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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**FORM 8-K**

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**CURRENT REPORT  
Pursuant to Section 13 or 15(d)  
of the Securities Exchange Act of 1934**

**Date of Report (Date of earliest event reported): December 6, 2023**

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**89bio, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction  
of incorporation)

**001-39122**  
(Commission  
File Number)

**36-4946844**  
(IRS Employer  
Identification No.)

**142 Sansome Street, Second Floor  
San Francisco, CA 94104**  
(Address of principal executive offices, including zip code)

**(415) 432-9270**  
(Registrant's telephone number, including area code)

**Not Applicable**  
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.001 per share	ETNB	The Nasdaq Global Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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**Item 1.01 Entry into a Material Definitive Agreement**

On December 6, 2023, 89bio, Inc. (the “Company”) entered into an underwriting agreement (“Underwriting Agreement”) with BofA Securities, Inc. and Leerink Partners LLC, as the representatives of the underwriters named therein (the “Underwriters”), to issue and sell 15,135,135 shares of the Company’s common stock at a public offering price of \$9.25 per share and, in lieu of common stock to a certain investor, pre-funded warrants to purchase 1,081,081 shares of the Company’s common stock (the “Pre-Funded Warrants”) at a public offering price of \$9.249 per share, which represents the per share public offering price for the common stock less the \$0.001 per share exercise price for each Pre-Funded Warrant (the “Offering”). In addition, the Company has granted the Underwriters an option for a period of 30 days to purchase up to an additional 2,432,432 shares of its common stock at the public offering price, less the underwriting discounts and commissions. On December 7, 2023, the Underwriters exercised their option in full.

The Pre-Funded Warrants will be exercisable at any time after the date of issuance. A holder of Pre-Funded Warrants may not exercise the warrant if the holder, together with its affiliates, would beneficially own more than 4.99% or 9.99%, as applicable, of the number of shares of common stock outstanding immediately after giving effect to such exercise. A holder of Pre-Funded Warrants may increase or decrease this percentage to a percentage not in excess of 19.99% by providing at least 61 days’ prior notice to the Company.

The net proceeds from the Offering are expected to be approximately \$161.7 million, after deducting the Underwriters’ discounts and commissions and estimated offering expenses and after giving effect to the Option.

The securities described above were offered pursuant to a shelf registration statement (File No. 333-272144), which was previously filed with the U.S. Securities and Exchange Commission (the “SEC”) and automatically became effective on May 23, 2023. A final prospectus supplement dated December 6, 2023 relating to and describing the terms of the Offering was filed with the SEC on December 8, 2023. The Offering is expected to close on December 11, 2023.

In the Underwriting Agreement, the Company agreed to indemnify the Underwriters against certain liabilities, including liabilities under the Securities Act of 1933, as amended, or to contribute payments that the underwriters may be required to make because of such liabilities.

A copy of the Underwriting Agreement and the form of Pre-Funded Warrant are filed as Exhibit 1.1 and 4.1, respectively, and are incorporated herein by reference. The foregoing descriptions of the Underwriting Agreement and the Pre-Funded Warrants do not purport to be complete and are qualified in their entirety by reference to such exhibit.

A copy of the opinion of Gibson, Dunn & Crutcher LLP relating to the validity of the issuance and sale of the shares of the common stock and the Pre-Funded Warrants in the Offering is filed herewith as Exhibit 5.1.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

**Exhibit**

<b>No.</b>	<b>Description</b>
1.1	<a href="#">Underwriting Agreement, dated as of December 6, 2023, by and among 89bio, Inc., BofA Securities, Inc. and Leerink Partners LLC</a>
4.1	<a href="#">Form of Pre-Funded Warrant</a>
5.1	<a href="#">Opinion of Gibson, Dunn &amp; Crutcher LLP</a>
23.1	<a href="#">Consent of Gibson, Dunn &amp; Crutcher LLP (included in Exhibit 5.1)</a>
104	The cover page from the Company’s Current Report on Form 8-K formatted in Inline XBRL.

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: December 8, 2023

**89bio, Inc.**

By: /s/ Rohan Palekar  
Rohan Palekar  
Chief Executive Officer

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89BIO, INC.

(a Delaware corporation)

15,135,135 Shares of Common Stock

Pre-Funded Warrants to Purchase 1,081,081 Shares of Common Stock

UNDERWRITING AGREEMENT

Dated: December 6, 2023

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89BIO, INC.

(a Delaware corporation)

15,135,135 Shares of Common Stock

Pre-Funded Warrants to Purchase 1,081,081 Shares of Common Stock

**UNDERWRITING AGREEMENT**

December 6, 2023

BofA Securities, Inc.  
Leerink Partners LLC

as Representatives of the several Underwriters

c/o BofA Securities, Inc.  
One Bryant Park  
New York, New York 10036

c/o Leerink Partners LLC  
1301 Avenue of the Americas, 12th Floor  
New York, New York 10019

Ladies and Gentlemen:

89bio, Inc., a Delaware corporation (the "Company"), confirms its agreement with BofA Securities, Inc. ("BofA") and Leerink Partners LLC ("Leerink Partners") and each of the other Underwriters named in Schedule A hereto (collectively, the "Underwriters," which term shall also include any underwriter substituted as hereinafter provided in Section 10 hereof), for whom BofA and Leerink Partners are acting as representatives (in such capacity, the "Representatives"), with respect to the sale by the Company and the purchase by the Underwriters, acting severally and not jointly, of the respective numbers of (i) shares of Common Stock, par value \$0.001 per share, of the Company (the "Common Stock") and (ii) pre-funded warrants, in the form set forth in Exhibit B hereto, to purchase shares of Common Stock (the "Pre-Funded Warrants"), each as set forth in Schedule A hereto, and the grant by the Company to the Underwriters, acting severally and not jointly, of the option described in Section 2(b) hereof to purchase all or any part of 2,432,432 additional shares of Common Stock. The aforesaid 15,135,135 shares of Common Stock (the "Initial Shares") and Pre-Funded Warrants to purchase 1,081,081 shares of Common Stock (together with the Initial Shares, the "Initial Securities") to be purchased by the Underwriters and all or any part of the 2,432,432 shares of Common Stock subject to the option described in Section 2(b) hereof (the "Option Securities" and together with the Initial Shares, the "Shares") are herein called, collectively, the "Securities." The shares of Common Stock issuable upon exercise of the Pre-Funded Warrants are herein called the "Warrant Shares."

The Company understands that the Underwriters propose to make a public offering of the Securities as soon as the Representatives deem advisable after this Agreement has been executed and delivered.

