the Summary Compensation Table, the "compensation actually paid" to our named executive officers (as determined under SEC rules), our total shareholder return (TSR), and our net income.

SEC rules require certain adjustments be made to the Summary Compensation Table totals to determine Compensation Actually Paid as reported in the Pay Versus Performance Table. Compensation Actually Paid does not necessarily represent cash and/or equity value transferred to the applicable named executive officer without restriction, but rather is a valuation calculated under applicable SEC rules. In general, Compensation Actually Paid is calculated as summary compensation table total compensation adjusted to (a) include the value of any pension benefit (or loss) attributed to the past fiscal year, including on account of any amendments adopted during such year; and (b) include the fair market value of equity awards as of December 31, 2022 or, if earlier, the vesting date (rather than the grant date) and factor in dividends and interest accrued with respect to such awards. For purposes of the disclosure below, no pension valuation adjustments were required.

				A		Value of Initial		
Summary Compensation Table				Average Summary Compensation Table	Average	Fixed \$100 Investment Based		
	1	for Principal	Compensation	Total for Non-PEO	Compensation	on Total	Net Income	
			Actually Paid to	Named Executive	Actually Paid to Non-	Shareholder	(Loss)	
 Year	("PEO") ⁽¹⁾	PEO ⁽²⁾	Officers ("NEOs")(3)	PEO NEOs ⁽³⁾	Return ("TSR") ⁽⁴⁾	(thousands)(6)	
2022	\$	656,672 \$	437,630 \$	64,279	\$ 59,207	\$ \$10.43 \$	\$ (77,525)	
2021		885,082	344,410	423,958	215,623	\$43.86	(66,370)	

(1) Dr. Litchman was the Registrant's PEO for each of the 2022 and 2021 fiscal years.

(2) The amounts disclosed reflect the adjustments listed in the tables below to the amounts reported in the Summary Compensation Table for PEO:

Ye	ır	Less: Grant Date Value of Equity Awards	Plus: Change in Value of Awards Granted During the Current Year	Plus: Vesting Date Value of Awards that Vested During the Year	Plus: Year-Over- Year Change in Fair Value of Unvested Awards	Plus: Change in Value of Awards Vested During the Current Year	Dividends on Unvested Awards	Total Adjustments
202	2 5	\$ (37,820) \$	6 (13,730) \$		\$ (115,751)\$	6 (51,740) \$		\$ (219,042)
202	21	(209,230)	(107,984)	-	(194,428)	(29,031)	-	(540,672)

(3) For the 2022 fiscal year, our Non-PEO NEOs were Brian Achenbach and Eliot Lurier. For 2021, our Non-PEO NEO was Brian Achenbach. Brian Achenbach resigned from the Company in March 2022, and Eliot Lurier is an external consultant, whose compensation is not included in this table. The amounts disclosed reflect the adjustments listed in the tables below to the amounts reported in the Summary Compensation Table for Non-PEO NEO:

Year	1	Less: Grant Date Value of Equity Awards ⁽¹⁾	Plus: Change in Value of Awards Granted During the Current Year	Plus: Vesting Date Value of Awards that Vested During the Year	Plus: Year-Over- Year Change in Fair Value of Unvested Awards	Plus: Change in Value of Awards Vested During the Current Year	Dividends on Unvested Awards	Total Adjustments
2022	\$	- \$	5 - 5	\$ - 5	S – \$	6 (5,071.87)		6 (5,072)
2021		(47,925)	(10,576.80)	-	(104,226)	(45,607.06)	-	(208,335)

(4) Calculated by dividing the sum of the cumulative amount of dividends for the measurement period, assuming dividend reinvestment, and the difference between the share price of our common stock at the end and the beginning of the measurement period by the share price of our common stock at the beginning of the measurement period.

(5) The dollar amounts reported represent the amount of net income (loss) reflected in our audited financial statements for the applicable year.

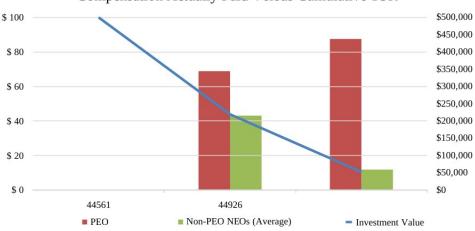
Analysis of the Information Presented in the Pay Versus Performance Table

Compensation Actually Paid and Net Income (Loss)

Due to the nature of our Company's consolidated financials and primary focus on research and development of novel therapies, our company has not historically utilized net income (loss) as a performance measure for our executive compensation program. From 2021 to 2022, our net loss increased, the Compensation Actually Paid our PEO increased and the Compensation Actually Paid our Non-PEO NEOs decreased between those years.

PEO and Non-PEO NEO Compensation Actually Paid and Company Total Shareholder Return ("TSR")

The following chart sets forth the relationship between Compensation Actually Paid to our PEO, the average of Compensation Actually Paid to our Non-PEO NEOs, and the Company's TSR over the period covering fiscal years 2021 and 2022. A large component of our executive compensation is equity-based to align compensation with performance, but also includes other appropriate incentives such as cash bonuses that are designed to incentivize our executives to achieve annual corporate goals. We believe the equity-based compensation strongly aligns our PEO and Non-PEO NEOs' interests with those of our shareholders to maximize long-term value and encourages long-term employment.



Compensation Actually Paid Versus Cumulative TSR

All information provided above under the "Pay Versus Performance" heading will not be deemed to be incorporated by reference in any filing of our company under the Securities Act of 1933, as amended, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table contains information about our equity compensation plans as of December 31, 2022.

	Equity Compensation Pl			
Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted- average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))	
The checkery	(a)	(b)	(c)	
Equity compensation plans approved by security holders	76,112	\$ 85.95	297,523	
Equity compensation plans not approved by security holders		_	_	
Total	76,112	\$ 85.95	297,523	

Our equity compensation plans consist of the Mustang Bio, Inc. 2016 Incentive Plan, as amended, and the Mustang Bio, Inc. 2019 Employee Stock Purchase Plan, which were approved by our stockholders. We do not have any equity compensation plans or arrangements that have not been approved by our stockholders.