The Company has prepared and filed with the Securities and Exchange Commission (the "Commission") an automatic shelf registration statement on Form S-3 (No. 333-272144), covering the public offering and sale of certain securities, including the Securities, under the Securities Act of 1933, as amended (the "1933 Act"), and the rules and regulations promulgated thereunder (the "1933 Act Regulations"), which automatic shelf registration statement became effective under Rule 462(e) under the 1933 Act Regulations. Such registration statement, as of any time, means such registration statement as amended by any post-effective amendments thereto to such time, including the exhibits and any schedules thereto at such time, the documents incorporated or deemed to be incorporated by reference therein at such time pursuant to Item 12 of Form S-3 under the 1933 Act and the documents otherwise deemed to be a part thereof as of such time pursuant to Rule 430B under the 1933 Act Regulations ("Rule 430B"), is referred to herein as the "Registration Statement;" provided, however, that the "Registration Statement" without reference to a time means such registration statement as amended by any post-effective amendments thereto as of the time of the first contract of sale for the Securities, which time shall be considered the "new effective date" of such registration statement with respect to the Securities within the meaning of paragraph (f)(2) of Rule 430B, including the exhibits and schedules thereto as of such time, the documents incorporated or deemed incorporated by reference therein at such time pursuant to Item 12 of Form S-3 under the 1933 Act and the documents otherwise deemed to be a part thereof as of such time pursuant to Rule 430B. Each preliminary prospectus used in connection with the offering of the Securities, including the documents incorporated or deemed to be incorporated by reference therein pursuant to Item 12 of Form S-3 under the 1933 Act, are collectively referred to herein as a "preliminary prospectus." Promptly after execution and delivery of this Agreement, the Company will prepare and file a final prospectus relating to the Securities in accordance with the provisions of Rule 424(b) under the 1933 Act Regulations ("Rule 424(b)"). The final prospectus, in the form first furnished or made available to the Underwriters for use in connection with the offering of the Securities, including the documents incorporated or deemed to be incorporated by reference therein pursuant to Item 12 of Form S-3 under the 1933 Act, are collectively referred to herein as the "Prospectus." For purposes of this Agreement, all references to the Registration Statement, any preliminary prospectus, the Prospectus or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval system or any successor system ("EDGAR").

As used in this Agreement:

"1934 Act" means the Securities Exchange Act of 1934, as amended.

"1934 Act Regulations" means the rules and regulations of the Commission under the 1934 Act.

"Applicable Time" means 10:00 p.m., New York City time, on December 6, 2023 or such other time as agreed by the Company and BofA.

"General Disclosure Package" means any Issuer General Use Free Writing Prospectuses issued at or prior to the Applicable Time, the most recent preliminary prospectus (including any documents incorporated therein by reference) that is distributed to investors prior to the Applicable Time and the information included on Schedule B-1 hereto, all considered together.

"Issuer Free Writing Prospectus" means any "issuer free writing prospectus," as defined in Rule 433 of the 1933 Act Regulations ("Rule 433"), including without limitation any "free writing prospectus" (as defined in Rule 405 of the 1933 Act Regulations ("Rule 405")) relating to the Securities that is (i) required to be filed with the Commission by the Company, (ii) a "road show that is a written communication" within the meaning of Rule 433(d)(8)(i), whether or not required to be filed with the Commission, or (iii) exempt from filing with the Commission pursuant to Rule 433(d)(5)(i) because it contains a description of the Securities or of the offering that does not reflect the final terms, in each case, in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company's records pursuant to Rule 433(g).

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“Issuer General Use Free Writing Prospectus” means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors (other than a “*bona fide* electronic road show,” as defined in Rule 433), as evidenced by its being specified in Schedule B-2 hereto.

“Issuer Limited Use Free Writing Prospectus” means any Issuer Free Writing Prospectus that is not an Issuer General Use Free Writing Prospectus.

“Testing-the-Waters Communication” means any oral or written communication with potential investors undertaken in reliance on Section 5(d) of the 1933 Act.

“Written Testing-the-Waters Communication” means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the 1933 Act.

All references in this Agreement to financial statements and schedules and other information which is “contained,” “included” or “stated” in the Registration Statement, any preliminary prospectus or the Prospectus (or other references of like import) shall be deemed to include all such financial statements and schedules and other information incorporated or deemed incorporated by reference in or otherwise deemed by 1933 Act Regulations to be a part of or included in the Registration Statement, any preliminary prospectus or the Prospectus, as the case may be, prior to the execution and delivery of this Agreement; and all references in this Agreement to amendments or supplements to the Registration Statement, any preliminary prospectus or the Prospectus shall be deemed to include the filing of any document under the 1934 Act, which is incorporated or deemed to be incorporated by reference in or otherwise deemed by 1933 Act Regulations to be a part of or included in the Registration Statement, such preliminary prospectus or the Prospectus, as the case may be, at or after the execution and delivery of this Agreement.

#### SECTION 1. Representations and Warranties.

(a) *Representations and Warranties by the Company.* The Company represents and warrants to each Underwriter as of the date hereof, the Applicable Time, the Closing Time (as defined below) and any Date of Delivery (as defined below), and agrees with each Underwriter, as follows:

(i) Registration Statement and Prospectuses. The Company meets the requirements for use of FormS-3 under the 1933 Act. The Registration Statement is an “automatic shelf registration statement” (as defined in Rule 405) and the Securities have been and remain eligible for registration by the Company on such automatic shelf registration statement. Each of the Registration Statement and any post-effective amendment thereto has become effective under the 1933 Act. No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued by the Commission and no proceedings for any of those purposes have been instituted or are pending or, to the Company’s knowledge, contemplated by the Commission. The Company has complied with each request (if any) from the Commission for additional information.

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Each of the Registration Statement and any post-effective amendment thereto, at the time of its effectiveness, each deemed effective date with respect to the Underwriters pursuant to Rule 430B(f)(2) under the 1933 Act Regulations, the Applicable Time, the Closing Time and any Date of Delivery complied and will comply in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations. Each preliminary prospectus, the Prospectus and any amendment or supplement thereto, at the time each was filed with the Commission, and, in each case, at the Applicable Time, the Closing Time and any Date of Delivery complied and will comply in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations. Each preliminary prospectus delivered to the Underwriters for use in connection with this offering and the Prospectus was or will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

The documents incorporated or deemed to be incorporated by reference in the Registration Statement, any preliminary prospectus and the Prospectus, when they became effective or at the time they were or hereafter are filed with the Commission, complied and will comply in all material respects with the requirements of the 1934 Act and the 1934 Act Regulations.

(ii) Accurate Disclosure. Neither the Registration Statement nor any amendment thereto, at its effective time, on the date hereof, at the Closing Time or at any Date of Delivery, contained, contains or will contain an untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. At the Applicable Time and any Date of Delivery, none of (A) the General Disclosure Package, (B) any individual Issuer Limited Use Free Writing Prospectus, when considered together with the General Disclosure Package and (C) any individual Written Testing-the-Waters Communication, when considered together with the General Disclosure Package, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. Neither the Prospectus nor any amendment or supplement thereto, as of its issue date, at the time of any filing with the Commission pursuant to Rule 424(b), at the Closing Time or at any Date of Delivery, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The documents incorporated or deemed to be incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus, at the time the Registration Statement became effective or when such documents incorporated by reference were filed with the Commission, as the case may be, when read together with the other information in the Registration Statement, the General Disclosure Package or the Prospectus, as the case may be, did not and will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading.

The representations and warranties in this subsection shall not apply to statements in or omissions from the Registration Statement (or any amendment thereto), the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) made in reliance upon and in conformity with written information furnished to the Company by any Underwriter through BofA expressly for use therein. For purposes of this Agreement, the only information so furnished shall be the information in the first paragraph under the heading “Underwriting—Commissions and Discounts,” the information in the second, third and fourth paragraphs under the heading “Underwriting—Price Stabilization and Short Positions” and the information under the heading “Underwriting—Electronic Distribution” in each case contained in the Prospectus (collectively, the “Underwriter Information”).



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(iii) Issuer Free Writing Prospectuses. No Issuer Free Writing Prospectus conflicts or will conflict with the information contained in the Registration Statement or the Prospectus, including any document incorporated by reference therein, and any preliminary or other prospectus deemed to be a part thereof that has not been superseded or modified. The foregoing sentence does not apply to statements in or omissions from any Issuer Free Writing Prospectus made in reliance upon and in conformity with the Underwriter Information. Any offer that is a written communication relating to the Securities made prior to the initial filing of the Registration Statement by the Company or any person acting on its behalf (within the meaning, for this paragraph only, of Rule 163(c) of the 1933 Act Regulations) has been filed with the Commission in accordance with the exemption provided by Rule 163 under the 1933 Act Regulations (“Rule 163”) and otherwise complied with the requirements of Rule 163, including without limitation the legending requirement, to qualify such offer for the exemption from Section 5(c) of the 1933 Act provided by Rule 163.

(iv) Well-Known Seasoned Issuer. (A) At the original effectiveness of the Registration Statement, (B) at the time of the most recent amendment thereto for the purposes of complying with Section 10(a)(3) of the 1933 Act (whether such amendment was by post-effective amendment, incorporated report filed pursuant to Section 13 or 15(d) of the 1934 Act or form of prospectus), (C) at the time the Company or any person acting on its behalf (within the meaning, for this clause only, of Rule 163(c) under the 1933 Act) made any offer relating to the Securities in reliance on the exemption of Rule 163 under the 1933 Act, and (D) as of the Applicable Time, the Company was and is a “well-known seasoned issuer” (as defined in Rule 405).

(v) Testing-the-Waters Materials. The Company (A) has not engaged in any Testing-the-Waters Communication other than Testing-the-Waters Communications with the consent of the Representatives with entities that are qualified institutional buyers within the meaning of Rule 144A under the 1933 Act or institutions that are accredited investors within the meaning of Rule 501 under the 1933 Act and (B) has not authorized anyone other than the Representatives to engage in Testing-the-Waters Communications. The Company reconfirms that the Representatives have been authorized to act on its behalf in undertaking Testing-the-Waters Communications specifically authorized by the Company. The Company has not distributed any Written Testing-the-Waters Communications other than those listed on Schedule B-3 hereto.

(vi) Company Not Ineligible Issuer. At the time of filing the Registration Statement and any post-effective amendment thereto, at the earliest time thereafter that the Company or another offering participant made a *bona fide* offer (within the meaning of Rule 164(h)(2) of the 1933 Act Regulations) of the Securities and at the date hereof, the Company was not and is not an “ineligible issuer,” as defined in Rule 405, without taking account of any determination by the Commission pursuant to Rule 405 that it is not necessary that the Company be considered an ineligible issuer.

(vii) Emerging Growth Company Status. From the time of the initial filing of the Registration Statement with the Commission (or, if earlier, the first date on which the Company engaged directly or through any Person authorized to act on its behalf in any Testing-the-Waters Communication) through the date hereof, the Company has been and is an “emerging growth company,” as defined in Section 2(a) of the 1933 Act (an “Emerging Growth Company”).

(viii) Independent Accountants. The accountants who certified the financial statements included in the Registration Statement, the General Disclosure Package and the Prospectus are independent public accountants with respect to the Company as required by the 1933 Act, the 1933 Act Regulations, the 1934 Act, the 1934 Act Regulations and the Public Company Accounting Oversight Board.

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(ix) Financial Statements. The financial statements included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus, together with the related notes, present fairly in all material respects the financial position of the Company and its consolidated subsidiaries at the dates indicated and the statements of operations and comprehensive loss, stockholders' equity and cash flows of the Company and its consolidated subsidiaries for the periods specified; said financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP") applied on a consistent basis throughout the periods involved except, in the case of unaudited interim financial statements, subject to normal year-end audit adjustments and the exclusion of certain footnotes as permitted by the applicable rules of the Commission. The selected financial data and the summary financial information included in the Registration Statement, the General Disclosure Package and the Prospectus present fairly in all material respects the information shown therein and have been compiled on a basis consistent with that of the audited financial statements included therein. Except as included therein, no historical or pro forma financial statements or supporting schedules are required to be included or incorporated by reference in the Registration Statement, the General Disclosure Package or the Prospectus under the 1933 Act or the 1933 Act Regulations. The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto.

(x) No Material Adverse Change in Business. Except as otherwise stated therein, since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, (A) there has been no material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company and its subsidiaries considered as one enterprise, whether or not arising in the ordinary course of business (a "Material Adverse Effect"), (B) there have been no transactions entered into by the Company or any of its subsidiaries, other than those in the ordinary course of business, which are material with respect to the Company and its subsidiaries considered as one enterprise, and (C) there has been no dividend or distribution of any kind declared, paid or made by the Company on any class of its capital stock.

(xi) Good Standing of the Company. The Company has been duly organized and is validly existing as a corporation in good standing under the laws of the State of Delaware and has corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus and to enter into and perform its obligations under this Agreement; and the Company is duly qualified as a foreign corporation to transact business and is in good standing in each other jurisdiction (or such equivalent concept to the extent it exists under the laws of such jurisdiction) in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure so to qualify or to be in good standing would not result in a Material Adverse Effect.

(xii) Good Standing of Subsidiaries. Each "significant subsidiary" of the Company (as such term is defined in Rule 1-02 of Regulation S-X) (each, a "Subsidiary" and, collectively, the "Subsidiaries") has been duly organized and is validly existing in good standing under the laws of the jurisdiction of its incorporation or organization (or such equivalent concept to the extent it exists under the laws of such jurisdiction), has corporate or similar power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus and is duly qualified to transact business and is in good standing in each jurisdiction in which such qualification is required (or such equivalent

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concept to the extent it exists under the laws of such jurisdiction), whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to so qualify or to be in good standing would not result in a Material Adverse Effect. Except as otherwise disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, all of the issued and outstanding capital stock of each Subsidiary has been duly authorized and validly issued, is fully paid and non-assessable (or such equivalent concept to the extent it exists under the laws of such jurisdiction) and is owned by the Company, directly or through subsidiaries, free and clear of any security interest, mortgage, pledge, lien, encumbrance, claim or equity. None of the outstanding shares of capital stock of any Subsidiary were issued in violation of the preemptive or similar rights of any securityholder of such Subsidiary. The only subsidiaries of the Company are the subsidiaries listed on Exhibit 21.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 2022.