DIRECTOR COMPENSATION

Director Compensation Program

In January 2016, the Board of Directors adopted a Non-Employee Directors Compensation Plan for our non-employee directors pursuant to our 2016 Incentive Plan. Our non-employee directors will receive the following compensation:

Cash Compensation:

- \$50,000 annual retainer; and
- \$10,000 additional annual retainer for the Audit Committee Chair.

Equity Compensation:

- Initial Equity Grant: 50,000 shares of restricted stock, which shares shall vest and becomenon-forfeitable in equal annual installments over three years, beginning on the third (3rd) anniversary of the grant date, subject to the director's continued service on the board of directors on such date.
- Re-Election Equity Grant: The greater of (i) a number of shares of restricted stock having a fair market value on the grant date of \$50,000, or (ii) 10,000 shares of restricted stock, which shares shall vest and become non-forfeitable on the third (3rd) anniversary of the grant date, subject to the director's continued service on the board of directors on such date.

In addition, each non-employee director receives reimbursement for reasonable travel expenses incurred in attending meetings of our board of directors and meetings of committees of our board of directors.

Director Compensation Table

The following table sets forth the cash and other compensation we paid to the non-employee members of our Board of Directors for all services in all capacities during 2022.

Name	Earned or id in Cash (\$) ⁽¹⁾	h Awards (\$) ⁽²⁾		Total (\$)		
Neil Herskowitz	\$ 50,000	\$	50,000	\$ 100,000		
Lindsay A. Rosenwald, M.D.	\$ 50,000	\$	50,000	\$ 100,000		
Michael S. Weiss ⁽³⁾	\$ 60,000	\$	50,000	\$ 110,000		
Manuel Litchman, M.D.	_			_		
Adam J. Chill	\$ 60,000	\$	50,000	\$ 110,000		
Michael J. Zelefsky, M.D.	\$ 50,000	\$	50,000	\$ 100,000		

(1) Represents cash retainer for serving on our Board and committees of the Board.

(2) As of December 31, 2022, each of Mr. Herskowitz, Dr. Rosenwald, Mr. Weiss, Mr. Chill and Dr. Zelefsky had 7,472 unvested restricted stock awards.

(3) Pursuant to the Advisory Agreement, the Advisor is paid an annual cash fee of \$60,000, for the services of Mr. Weiss as Chairman of the Board and Executive Chairman in addition to any and all annual equity incentive grants paid to members of the Board.

DELINQUENT SECTION 16(a) REPORTS

Section 16(a) of the Exchange Act requires our directors, executive officers and persons who own more than 10% of the shares of our common stock to file an initial report of ownership on Form 3 and changes in ownership on Form 4 or Form 5 with the SEC. Such officers, directors and 10% stockholders are also required by SEC rules to furnish us with copies of any Forms 3, 4 or 5 that they file. The SEC rules require us to disclose late filings of initial reports of stock ownership and changes in stock ownership by our directors, executive officers and 10% stockholders. Based solely on a review of copies of the Forms 3, 4 and 5 furnished to us by reporting persons and any written representations furnished by certain reporting persons, we believe that during the fiscal year ended December 31, 2022, the following Section 16(a) filings were untimely due to administrative error: one Form 3 for each of Mr. Lurier (reporting his initial holdings), and Dr. Rosenwald (reporting his initial holdings); one Form 4 for each of Mr. Herskowitz (covering a total of one transaction), Dr. Zelefsky (covering a total of one transaction); three Form 4s for each of Dr. Rosenwald (covering a total of three transactions) and Dr. Litchman (covering a total of three transactions); and 32 Form 4s for Fortress Biotech Inc. (covering a total of 32 transactions).

RELATED-PERSON TRANSACTIONS

Since January 1, 2021, the Company has not been a party to any transaction in which the amount involved exceeded or will exceed \$120,000, and in which any of its directors, named executive officers or beneficial owners of more than 5% of the Company's capital stock, or an affiliate or immediate family member thereof, had or will have a direct or indirect material interest, and other than compensation, termination, and change-in-control arrangements.

The written charter of the Audit Committee authorizes, and the Nasdaq Stock Market listing rules require, the Audit Committee to review and approve related-party transactions. In reviewing related-party transactions, the Audit Committee applies the basic standard that transactions with affiliates should be made on terms no less favorable to the Company than could have been obtained from unaffiliated parties. Therefore, the Audit Committee reviews the benefits of the

transactions, terms of the transactions and the terms available from unrelated third parties, as applicable. All transactions other than compensatory arrangements between the Company and its officers, directors, principal stockholders and their affiliates will be approved by the Audit Committee or a majority of the disinterested directors and will continue to be on terms no less favorable to the Company than could be obtained from unaffiliated third parties.

The following is a summary of each transaction or series of similar transactions since the inception of Mustang to which it was or is a party and that:

- the amount involved exceeded or exceeds \$120,000 or is greater than 1% of our total assets; and
- any of our directors or executive officers, any holder of 5% of our capital stock or any member of their immediate family had or will have a direct or indirect material interest.