(xiii) Capitalization. The outstanding shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and non-assessable. None of the outstanding shares of capital stock of the Company were issued in violation of the preemptive or other similar rights of any securityholder of the Company.

(xiv) Authorization of Agreement. This Agreement has been duly authorized, executed and delivered by the Company.

(xv) Authorization and Description of Securities. The Securities to be purchased by the Underwriters from the Company have been duly authorized for issuance and sale to the Underwriters pursuant to this Agreement and, when issued and delivered by the Company pursuant to this Agreement against payment of the consideration set forth herein, will be validly issued and fully paid and non-assessable; and the issuance of the Securities is not subject to the preemptive or other similar rights of any securityholder of the Company except as have been duly and validly waived in writing as of the date of this Agreement. The Common Stock conforms in all material respects to all statements relating thereto contained in the Registration Statement, the General Disclosure Package and the Prospectus and such description conforms in all material respects to the rights set forth in the instruments defining the same. The Pre-Funded Warrants to be purchased by the Underwriters from the Company have been duly authorized for issuance and sale to the Underwriters pursuant to this Agreement and, when executed and delivered by the Company pursuant to this Agreement against payment of the consideration set forth herein, will be valid and binding agreements of the Company, enforceable against the Company in accordance with their terms, except as the enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting the rights and remedies of creditors or by general equitable principles. The Warrant Shares have been duly authorized and validly reserved for issuance upon exercise of the Pre-Funded Warrants in a number sufficient to meet the current exercise requirements. The Warrant Shares, when issued and delivered upon exercise of the Pre-Funded Warrants and in accordance therewith, will be validly issued, fully paid and nonassessable, and the issuance of the Warrant Shares is not subject to any preemptive rights, rights of first refusal or other similar rights to subscribed for or purchase the Warrant Shares. The Securities, when issued, will conform to the description thereof set forth in or incorporated into the Registration Statement, the General Disclosure Package and the Prospectus. No holder of Securities will be subject to personal liability by reason of being such a holder.

(xvi) Registration Rights. There are no persons with registration rights or other similar rights to have any securities registered for sale pursuant to the Registration Statement or otherwise registered for sale or sold by the Company under the 1933 Act pursuant to this Agreement, other than those rights that have been disclosed in the Registration Statement, the General Disclosure Package and the Prospectus and have been waived.

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(xvii) Absence of Violations, Defaults and Conflicts. Neither the Company nor any of its subsidiaries is (A) in violation of its charter, by-laws or similar organizational document, (B) in default in the performance or observance of any obligation, agreement, covenant or condition contained in any contract, indenture, mortgage, deed of trust, loan or credit agreement, note, lease or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which it or any of them may be bound or to which any of the properties or assets of the Company or any subsidiary is subject (collectively, “Agreements and Instruments”), except for such defaults that would not reasonably be expected to, singly or in the aggregate, result in a Material Adverse Effect, or (C) in violation of any law, statute, rule, regulation, judgment, order, writ or decree of any arbitrator, court, governmental body, regulatory body, administrative agency or other authority, body or agency having jurisdiction over the Company or any of its subsidiaries or any of their respective properties, assets or operations (each, a “Governmental Entity”), except for such violations that would not reasonably be expected to, singly or in the aggregate, result in a Material Adverse Effect. The execution, delivery and performance of this Agreement and the Pre-Funded Warrants and the consummation of the transactions contemplated herein and in the Registration Statement, the General Disclosure Package and the Prospectus (including the issuance and sale of the Securities and the Warrant Shares and the use of the proceeds from the sale of the Securities as described therein under the caption “Use of Proceeds”) and compliance by the Company with its obligations hereunder and under the Pre-Funded Warrants have been duly authorized by all necessary corporate action and do not and will not, whether with or without the giving of notice or passage of time or both, conflict with or constitute a breach of, or default or Repayment Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any properties or assets of the Company or any subsidiary pursuant to, the Agreements and Instruments (except for such conflicts, breaches, defaults or Repayment Events or liens, charges or encumbrances that would not, singly or in the aggregate, result in a Material Adverse Effect), nor will such action result in any violation of (x) the provisions of the charter, by-laws or similar organizational document of the Company or any of its subsidiaries or (y) any law, statute, rule, regulation, judgment, order, writ or decree of any Governmental Entity, except with respect to clause (y), such violations as would not reasonably be expected to, singly or in the aggregate, result in a Material Adverse Effect. As used herein, a “Repayment Event” means any event or condition which gives the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder’s behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or any of its subsidiaries.

(xviii) Absence of Labor Dispute. No labor dispute with the employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or any subsidiary’s principal suppliers, manufacturers, partners, collaborators, customers or contractors, which, in either case, would result in a Material Adverse Effect.

(xix) Absence of Proceedings. There is no action, suit, proceeding, inquiry or investigation before or brought by any Governmental Entity now pending or, to the knowledge of the Company, threatened, against or affecting the Company or any of its subsidiaries, which would reasonably be expected to result in a Material Adverse Effect, or which would reasonably be expected to materially and adversely affect their respective properties or assets or the consummation of the transactions contemplated in this Agreement or the performance by the Company of its obligations hereunder; and the aggregate of all pending legal or governmental proceedings to which the Company or any such subsidiary is a party or of which any of their respective properties or assets is the subject which are not described in the Registration Statement, the General Disclosure Package and the Prospectus, including ordinary routine litigation incidental to the business, would not reasonably be expected to result in a Material Adverse Effect.

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(xx) Accuracy of Exhibits. There are no contracts or documents which are required under the 1933 Act or the 1933 Act Regulations to be described in the Registration Statement, the General Disclosure Package or the Prospectus or to be filed as exhibits to the Registration Statement which have not been so described and filed as required.

(xxi) Absence of Further Requirements. No filing with, or authorization, approval, consent, license, order, registration, qualification or decree of, any Governmental Entity is necessary or required for the performance by the Company of its obligations hereunder, in connection with the offering, issuance or sale of the Securities hereunder or the consummation of the transactions contemplated by this Agreement and the Pre-Funded Warrants, except (A) such as have been already obtained or as may be required under the 1933 Act, the 1933 Act Regulations, the rules of The Nasdaq Global Market, state securities laws or the rules of the Financial Industry Regulatory Authority, Inc. (“FINRA”); or (B) such as which the failure to obtain would not, singly or in the aggregate, impair the power or ability of the Company to perform its obligations under this Agreement or consummate the transactions contemplated hereby.

(xxii) Possession of Licenses and Permits. The Company and its subsidiaries possess such permits, licenses, approvals, consents, exemptions and other authorizations (collectively, “Governmental Licenses”) issued by the appropriate Governmental Entities necessary to conduct the business now operated by them, except where the failure so to possess would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company and its subsidiaries are in compliance with the terms and conditions of all Governmental Licenses, except where the failure so to comply would not reasonably be expected to, singly or in the aggregate, result in a Material Adverse Effect. The Company has fulfilled and performed all of its material obligations with respect to the Governmental Licenses and no event has occurred which allows, or after notice or lapse of time would allow, revocation or termination thereof or results in any other material impairment of the rights of the Company as a holder of any permit, except where the failure to so fulfill or perform, or the occurrence of such event, would not, singly or in the aggregate, result in a Material Adverse Effect. All of the Governmental Licenses are valid and in full force and effect, except when the invalidity of such Governmental Licenses or the failure of such Governmental Licenses to be in full force and effect would not, singly or in the aggregate, reasonably be expected to, result in a Material Adverse Effect. Neither the Company nor any of its subsidiaries has received any notice of proceedings relating to the revocation or modification of, or non-compliance with, any Governmental Licenses which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would reasonably be expected to result in a Material Adverse Effect.

(xxiii) Title to Property. The Company and its subsidiaries have good and marketable title to all real property owned by them and good title to all other properties owned by them, in each case, free and clear of all mortgages, pledges, liens, security interests, claims, restrictions or encumbrances of any kind except such as (A) are described in the Registration Statement, the General Disclosure Package and the Prospectus or (B) do not, singly or in the aggregate, materially and adversely affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company or any of its subsidiaries; and all of the leases and subleases material to the business of the Company and its subsidiaries, considered as one enterprise, and under which the Company or any of its subsidiaries holds properties described in the Registration Statement, the General Disclosure Package or the Prospectus, are in full force

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and effect, except to the extent that any such failure to be in full force and effect would not, singly or in the aggregate, result in a Material Adverse Effect, and neither the Company nor any such subsidiary has any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company or any subsidiary under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company or such subsidiary to the continued possession of the leased or subleased premises under any such lease or sublease.

(xxiv) Possession of Intellectual Property. The Company and its subsidiaries own, or have obtained adequate rights and licenses under, or can acquire rights on reasonable terms to, all patents, patent rights, patent applications, inventions, copyrights, other works of authorship, know how (including trade secrets and other proprietary or confidential information, systems or procedures), trademarks, service marks, trade names, trade and service mark registrations, trade names, designs, processes, licenses, computer programs, technical data and information, and other intellectual property (collectively, "Intellectual Property") that are necessary to carry on the business of the Company as currently conducted and to commercialize the products or services as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus as under development (all such Intellectual Property is collectively referred to as the "Company Intellectual Property"). Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, (A) to the Company's knowledge there are no third parties who have rights to any Intellectual Property, including no liens, security interest, or other encumbrances, except for customary reversionary rights of third-party licensors with respect to Intellectual Property that is disclosed in the Registration Statement, the General Disclosure Package and the Prospectus as licensed to the Company or one or more of its subsidiaries; (B) the Company has taken reasonable steps to secure its interests in the Intellectual Property owned by the Company from its employees and contractors; (C) to the Company's knowledge, there is no infringement, misappropriation or violation by third parties of any Company Intellectual Property owned by, or exclusively licensed to, the Company or its subsidiaries; (D) to the Company's knowledge, the Company is not infringing the intellectual property rights of third parties and (E) none of the Company Intellectual Property owned by the Company or, to the Company's knowledge, exclusively licensed to the Company has been adjudged invalid or unenforceable in whole or in part, in the case of clause (C) and clause (D), which infringement, misappropriation or violation, singly or in the aggregate, would reasonably be expected to result in a Material Adverse Effect. There is no pending or threatened action, suit, proceeding or claim by others of which the Company has received written notice: (A) challenging the Company's rights in or to any Company Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; (B) challenging the validity, enforceability or scope of any Company Intellectual Property owned by, or exclusively licensed to, the Company or its subsidiaries, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; or (C) asserting that the Company or any of its subsidiaries infringes or otherwise violates, or would, upon the commercialization of any product or service described in the Registration Statement, the General Disclosure Package or the Prospectus as under development, infringe or violate, any Intellectual Property rights of others, and the Company and its subsidiaries are unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim. To the Company's knowledge, no employee of the Company who has developed Company Intellectual Property is in violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company. The Company and its subsidiaries are in compliance in all material respects with the terms of each agreement pursuant to which Company Intellectual Property is licensed to the Company or any subsidiary, and all such agreements are in full force and effect in accordance with their terms. The patents included in the

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Company Intellectual Property owned by the Company or, to the Company's knowledge, exclusively licensed to the Company are subsisting and have not lapsed and the patent applications in the Intellectual Property owned by the Company or exclusively licensed to the Company are pending and have not been abandoned. To the Company's knowledge, except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, the Company and its subsidiaries are not obligated or under any liability whatsoever to make any material payment by way of royalties, fees or otherwise to any owner or licensee of, or other claimant to, any Intellectual Property, with respect to the use thereof or in connection with the conduct of their respective businesses or otherwise. No technology employed by the Company or its subsidiaries has been obtained or is being used by the Company or its subsidiaries in violation of any contractual or legal obligation binding on the Company, its subsidiaries, or any of their officers, directors, employees, or contractors, or in violation of any contractual rights of any persons. All patents and patent applications included in the Company Intellectual Property that are owned by or exclusively licensed to the Company have been duly and properly filed and maintained and the parties prosecuting such applications have complied in all material respects with their duty of candor and disclosure to the U.S. Patent and Trademark Office (the "USPTO") in connection with such applications. To the Company's knowledge, there is no patent or published patent application, in the U.S. or other jurisdiction, that is not included in the Company Intellectual Property and that, in the case of a patent, contains claims, or in the case of a published patent application contains patentable claims, that dominates any of the Company Intellectual Property described in the Preliminary Prospectus and Prospectus as being owned by or licensed to the Company or that interferes with the issued or pending claims of any of the Company Intellectual Property owned by or, to the Company's knowledge, exclusively licensed to the Company.

(xxv) Clinical Data and Regulatory Compliance. The preclinical tests and clinical trials, and other studies conducted by or on behalf of the Company (collectively, "studies") that are described in, or the results of which are referred to in, the Registration Statement, the General Disclosure Package or the Prospectus were and, if still pending, are being conducted in all material respects in accordance with the protocols, procedures and controls designed and approved for such studies and with Good Clinical Practices and all applicable laws, including, without limitation, the Federal Food, Drug, and Cosmetic Act and its implementing regulations at 21 C.F.R. Parts 50, 54, 56, 58, and 312; each description of the results of such studies is accurate and complete in all material respects and fairly presents the data derived from such studies, and the Company and its subsidiaries have no knowledge of any other studies the results of which are inconsistent with, or otherwise call into question, the results described or referred to in the Registration Statement, the General Disclosure Package or the Prospectus; neither the Company nor any of its subsidiaries has received any notice of, or correspondence from, any Regulatory Agency requiring the termination, suspension or modification of any clinical trials that are described or referred to in the Registration Statement, the General Disclosure Package or the Prospectus.