Founders Agreement and Management Services Agreement with Fortress

Effective March 13, 2015, the Company entered a Founders Agreement with Fortress, which was amended and restated on May 17, 2016 and again on July 26, 2016 (the "Mustang Founders Agreement"). The Mustang Founders Agreement provides that, in exchange for the time and capital expended in the formation of Mustang and the identification of specific assets the acquisition of which result in the formation of a viable emerging growth life science company, Fortress loaned \$2.0 million, representing the up-front fee required to acquire the Company's license agreement with City of Hope. The Mustang Founders Agreement has a term of 15 years, which upon expiration automatically renews for successive one-year periods unless terminated by Fortress and the Company or a Change in Control (as defined in the Mustang Founders Agreement) occurs. Concurrently with the second amendment on July 26, 2016, to the Mustang Founders Agreement, Fortress entered into an Exchange Agreement whereby Fortress exchanged its 7.25 million Class B Common shares for 466,667 common shares and 250,000 Class A Preferred shares. Class A Preferred Stock is identical to common stock other than as to voting rights, conversion rights and the PIK Dividend right (as described below). Each share of Class A Preferred Stock is entitled to vote the number of votes that is equal to one and one-tenth (1.1) times a fraction, the numerator of which is the sum of (A) the shares of outstanding Mustang common stock and (B) the whole shares of Mustang common stock into which the shares of outstanding Class A common stock and Class A Preferred Stock are convertible and the denominator of which is the number of shares of outstanding Class A Preferred Stock. Thus, the Class A Preferred Stock will at all times constitute a voting majority. Each share of Class A Preferred Stock is convertible, at Fortress' option, into one fully paid and nonassessable share of Mustang common stock, subject to certain adjustments. As holders of Class A Preferred Stock, Fortress will receive on each January 1 (each a "PIK Dividend Payment Date") until the date all outstanding Class A Preferred Stock is converted into common stock, pro rata per share dividends paid in additional fully paid and nonassessable shares of common stock ("PIK Dividends") such that the aggregate number of shares of common stock issued pursuant to such PIK Dividend is equal to two and one-half percent (2.5%) of Mustang's fully-diluted outstanding capitalization on the date that is one (1) business day prior to any PIK Dividend Payment Date.

As additional consideration under the Mustang Founders Agreement, Mustang will also: (i) pay an equity fee in shares of common stock, payable within five (5) business days of the closing of any equity or debt financing for Mustang that occurs after the effective date of the Mustang Founders Agreement and ending on the date when Fortress no longer has majority voting control in the Company's voting equity, equal to two and one-half percent (2.5%) of the gross amount of any such equity or debt financing; and (ii) pay a cash fee equal to four and one-half percent (4.5%) of the Company's annual net sales, payable on an annual basis, within ninety (90) days of the end of each calendar year. In the event of a Change in Control, the Company will pay a one-time change in control fee equal to five (5x) times the product of (A) net sales for the twelve (12) months immediately preceding the change in control and (B) four and one-half percent (4.5%).

Effective as of March 13, 2015, the Company entered into a Management Services Agreement (the "MSA") with Fortress, pursuant to which Fortress renders advisory and consulting services to the Company. The MSA has an initial term of five years and is automatically renewed for successive five-year terms unless terminated in accordance with its provisions. Services provided under the MSA may include, without limitation, (i) advice and assistance concerning any and all aspects of the Company's operations, clinical trials, financial planning and strategic transactions and financings and (ii) conducting relations on behalf of the Company with accountants, attorneys, financial advisors and other professionals (collectively, the "Services"). The Company is obligated to utilize clinical research services, medical education, communication and



marketing services and investor relations/public relation services of companies or individuals designated by Fortress, provided those services are offered at market prices. However, the Company is not obligated to take or act upon any advice rendered from Fortress and Fortress shall not be liable for any of its actions or inactions based upon their advice. Pursuant to the MSA and the Company's Certificate of Incorporation, Fortress and its affiliates, including all members of the Company's Board of Directors, will have no fiduciary or other duty to communicate or present any corporate opportunities to the Company or refrain from engaging in business that is similar to that of the Company. In consideration for the Services, the Company will pay Fortress an annual consulting fee of \$0.5 million (the "Annual Consulting Fee"), payable in advance in equal quarterly installments on the first business day of each calendar quarter in each year, provided, however, that such Annual Consulting Fee shall be increased to \$1.0 million for each calendar year in which the Company has net assets in excess of \$100 million at the beginning of the calendar year. The Company records fifty percent of the Annual Consulting Fee in research and development expense and fifty percent in general and administrative expense in the Statement of Operations. For the years ended December 31, 2022 and 2021, the Company recorded \$1.0 million and \$0.5 million, respectively, related to this agreement.

For the year ended December 31, 2022, the Company issued 13,130 shares of common stock and recorded zero shares issuable to Fortress, which equaled 2.5% of the gross proceeds of \$6.6 million from the sale of shares of common stock under Mustang's At-the-Market Offering. The Company recorded an expense of approximately \$0.2 million in general and administrative expenses related to these shares for the year ended December 31, 2022.

For the year ended December 31, 2021, the Company issued 38,410 shares of common stock and recorded 3,420 shares issuable to Fortress, which equaled 2.5% of the gross proceeds of \$71.9 million from the sale of shares of common stock under Mustang's At-the-Market Offering. The Company recorded an expense of approximately \$1.9 million in general and administrative expenses related to these shares for the year ended December 31, 2021.

Payables and Accrued Expenses Related Party

In the normal course of business Fortress pays for certain expenses on behalf of the Company. Such expenses are recorded as Payables and accrued expenses - related party and are reimbursed to Fortress in the normal course of business.

Director Compensation

Dr. Rosenwald

Pursuant to the terms of the Director Compensation Plan, Dr. Rosenwald will receive a cash fee of \$50,000 per year paid quarterly and an annual stock award of the greater of (i) a number of shares of common stock having a fair market value on the grant date of \$50,000 or (ii) 10,000 shares of common stock, which shares shall vest and become non-forfeitable on the third anniversary of the grant date, subject to continued service on the Board on such date.

For the year ended December 31, 2022, the Company recognized \$100,000 in expense in its Statements of Operations related to the director compensation, including approximately \$50,000 in expense related to equity incentive grants. For the year ended December 31, 2021, the Company recognized \$106,000 in expense in its Statements of Operations related to the director compensation, including approximately \$56,000 in expense related to equity incentive grants. The Company issued Dr. Rosenwald 4,778 and 919 restricted stock awards for the years ended December 31, 2022 and 2021, respectively.