(xxvi) Compliance with Healthcare Laws. The Company: (i) has operated and currently operates its business in compliance in all material respects with applicable provisions of the health care laws, including Title XVIII of the Social Security Act, 42 U.S.C. §§ 1395-1395III (the Medicare statute); Title XIX of the Social Security Act, 42 U.S.C. §§ 1396-1396w-6 (the Medicaid statute); the Federal Anti-Kickback Statute, 42 U.S.C. § 1320a-7b(b); the civil False Claims Act, 31 U.S.C. §§ 3729 et seq.; the criminal False Claims Act 42 U.S.C.1320a-7b(a); the criminal laws relating to health care fraud and abuse, including 18 U.S.C. §§ 286 and 287 and the health care fraud criminal provisions under the Health Insurance Portability and Accountability Act of 1996, 42 U.S.C. §§ 1320d et seq., ("HIPAA"); the Civil Monetary Penalties Law, 42 U.S.C. §§ 1320a-7a; the Physician Payments Sunshine Act, 42 U.S.C. § 1320a-7h; the exclusion law, 42 U.S.C. § 1320a-7; HIPAA, as amended by the Health Information Technology for Economic and Clinical

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Health Act, 42 U.S.C. §§ 17921 et seq.; the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. §§ 301 et seq.; the Public Health Service Act, 42 U.S.C. §§ 201 et seq.; the regulations promulgated pursuant to such laws; and any similar federal, state, local and foreign laws and regulations of any governmental authority including the United States Food and Drug Administration of the U.S. Department of Health and Human Services or any committee thereof or from any other U.S. or foreign government or drug or medical device regulatory agency, or health care facility Institutional Review Board (collectively, the “Regulatory Agencies”) applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, storage, import, export or disposal of any of the Company’s product candidates, (collectively the “Health Care Laws”); (ii) has not received any United States Food and Drug Administration Form 483, written notice of adverse finding, warning letter, untitled letter or other correspondence or written notice from any court or arbitrator or governmental or regulatory authority alleging or asserting non-compliance with (A) any Health Care Laws or (B) any licenses, approvals, clearances, exemptions, permits, registrations, authorizations, and supplements or amendments thereto required by any such Health Care Laws (“Regulatory Authorizations”); (iii) possesses all Regulatory Authorizations required to conduct its business as currently conducted and such Regulatory Authorizations are valid and in full force and effect and the Company is not in violation, in any material respect, of any term of any such Regulatory Authorizations; (iv) has fulfilled and performed all of its material obligations with respect to the Regulatory Authorizations and, to the Company’s knowledge, no event has occurred which allows, or after notice or lapse of time would allow, revocation or termination thereof or results in any other material impairment of the rights of the holder of any such Regulatory Authorization; (v) has not received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action (“Proceeding”) from any governmental authority including any Regulatory Agency or any other third party alleging a material violation of any Health Care Laws or Regulatory Authorizations or limiting, suspending, modifying, or revoking any material Regulatory Authorizations, and has no knowledge that any governmental authority including any Regulatory Agencies or any other third party is considering any Proceeding; (vi) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws or Regulatory Authorizations (“Reports”) and that all such Reports were materially complete and correct on the date filed (or were materially corrected or supplemented by a subsequent submission); (vii) along with its employees, officers and directors, and to the Company’s knowledge, independent contractors and agents, is not a party to or has any ongoing reporting obligations pursuant to any corporate integrity agreements, deferred prosecution agreements, monitoring agreements, consent decrees, settlement orders, plans of correction or similar agreements with or imposed by any governmental authority including any Regulatory Agencies; and (viii) along with its employees, officers and directors, and, to the Company’s knowledge, independent contractors and agents, has not been excluded, suspended or debarred from, or otherwise ineligible for participation in any government health care program or human clinical research.

(xxvii) Environmental Laws. Except as would not, singly or in the aggregate, result in a Material Adverse Effect, (A) neither the Company nor any of its subsidiaries is in violation of any federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products, asbestos-containing materials or mold (collectively, “Hazardous Materials”) or to the manufacture, processing, distribution, use,



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treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, “Environmental Laws”), (B) the Company and its subsidiaries have all permits, authorizations and approvals required under any applicable Environmental Laws and are each in compliance with their requirements, (C) there are no pending or, to the Company’s knowledge, threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigations or proceedings relating to any Environmental Law against the Company or any of its subsidiaries and (D) to the Company’s knowledge, there are no events or circumstances that would reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or Governmental Entity, against or affecting the Company or any of its subsidiaries relating to Hazardous Materials or any Environmental Laws.

(xxviii) Accounting Controls and Disclosure Controls. The Company and its subsidiaries, on a consolidated basis, maintain a system of effective internal control over financial reporting (as defined under Rules 13-a15 and 15d-15 under the 1934 Act Regulations) and a system of internal accounting controls sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management’s general or specific authorization; (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (C) access to assets is permitted only in accordance with management’s general or specific authorization; (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (E) the interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus fairly presents the information called for in all material respects and is prepared in accordance with the Commission’s rules and guidelines applicable thereto. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, since the end of the Company’s most recent audited fiscal year, there has been (1) no material weakness in the Company’s internal control over financial reporting (whether or not remediated) and (2) no change in the Company’s internal control over financial reporting that has materially and adversely affected, or is reasonably likely to materially and adversely affect, the Company’s internal control over financial reporting.

The Company and each of its subsidiaries maintain an effective system of disclosure controls and procedures (as defined in Rule 13a-15 and Rule 15d-15 under the 1934 Act Regulations) that are designed to ensure that information required to be disclosed by the Company in the reports that it files or submits under the 1934 Act is recorded, processed, summarized and reported, within the time periods specified in the Commission’s rules and forms, and is accumulated and communicated to the Company’s management, including its principal executive officer or officers and principal financial officer or officers, as appropriate, to allow timely decisions regarding disclosure.

(xxix) Compliance with the Sarbanes-Oxley Act. There is and has been no failure on the part of the Company or any of the Company’s directors or officers, in their capacities as such, to comply in all material respects with any applicable provision of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated in connection therewith (the “Sarbanes-Oxley Act”), including Section 402 related to loans and Sections 302 and 906 related to certifications.