Mr. Weiss - Advisory Agreement with Caribe BioAdvisors, LLC

The Board of the Company by unanimous written consent approved and authorized the execution of an advisory agreement dated January 1, 2017 (the "Advisory Agreement"), with Caribe BioAdvisors, LLC (the "Advisor"), owned by Michael S. Weiss, the Chairman of the Board, to provide the board advisory services of Mr. Weiss as Chairman of the Board. Pursuant to the Advisory Agreement, the Advisor will be paid an annual cash fee of \$60,000, paid quarterly and an annual stock award of the greater of (i) a number of shares of common stock having a fair market value on the grant date of \$50,000 or (ii) 10,000 shares of common stock, which shares shall vest and become non-forfeitable on the third anniversary of the grant date, subject to continued service on the Board on such date.

For the year ended December 31, 2022, the Company recognized \$110,000 in expense in its Statements of Operations related to the advisory agreement, including approximately \$50,000 in expense related to equity incentive grants. For the year ended December 31, 2021, the Company recognized \$116,000 in expense in its Statements of Operations related to the advisory agreement, including approximately \$56,000 in expense related to equity incentive grants. The Company issued Mr. Weiss 4,778 and 919 restricted stock awards for the years ended December 31, 2022 and 2021, respectively.

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1	n

STOCK OWNERSHIP OF OUR DIRECTORS, EXECUTIVE OFFICERS, AND 5% BENEFICIAL OWNERS

The following table shows information, as of March 31, 2023, concerning the beneficial ownership of our common stock by:

- each person we know to be the beneficial owner of more than 5% of our common stock;
- each of our current directors;
- each of our NEOs shown in our Summary Compensation Table; and
- all current directors and NEOs as a group.

As of March 31, 2023, there were 7,293,203 shares of our common stock, 845,385 shares of our Class A common stock, and 250,000 shares of our Class A Preferred Stock outstanding. In order to calculate a stockholder's percentage of beneficial ownership, we include in the calculation those shares underlying options or warrants beneficially owned by that stockholder that are vested or that will vest within 60 days of March 31, 2023. Shares of restricted stock are deemed to be outstanding. Options or warrants held by other stockholders that are not attributed to the named beneficial owner are disregarded in this calculation. Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to the shares of our common stock. Unless we have indicated otherwise, each person named in the table below has sole voting power and investment power for the shares listed opposite such person's name, except to the extent authority is shared by spouses under community property laws.

	Commor Benefic Own	cially		
Name and Address of Beneficial Owner ⁽¹⁾	Number of Shares and Nature of Beneficial Ownership	Percentage o Total Commo Stock	nmon	
Michael S. Weiss	42,391 (2)	*		
Manuel Litchman, M.D	106,079	1.3	%	
Lindsay A. Rosenwald, M.D	53,279 (2)	*		
Neil Herskowitz	12,457	*		
Adam J. Chill	11,924	*		
Michael J. Zelefsky, M.D	11,724	*		
Eliot Lurier		*		
All executive officers and directors as a group	171,186 (3)	2.1	%	
5% or Greater Stockholders:				
Fortress Biotech, Inc	1,692,037 (4)	21.0	%(4)	

Less than 1%

- The address of each of the directors, officers and owners of 5% or more of our common stock listed is c/o Mustang Bio, Inc., 377 Plantation Street, Worcester, Massachusetts 01605.
- (2) Includes 33,334 warrants issued by Fortress to each of Mr. Weiss and Dr. Rosenwald that cover shares of our common stock that are owned by Fortress. These do not represent equity compensation by us to either Mr. Weiss or Dr. Rosenwald.
- (3) The total calculation for all executive officers and directors as a group does not include Mr. Weiss' and Dr. Rosenwald's warrants, which have not yet been exercised. The shares underlying the warrants are currently held by Fortress and are included in the 1,692,037 shares of common stock shown as held by Fortress. Eliot Lurier, the Company's Interim Chief Financial Officer, does not own any shares of Company stock.

(4) Includes shares underlying 33,334 warrants issued to each of Mr. Weiss and Dr. Rosenwald.

	Class A Common Stock Beneficially Owned					
Name and Address of Beneficial Owner ⁽¹⁾	Number of Shares and Nature of Beneficial Ownership	Percentage of Total Class A Common Stock				
City of Hope	845,385	100 %				
(1) The address City of Hope is 1500 East Duarte Road, Duarte, California 91010.						
		ferred Stock				

	Denencially Owned		
	Number of		
	Shares and		
	Nature of	Percentage of	
	Beneficial	Total Class A	
Name and Address of Beneficial Owner ⁽¹⁾	Ownership	Preferred Stock	
Fortress Biotech, Inc	250,000	100 %	

(1) The address of Fortress Biotech Inc. is c/o Fortress Biotech, Inc., 1111 Kane Concourse Suite 301 Bay Harbor Island, FL 33154.

PROPOSAL ONE: ELECTION OF DIRECTORS; NOMINEES

Our Amended and Restated Bylaws, as amended (the "Bylaws") provide that the Board shall consist of not more than nine nor less than one member, as determined from time to time by resolution of the Board. Our Board currently consists of six members. The nominated directors are: Michael S. Weiss, Lindsay A. Rosenwald, M.D., Neil Herskowitz, Manuel Litchman, M.D., Michael J. Zelefsky, M.D. and Adam J. Chill. For information about each of the nominees and our Board generally, please see "Corporate Governance – Current Directors/Nominees" beginning on page 8. If elected, the nominees will hold office until the next annual meeting and until a respective successor is elected and has been qualified, or until such director resigns or is removed from office. Management expects that each of the nominees will be available for election, but if any of them is unable to serve at the time the election occurs, your proxy will be voted for the election of another nominee to be designated by a majority of the independent directors serving on our Board.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE ELECTION OF ALL OF THE NOMINEES FOR DIRECTOR. IF A CHOICE IS SPECIFIED ON THE PROXY BY THE STOCKHOLDER, THE SHARES WILL BE VOTED AS SPECIFIED. IF NO SPECIFICATION IS MADE, THE SHARES WILL BE VOTED "FOR" ALL OF THE NOMINEES. THE AFFIRMATIVE VOTE OF THE HOLDERS OF A PLURALITY OF THE SHARES REPRESENTED AND ENTITLED TO VOTE AT THE ANNUAL MEETING AT WHICH A QUORUM IS PRESENT IS REQUIRED FOR THE ELECTION OF THE NOMINEES.

PROPOSAL TWO: RATIFICATION OF APPOINTMENT OF KPMG LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board is submitting the selection of KPMG LLP as our independent registered public accounting firm to the stockholders for ratification at our Annual Meeting. Stockholder ratification of our independent registered public accounting firm is not required by our Bylaws or otherwise. If KPMG LLP is not ratified as our independent registered public accounting firm by a majority of the shares present or represented by proxy, the Board will review its future selection of independent registered public accounting firm. KPMG LLP will still serve as our independent registered public accounting firm. KPMG LLP will still serve as our independent registered public accounting firm. KPMG LLP will still serve as our independent registered public accounting firm. Serve as our independent registered public accounting firm. Serve as our independent registered public accounting firm is not ratified by our stockholders.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" RATIFICATION OF THE APPOINTMENT OF KPMG LLP AS THE COMPANY'S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE YEAR ENDING DECEMBER 31, 2023. THE AFFIRMATIVE VOTE OF THE MAJORITY OF SHARES PRESENT VIRTUALLY OR REPRESENTED BY PROXY AT THE MEETING AND ENTITLED TO VOTE ON THE SUBJECT MATTER IS REQUIRED FOR APPROVAL.

PROPOSAL THREE: ADVISORY VOTE TO APPROVE THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS

We are asking our stockholders to vote to approve, on an advisory basis, the compensation of our named executive officers as disclosed in this Proxy Statement, including the section titled "Executive Compensation," and any related material as required pursuant to Section 14A of the Exchange Act. This proposal, commonly known as a "Say-On-Pay" proposal, gives our stockholders the opportunity to express their views on our named executive officers compensation. This vote is not intended to address any specific item of compensation, but rather the overall compensation of our named executive officers and the compensation philosophy, policies and practices described in this Proxy Statement.

An advisory vote on the frequency of the Say-On-Pay vote is required every six years, and is being held at this annual meeting (please see "Proposal No. 4 — Advisory Vote on Whether the Advisory Vote to Approve the Compensation of Our Named Executive Officers Should Occur Every One, Two or Three Years"). This is our first time holding an advisory vote on the frequency of the Say-On-Pay proposal, as we were previously not subject to these rules while we were an "emerging growth company."

This vote is advisory, and therefore not binding on the Company or our Board of Directors. Our Board of Directors values the opinions of the stockholders and to the extent there is any significant vote against the named executive officer compensation as disclosed in this Proxy Statement, we will consider our stockholders' concerns and the Board of Directors will evaluate whether any actions are necessary to address those concerns.

We believe that the policies and procedures articulated in the "Executive Compensation" section of this Proxy Statement are effective in achieving the Company's goals and that the executive compensation reported in this Proxy Statement was appropriate and aligned with fiscal 2022 results. Before voting, we encourage our stockholders to read the "Executive Compensation" section of this Proxy Statement for additional details about our executive compensation programs and named executive officer compensation in fiscal 2022. We are asking stockholders to indicate their support for our named executive officer compensation as described in this Proxy Statement.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE RESOLUTION APPROVING THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS, AS FOLLOWS:

RESOLVED, that the compensation paid to the Company's named executive officers, as disclosed pursuant to Item 402 of Regulation, S-K including the compensation tables and narrative discussion, is hereby approved.

THE AFFIRMATIVE VOTE OF THE MAJORITY OF SHARES PRESENT VIRTUALLY OR REPRESENTED BY PROXY AT THE MEETING AND ENTITLED TO VOTE ON THE SUBJECT MATTER IS REQUIRED FOR APPROVAL.

PROPOSAL FOUR: ADVISORY VOTE ON WHETHER THE ADVISORY VOTE TO APPROVE THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS SHOULD OCCUR EVERY ONE, TWO OR THREE YEARS

Under the Dodd-Frank Wall Street Reform and Consumer Protection Act, stockholders are invited to express their views, on an advisory (non-binding) basis, on how frequently advisory votes on the compensation of our named executive officers, such as Proposal No. 3, will occur. This is our first time holding an advisory vote on the frequency of the Say-On-Pay proposal, as we were previously not subject to these rules while we were an "emerging growth company." A new advisory vote on the frequency of the Say-On-Pay vote is required every six years. By voting on this Proposal No. 4, stockholders may indicate whether they would prefer an advisory vote on our named executive officer compensation once every year, every two years, or every three years. We are providing this vote as required pursuant to Section 14A of the Exchange Act.

While our executive compensation programs are designed to promote a long-term connection between pay and performance, after careful consideration of this Proposal No. 4, our Board of Directors has determined that an advisory vote on executive compensation that occurs every three years is the most appropriate alternative for the Company at this time. As a biotechnology company, the Company has important milestones relating to drug development and approval that do not occur every calendar year. While executive compensation is evaluated annually, the Board of Directors also considers progress over a multi-year timeframe, which is common in small- and mid-capitalization companies in our industry. The Board of Directors believes that a vote every three years provides stockholders the opportunity to evaluate the Company's compensation program on a more thorough, longer-term basis than an annual vote. For these reasons, our Board of Directors recommends that you vote for the advisory vote on our named executive officer compensation to occur every three years

You may cast your advisory vote on your preferred voting frequency by choosing the option of one year, two years, three years or abstaining from voting. Approval of the frequency of an advisory vote on the compensation of our named executive officers will require the affirmative vote of a majority of the votes cast at the Annual Meeting, either virtually or by proxy, assuming a quorum is present. In the event that none of the options of every one year, every two years or every three years for the frequency of the vote on the compensation of our named executive officers receives the required vote for approval, the frequency that receives the highest number of votes will be considered by our board of directors to be the stockholders' preference, as expressed on an advisory basis.

Stockholders are not voting to approve or disapprove of the Board of Directors' recommendation of a frequency of every year. Rather, stockholders are voting their shares in favor of their preferred frequency for future stockholder advisory votes on our named executive officer compensation. Because this vote is advisory and not binding on the Company or our Board of Directors, our board of directors may decide that it is in the best interests of our stockholders and the Company to hold an advisory vote on executive compensation more frequently than the option approved by our stockholders and may vary its practice based on factors such as discussions with stockholders and the adoption of material changes to our compensation programs. A scheduling vote similar to this will occur at least once every six years.