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(xxx) Payment of Taxes. All United States federal income tax returns of the Company and its subsidiaries required by law to be filed by them have been filed or a timely extension has been requested thereof and all taxes shown by such returns, which are due and payable, have been paid, except taxes against which appeals have been or will be promptly taken and as to which adequate reserves have been provided in accordance with GAAP or to the extent any failure to file or pay such taxes or assessments would not result in a Material Adverse Effect. The United States federal income tax returns of the Company through the fiscal year ended December 31, 2019 have been settled and no assessment in connection therewith has been made against the Company. The Company and its subsidiaries have filed all other tax returns that are required to have been filed by them pursuant to applicable foreign, state, local or other law except insofar as the failure to do so would not reasonably be expected to result in a Material Adverse Effect, and has paid all taxes due pursuant to such returns or pursuant to any assessment received by the Company and its subsidiaries, except for such taxes, if any, as are being contested in good faith and as to which adequate reserves have been established by the Company in accordance with GAAP or where the failure to do so would not result in a Material Adverse Effect. No tax deficiency has been determined adversely to the Company (nor does the Company have any notice or knowledge of any tax deficiency which could reasonably be expected to be determined adversely to the Company). The charges, accruals and reserves on the books of the Company in respect of any income or corporation tax liability for any years not finally determined are adequate to meet any assessments or re-assessments for additional income tax for any years not finally determined, except to the extent of any inadequacy that would not reasonably be expected to result in a Material Adverse Effect.

(xxxii) Insurance. The Company and its subsidiaries carry or are entitled to the benefits of insurance, with financially sound and reputable insurers, in such amounts and covering such risks as the Company reasonably believes is generally maintained by companies of established repute and comparable size engaged in the same or similar business, and all such insurance is in full force and effect. The Company has no reason to believe that it or any of its subsidiaries will not be able (A) to renew its existing insurance coverage as and when such policies expire or (B) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not reasonably be expected to result in a Material Adverse Effect. Neither of the Company nor any of its subsidiaries has been denied any insurance coverage which it has sought or for which it has applied.

(xxxiii) Investment Company Act. The Company is not required, and upon the issuance and sale of the Securities and Warrant Shares as herein contemplated and the application of the net proceeds therefrom as described in the Registration Statement, the General Disclosure Package and the Prospectus will not be required, to register as an “investment company” under the Investment Company Act of 1940, as amended.

(xxxiiii) Absence of Manipulation. Neither the Company nor any affiliate of the Company has taken, nor will the Company or any affiliate take, directly or indirectly, any action which is designed, or would reasonably be expected, to cause or result in, or which constitutes, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities and Warrant Shares or to result in a violation of Regulation M under the 1934 Act.

(xxxv) Foreign Corrupt Practices Act. None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company or any of its subsidiaries is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (the “FCPA”), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of

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anything of value to any “foreign official” (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the FCPA and the Company and, to the knowledge of the Company, its affiliates have conducted their businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(xxxv) Money Laundering Laws. The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all applicable jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Entity (collectively, the “Money Laundering Laws”); and no action, suit or proceeding by or before any Governmental Entity involving the Company or any of its subsidiaries with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(xxxvi) OFAC. None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or representative of the Company or any of its subsidiaries is an individual or entity (“Person”), currently the subject or target of any sanctions administered or enforced by the United States Government, including, without limitation, the U.S. Department of the Treasury’s Office of Foreign Assets Control (“OFAC”), the United Nations Security Council, the European Union, His Majesty’s Treasury, or other relevant sanctions authority (collectively, “Sanctions”), nor is the Company located, organized or resident in a country or territory that is the subject of Sanctions; and the Company will not directly or indirectly use the proceeds of the sale of the Securities, or lend, contribute or otherwise make available such proceeds to any subsidiaries, joint venture partners or other Person, to fund any activities of or business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions.

(xxxvii) Lending Relationship. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, the Company (i) does not have any material lending or other relationship with any banking or lending affiliate of any Underwriter and (ii) does not intend to use any of the proceeds from the sale of the Securities to repay any outstanding debt owed to any affiliate of any Underwriter.

(xxxviii) Statistical and Market-Related Data. Any statistical and market-related data included in the Registration Statement, the General Disclosure Package or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate and, to the extent required, the Company has obtained the written consent to the use of such data from such sources.

(xxxix) No Rated Debt. No securities issued or guaranteed by, or loans to, the Company are rated by any “nationally recognized statistical rating organization” (as defined by the Commission in Section 3(a)(62) of the 1934 Act).

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(xl) Data Privacy and Security Laws. The Company and its subsidiaries are, and at all prior times since inception were, in material compliance with all applicable data privacy and data security laws and regulations, including without limitation HIPAA, the HITECH Act, the European Union General Data Protection Regulation (“GDPR”) (EU 2016/679), and the California Consumer Privacy Act (“CCPA”) (and all other applicable laws and regulations with respect to Personal Data (defined below) that have been announced as of the date hereof as becoming effective within 12 months after the date hereof, and for which any non-compliance with same would be reasonably likely to create a material liability) (collectively, the “Privacy Laws”). To support compliance with the Privacy Laws, the Company and its subsidiaries have in place, and take appropriate steps reasonably designed to ensure compliance in all material respects with, policies and procedures relating to data privacy and data security and the collection, storage, use, disclosure, handling, and analysis of Sensitive Data (the “Policies”). At all times since inception, the Company has provided accurate notice of its Policies then in effect to its customers, employees, third party vendors and representatives. Each of the Company Policies provides accurate and sufficient notice of the Company’s then-current privacy practices relating to its subject matter and such Company Policies do not contain any material omissions of the Company’s then-current privacy practices. “Personal Data” means (i) a natural person’s name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver’s license number, passport number, credit card number, bank information, or customer or account number; (ii) any information which would qualify as “personally identifying information” under the Federal Trade Commission Act, as amended; (iii) Protected Health Information as defined by HIPAA; (iv) “personal data” as defined by GDPR, and (v) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person’s health or sexual orientation that is not aggregated with the data of other individuals or otherwise irreversibly anonymized such that a natural person cannot be identified. “Sensitive Data” means any Personal Data or any sensitive, proprietary, or trade secret information of the Company or any such information of a third party in the possession of the Company. The Company and its subsidiaries since inception have at all times made all disclosures to users or customers required by applicable laws and regulatory rules or requirements, and have provided accurate notice of its Policies then in effect to its customers, employees, third party vendors and representatives. None of such disclosures made or contained in any of the Policies have been inaccurate, misleading, deceptive or in violation of any Privacy Laws or Policies in any material respect. The execution, delivery and performance of this Agreement or any other agreement referred to in this Agreement will not result in a breach of violation of any Privacy Laws or Policies. The Company further certifies that neither it nor any subsidiary: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

(xli) Cybersecurity: Data Protection (A) To the Company’s knowledge, and except as has been disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, there has been no security breach or incident, attack, or other compromise of or relating to any of the Company or its subsidiaries information technology and computer systems, networks, hardware, software, data and databases (including the data of their respective customers, employees, suppliers, vendors and any third party data maintained, processed or stored by the Company and its subsidiaries, and any such data processed or stored by third parties on behalf of the Company and its subsidiaries), equipment or technology (collectively, “IT Systems and Data”); (B) neither the Company nor its subsidiaries have been notified of, and each of them have no knowledge of, any event or condition that would reasonably be expected to result in, any material security breach or incident, attack or other compromise to their IT Systems and Data and (C) the Company and its subsidiaries have implemented appropriate controls, policies, procedures, and technological safeguards reasonably likely to maintain and protect the integrity, continuous

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operation, redundancy and security of their IT Systems and Data reasonably consistent with industry standards and practices, or as required by applicable regulatory standards. The Company and its subsidiaries are presently in compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification, except as would not be reasonably expected to result in a Material Adverse Effect.