> THE BOARD RECOMMENDS A VOTE FOR A FREQUENCY OF EVERY "THREE YEARS". THE AFFIRMATIVE VOTE OF THE MAJORITY OF SHARES PRESENT VIRTUALLY OR REPRESENTED BY PROXY AT THE MEETING AND ENTITLED TO VOTE ON THE SUBJECT MATTER IS REQUIRED FOR APPROVAL.

PROPOSAL FIVE: AMENDMENT TO THE COMPANY'S 2019 EMPLOYEE STOCK PURCHASE PLAN TO INCREASE THE NUMBER OF SHARES AVAILABLE UNDER THE PLAN BY 400,000 SHARES AND INCREASE THE NUMBER OF SHARES SUBJECT TO A PURCHASE RIGHT THEREUNDER TO 5,000

The Board has adopted an amendment (the "Amendment") to the Mustang Bio, Inc. 2019 Employee Stock Purchase Plan (the "ESPP"), providing for the issuance of up to an additional 400,000 shares of the Company's common stock, \$0.0001 par value per share (the "Shares") to eligible employees, including our executive officers, and an increase in the number of shares subject to a Purchase Right thereunder to 5,000, subject to stockholder approval of the Amendment. We believe that the Amendment will benefit the Company because providing employees of the Company with an opportunity to purchase Shares should prove helpful in attracting, retaining, and motivating valued employees.

The text of the amendment is attached to this proxy statement as Exhibit A.

The following is a summary of the material provisions of the ESPP and is qualified in its entirety by reference to the complete text of the ESPP, a copy of which was filed with our proxy statement dated April 30, 2019, as Exhibit A, and the Amendment to the ESPP dated June 17, 2021, a copy of which was filed as Exhibit 10.2 to our Current Report on Form 8-K, filed with the SEC on June 22, 2021.

General Information

The ESPP is intended to qualify as an "employee stock purchase plan" under Section 423 of the Internal Revenue Code of 1986, as amended, (the "Code"). There are currently 1,000,000 Shares reserved for issuance under the ESPP. The purpose of the ESPP is to attract, retain and motivate employees of the Company by permitting them to participate in the ownership of the Company.

Administration of the Plan

The ESPP is administered by our Board and/or by a committee of our Board having such power as shall be specified by our Board. Generally, each offering of common stock under the ESPP (an "Offering") is for a period of approximately six (6) months duration ("Offering Period"). Our Board may adjust the Offering Periods, subject to certain limitations. The ESPP will continue until terminated by our Board or until all of the Shares reserved for issuance under the ESPP have been issued.

Eligibility

Participation in the ESPP is limited to eligible employees of the Company and any parent or subsidiary corporation of the Company designated by our Board for inclusion in the ESPP (individually, a "Participating Company") who authorize payroll deductions. Payroll deductions may not exceed 10% of compensation. No person who owns Shares or holds options to purchase, or who as a result of participation in the ESPP would own Shares or hold options to purchase, 5% or more of the total combined voting power or value of all classes of stock of the Company is entitled to participate in the ESPP. In addition, employees (1) who customarily work fewer than 20 hours per week or (2) who customarily work not more than five months in any calendar year are not eligible to participate. Once an employee becomes a participant in the ESPP (a "Participant"), the employee will automatically participate in each successive Offering until such time as the employee either ceases to be an eligible to participate in the ESPP.

Generally, Offerings will be six months in duration and will commence on September 1 and end on February 28 (or 29 in the case of a leap year) and then commence on March 1 and end on August 31.

Purchase of and Payment for Securities Offered

Each Offering Period shall consist of one purchase period of approximately six months duration (individually, a "Purchase Period"). On the last day of each Purchase Period (the "Purchase Date"), Shares are purchased based on accumulated payroll deductions. The purchase price per share at which the Shares are sold under the ESPP generally will be 85% of the lesser of the fair market value of the Shares on the first day of the Offering or the Purchase Date.

The number of Shares a Participant purchases in each Offering is determined by dividing the total amount of payroll deductions withheld from the Participant's compensation by the purchase price. As of the date of this Proxy Statement, subject to certain limitations, during an Offering each Participant has a "Purchase Right" consisting of the right to purchase the lesser of (i) the whole number of Shares determined by dividing \$25,000 by the fair market value of a Share on the first day of the Offering and (ii) 333 Shares. Following implementation of the Amendment, the Purchase Right will be increased to 5,000 Shares. However, Participants may not purchase Shares under the ESPP or any other employee stock purchase plan under Section 423 of the Code having a fair market value exceeding \$25,000 (as determined for purposes of the Code as of the Offering date for each Offering) in any calendar year in which such Participant's Purchase Right with respect to such Offering remains outstanding. Any cash balance remaining in the Participant's account is refunded to the Participant as soon as practicable after the Purchase Date. If the refund is less than the amount necessary to purchase a whole Share, the Company may maintain the cash in the Participant's account and apply it toward the purchase of Shares in the subsequent Purchase Period or Offering.

A Participant may withdraw from an Offering at any time without affecting his or her eligibility to participate in future Offerings. In effect therefore, a Participant is given an option which he or she may or may not exercise at the end of a Purchase Period. However, once a Participant withdraws from an Offering, that Participant may not again participate in the same Offering.

In the event of a Transfer of Control of the Company (as defined in the ESPP), the Board, in its sole discretion, may arrange with the surviving, continuing, successor, or purchasing corporation or parent corporation thereof (the "Acquiring Corporation") to assume the Company's rights and obligations under the ESPP. Purchase Rights which are neither assumed by the Acquiring Corporation nor exercised as of the Transfer of Control terminate as of the date of the Transfer of Control.

The Board may amend or terminate the ESPP but may not affect Purchase Rights previously granted under the ESPP or adversely affect the right of any Participant except as permitted by the ESPP, as necessary to qualify the ESPP as an employee stock purchase plan pursuant to Section 423 of the Code or to obtain qualification or registration of the Shares under applicable foreign, federal or state securities laws. The stockholders must approve any amendment changing the number of Shares reserved under the ESPP or changing the definition of the employees (or class of employees) eligible for participation in the ESPP or the definition of a corporation that may be designated by the Board as a Participating Company within 12 months of the adoption of such amendment.

Federal Income Tax Consequences

The following summary is intended only as a general guide as to the United States federal income tax consequences under current law of participation in the ESPP and does not attempt to describe all possible federal or other tax consequences of such participation. Furthermore, the tax consequences are complex and subject to change, and a taxpayer's particular situation may be such that some variation of the described rules is applicable. This summary assumes that the exercise of a Purchase Right under the ESPP constitutes an exercise pursuant to an "employee stock purchase plan" under Section 423 of the Code.

Purchase Rights

Generally, there are no tax consequences to an employee of either becoming a Participant in the ESPP or purchasing Shares under the ESPP. The tax consequences of a disposition of Shares vary depending on the period such stock is held before its disposition. If a Participant disposes of Shares within two years of the Offering Date or within one year after the Purchase Date on which the Shares are acquired (a "disqualifying disposition"), the Participant

recognizes ordinary income in the year of disposition in an amount equal to the excess (if any) of the fair market value of the Shares on the Purchase Date (determined without regard to securities law restrictions) over the purchase price. Any additional gain or resulting loss recognized by the Participant from the disposition of the Shares is a capital gain or loss.

If the Participant disposes of Shares more than two years after the Offering Date or more than one year after the Purchase Date on which the Shares are acquired, or dies while holding Shares (whether or not within such periods) the Participant recognizes ordinary income in the year of disposition or death in an amount equal to the lesser of (1) the excess of the fair market value of the Shares on the date of disposition or death over the purchase price or (2) the excess of the fair market value of the Shares on the date of disposition or death over the purchase price cannot be determined at the date of the Offering Date, then the purchase price is determined as though the option were exercised when granted. Any additional gain recognized by the Participant on the disposition of the Shares in a disqualifying disposition, the Company is entitled to a deduction equal to the amount of ordinary income recognized by the Participant as a result, subject to any applicable limitations under Section 162(m) of the Code. In all other cases, no deduction is allowed the Company.

Adjustments Upon Changes in Capitalization and Other Events

In the event of changes in the common stock of the Company due to a stock split, reverse stock split, stock dividend, recapitalization, combination, reclassification, or like change in the Company's capitalization, or in the event of any merger (including a merger effected for the purpose of changing the Company's domicile), sale or other reorganization, appropriate adjustments shall be made by the Company in the securities subject to purchase under a Purchase Right, the ESPP's Share reserve, the number of Shares subject to a Purchase Right, and in the purchase price per Share.

Restrictions on Resale of Stock

Employees who are executive officers or directors of the Company are subject to the reporting and "short swing" profits liability provisions of Section 16 of the Exchange Act. Such provisions may restrict resale of the Company's common stock purchased under the ESPP. In addition, shares so received by a person deemed an "affiliate" of the Company under the Securities Act must be registered for resale by such person unless such resale complies with the provisions of Rule 144 under the Securities Act. Rule 405 under the Securities Act defines "affiliate" as "a person that directly or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with" the Company. The foregoing is not intended to be a complete statement of applicable law, and employees should rely on their own legal counsel.

THE BOARD RECOMMENDS A VOTE "FOR" THE APPROVAL OF THE AMENDMENT. THE AFFIRMATIVE VOTE OF THE MAJORITY OF SHARES PRESENT VIRTUALLY OR REPRESENTED BY PROXY AT THE MEETING AND ENTITLED TO VOTE ON THE SUBJECT MATTER IS REQUIRED FOR APPROVAL.

ADDITIONAL INFORMATION

Householding of Annual Meeting Materials

Some banks, brokers and other nominee record holders may be participating in the practice of "householding" proxy statements and annual reports. This means that only one copy of the Internet Notice, and, if applicable, a single set of our proxy statement and 2022 Annual Report, may have been sent to multiple stockholders in your household. We will promptly deliver a separate copy of either document to you if you contact us at: Mustang Bio, Inc., 377 Plantation Street, Worcester, Massachusetts 01605, Attn: Matthew Wein. You may also contact us at (781) 652-4500.

If you want to receive separate copies of the Internet Notice, or proxy statement and annual report in the future, or if you are receiving multiple copies and would like to receive only one copy for your household, you should contact your bank, broker, or other nominee record holder, or you may contact us at the above address or phone number.

Stockholder Proposals for Our 2024 Annual Meeting

Only proper proposals under Rule 14a-8 of the Exchange Act which are timely received will be included in the proxy materials for our next annual meeting. In order to be considered timely, such proposal must be received by our General Counsel and Corporate Secretary, Matthew Wein, at 377 Plantation Street, Worcester, Massachusetts 01605, no later than December 30, 2023. We suggest that stockholders submit any stockholder proposal by certified mail, return receipt requested.

Our Bylaws require stockholders to provide advance notice to the Company of any stockholder director nomination(s) and any other matter a stockholder wishes to present for action at an annual meeting of stockholders (other than matters to be included in our proxy statement, which are discussed in the previous paragraph). In order to properly bring business before an annual meeting, our Bylaws require, among other things, that the stockholder submit written notice thereof complying with our Bylaws to Matthew Wein, our General Counsel and Corporate Secretary, at the above address, not less than 50 days nor more than 90 days prior to the anniversary of the preceding year's annual meeting. Therefore, the Company must receive notice of a stockholder proposal submitted other than pursuant to Rule 14a-8 (as discussed above) no sooner than March 23, 2024, and no later than May 2, 2024. If a stockholder fails to provide timely notice of a proposal to be presented at our 2024 Annual Meeting of Stockholders, the proxy designated by our Board will have discretionary authority to vote on any such proposal that may come before the meeting.

In addition to satisfying the foregoing requirements under the Company's Bylaws, to comply with the universal proxy rules (once effective), shareholders who intend to solicit proxies in support of director nominees other than the Company's nominees must provide notice that sets forth the information required by Rule 14a-19 under the Exchange Act no later than April 22, 2024.

Other Matters

Our Board does not know of any other matters that may come before the meeting. However, if any other matters are properly presented to the meeting, it is the intention of the person named in the accompanying proxy card to vote, or otherwise act, in accordance with their judgment on such matters.

Solicitation of Proxies

We will bear the cost of solicitation of proxies. In addition to the solicitation of proxies by mail, our officers and employees may solicit proxies in person or by telephone. We may reimburse brokers or persons holding stock in their names, or in the names of their nominees, for their expenses in sending proxies and proxy material to beneficial owners.

Incorporation of Information by Reference

The Audit Committee Report contained in this proxy statement is not deemed filed with the SEC and shall not be deemed incorporated by reference into any prior or future filings made by us under the Securities Act of 1933, as amended or the



Exchange Act, except to the extent that we specifically incorporate such information by reference. Our Annual Report on Form 10-K for the year ended December 31, 2022, delivered to you together with this proxy statement, is hereby incorporated by reference.

EXHIBIT A

AMENDMENT NO. 2 TO THE MUSTANG BIO, INC. 2019 EMPLOYEE STOCK PURCHASE PLAN

This amendment (the "Amendment") to the Mustang Bio, Inc. 2019 Employee Stock Purchase Plan, as amended (the "Plan"), is hereby adopted this _____ day of June, 2023, by the Board of Directors (the "Board") of Mustang Bio, Inc. (the "Company").

WITNESETH:

WHEREAS, the Company adopted the Plan for the purposes set forth therein; and

WHEREAS, pursuant to Section 21 of the Plan, the Board has the right to amend the Plan with respect to certain matters, provided that any material increase in the number of Shares available under the Plan shall be subject to stockholder approval; and

WHEREAS, the Board has approved and authorized this Amendment to the Plan and has recommended that the stockholders of the Company approve this Amendment;

NOW, THEREFORE, BE IT RESOLVED, that the Plan is hereby amended, subject to and effective as of the date of stockholder approval hereof, in the following particulars:

1. Section 3 of the Plan is hereby amended by increasing the share references in such section from 66,666 to 466,666, so that such section reads in its entirety as follows:

"3. Share Reserve. The maximum number of shares which may be issued under the Plan shall be 466,666 shares of Mustang's authorized but unissued common stock, \$0.0001 par value (the "Shares"). In the event that any Purchase Right for any reason expires or is canceled or terminated, the Shares allocable to the unexercised portion of such Purchase Right may again be subjected to a Purchase Right."

2. Section 7(b) is hereby amended by increasing the Purchase Right from 333 to 5,000 so that such section reads in its entirety as follows:

"(b) 5,000 Shares."

3. Except as specifically set forth herein, the terms of the Plan shall be and remain unchanged, and the Plan as amended shall remain in full force and effect.

The foregoing is hereby acknowledged as being the Amendment to the Plan, as adopted by the Board on March 28, 2023, and approved by the Company's stockholders on June , 2023.

MUSTANG BIO, INC.

By:

Name: Manuel Litchman, M.D. Title: President and Chief Executive Officer MUSTANG BIO, INC. 377 PLANTATION STREET WORCESTER, MA 01605



VOTE BY INTERNET Before The Meeting - Go to www.proxyvote.com or scan the QR Barcode above

Use the Internet to transmit your voting instructions and for electronic delivery of information. Vote by 11:59 PM. ET on June 20, 2023. 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/MBIO2023

You may attend the meeting via the Internet and vote during the 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. ET on June 20, 2023. 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:

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The		BIO, INC. ard of Directors recommends yo wing:	u vote FOR	For All	Withhold All	For All Except	To withhold authority to vote for any individua nominee(s), mark "For All Except" and write the number(s) of the nominee(s) on the line below.				_
1.	Elec	ction of Directors		Ο	O	O					
	Nor	minees:									- 1
	02)	Lindsay Rosenwald, M.D. 0	04) Manuel Litch 05) Michael Zele 06) Adam J. Chil	fsky,							
The	e Boar	rd of Directors recommends you vot	te FOR the follow	ving	proposals				For	Against	Abstair
2.	Rati	ify the appointment of KPMG LLP as th	e Company's inde	pend	lent registe	red public	accounting firm for the year ending December 31,	, 2023.	Ο	O	O
3.	App	prove the compensation of the Compa	ny's named execut	ive a	fficers, in a	n advisory	vote.		0	O	O
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4.		prove the frequency with which the Co cers, in an advisory vote.	mpany will hold a	n ad	visory vote	on the cor	npensation of our named executive	0	0	O	0
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5.	Am	endment of the 2019 Employee Stock I reunder from 66,666 to 466,666 and in	Purchase Plan, as a ncrease the numb	amen er of	ded, of Mu shares of C	stang Bio, Common S	Inc. to increase the number of shares of Common 9 tock subject to a Purchase Right thereunder from 3	Stock issuable 133 to 5,000.	0	0	0
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<u> </u>	inature	(PLEASE SIGN WITHIN BOX)	Date				Signature (Joint Owners)	Date			

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:

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

V16352-P93832

MUSTANG BIO, INC. Annual Meeting of Stockholders June 21, 2023 1:00 PM, EDT This proxy is solicited by the Board of Directors

The stockholder(s) hereby appoint(s) Manuel Litchman, M.D. as proxy with the power to appoint his substitute, and hereby authorize(s) him to represent and to vote, as designated on the reverse side of this ballot, all of the shares of (Common/Preferred) Stock of MUSTANG BIO, INC. that the stockholder(s) is/are entitled to vote at the Annual Meeting of Stockholders to be held at 1:00 PM, EDT on June 21, 2023, virtually at www.virtualshareholdermeeting.com/MBIO2023, and any adjournment or postponement thereof.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations.

Continued and to be signed on reverse side