(b) *Officer's Certificates.* Any certificate signed by any officer of the Company or any of its subsidiaries delivered to the Representatives or to counsel for the Underwriters shall be deemed a representation and warranty by the Company to each Underwriter as to the matters covered thereby.

## SECTION 2. Sale and Delivery to Underwriters: Closing

(a) *Initial Securities.* On the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, the Company agrees to sell to each Underwriter, severally and not jointly, and each Underwriter, severally and not jointly, agrees to purchase from the Company, (i) at the price per share set forth in Schedule A (the "Share Purchase Price"), that number of Initial Shares set forth in Schedule A opposite the name of such Underwriter, and (ii) at the price per Pre-Funded Warrant set forth in Schedule A, that number of Pre-Funded Warrants set forth in Schedule A opposite the name of such Underwriter, plus any additional number of Initial Securities which such Underwriter may become obligated to purchase pursuant to the provisions of Section 10 hereof, subject, in each case, to such adjustments among the Underwriters as the Representatives in their sole discretion shall make to eliminate any sales or purchases of fractional shares.

(b) *Option Securities.* In addition, on the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, the Company hereby grants an option to the Underwriters, severally and not jointly, to purchase up to an additional 2,432,432 shares of Common Stock, at the price per share set forth in Schedule A, less an amount per share equal to any dividends or distributions declared by the Company and payable on the Initial Securities but not payable on the Option Securities. The option hereby granted may be exercised for 30 days after the date hereof and may be exercised in whole or in part at any time from time to time upon notice by the Representatives to the Company setting forth the number of Option Securities as to which the several Underwriters are then exercising the option and the time and date of payment and delivery for such Option Securities. Any such time and date of delivery (a "Date of Delivery") shall be determined by the Representatives but shall not be later than seven full business days after the exercise of said option, nor in any event prior to the Closing Time. If the option is exercised as to all or any portion of the Option Securities, each of the Underwriters, acting severally and not jointly, will purchase that proportion of the total number of Option Securities then being purchased which the number of Initial Securities set forth in Schedule A opposite the name of such Underwriter bears to the total number of Initial Securities, subject, in each case, to such adjustments as the Representatives in their sole discretion shall make to eliminate any sales or purchases of fractional shares.

(c) *Payment.* Payment of the purchase price for, and delivery of certificates or security entitlements for, the Initial Securities shall be made at the offices of Cooley LLP, 3 Embarcadero Center, 20th Floor, San Francisco, California 94111, or at such other place as shall be agreed upon by the Representatives and the Company, at 10:00 a.m. (New York City time) on the second (third, if the pricing occurs after 4:30 p.m. (New York City time) on any given day) business day after the date hereof (unless postponed in accordance with the provisions of Section 10), or such other time not later than ten business days after such date as shall be agreed upon by the Representatives and the Company (such time and date of payment and delivery being herein called the "Closing Time").

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In addition, in the event that any or all of the Option Securities are purchased by the Underwriters, payment of the purchase price for, and delivery of certificates or security entitlements for, such Option Securities shall be made at the above-mentioned offices, or at such other place as shall be agreed upon by the Representatives and the Company, on each Date of Delivery as specified in the notice from the Representatives to the Company.

Payment shall be made to the Company by wire transfer of immediately available funds to the bank accounts designated by the Company against delivery to the Representatives for the respective accounts of the Underwriters of certificates or security entitlements for the Securities to be purchased by them. It is understood that each Underwriter has authorized the Representatives, for its account, to accept delivery of, receipt for, and make payment of the purchase price for, the Initial Securities and the Option Securities, if any, which it has agreed to purchase. Each of the Representatives, individually and not as representative of the Underwriters, may (but shall not be obligated to) make payment of the purchase price for the Initial Securities and the Option Securities, if any, to be purchased by any Underwriter whose funds have not been received by the Closing Time or the relevant Date of Delivery, as the case may be, but such payment shall not relieve such Underwriter from its obligations hereunder.

Notwithstanding the foregoing, the Company and the Representatives shall instruct purchasers of the Pre-Funded Warrants in the public offering to make payment for the Pre-Funded Warrants on the Closing Date to the Company by wire transfer in immediately available funds to the account specified by the Company, at a purchase price of \$9.249 per Pre-Funded Warrant, in lieu of payment by the Underwriters for such Pre-Funded Warrants, and the Company shall deliver such Pre-Funded Warrants to such purchasers on the Closing Date in definitive form against such payment, in lieu of the Company's obligation to deliver such Pre-Funded Warrants to the Underwriters; provided that, the Company shall promptly (but in no event later than the Closing Date), pay \$8.694 per such Pre-Funded Warrant to the Underwriters by wire transfer in immediately available funds to the account specified by the Representatives.

In the event that any purchaser of the Pre-Funded Warrants in the public offering fails to make payment to the Company for all or part of the Pre-Funded Warrants on the Closing Date, the Representatives may elect, by written notice to the Company, to receive shares of Common Stock at the Share Purchase Price in lieu of all or a portion of such Pre-Funded Warrants to be delivered to the Underwriters under this Agreement.

### SECTION 3. Covenants.

(a) *Covenants of the Company.* The Company covenants with each Underwriter as follows:

(i) *Compliance with Securities Regulations and Commission Requests.* The Company will comply with the requirements of Rule 430B, and will notify the Representatives promptly, and confirm the notice in writing, (i) when any post-effective amendment to the Registration Statement shall become effective or any amendment or supplement to the Prospectus shall have been filed, (ii) of the receipt of any comments from the Commission, (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus, including any document incorporated by reference therein, or for additional information, (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment or of any order preventing or suspending the use of any preliminary prospectus or the Prospectus, or of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes or of any examination pursuant to Section 8(d) or 8(e) of the 1933 Act concerning the Registration Statement and (v) if the Company becomes the subject of a proceeding under Section 8A of the 1933 Act in connection with the offering of the Securities. The Company will effect all filings required under Rule 424(b), in the manner and within

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the time period required by Rule 424(b) (without reliance on Rule 424(b)(8)), and will take such steps as it deems necessary to ascertain promptly whether the form of prospectus transmitted for filing under Rule 424(b) was received for filing by the Commission and, in the event that it was not, it will promptly file such prospectus. The Company will make every reasonable effort to prevent the issuance of any stop order, prevention or suspension and, if any such order is issued, to obtain the lifting thereof as soon as reasonably practicable. The Company shall pay the required Commission filing fees relating to the Securities within the time required by Rule 456(b)(1)(i) under the 1933 Act Regulations without regard to the proviso therein and otherwise in accordance with Rules 456(b) and 457(r) under the 1933 Act Regulations (including, if applicable, by updating the "Calculation of Registration Fee" table in accordance with Rule 456(b)(1)(ii) either in a post-effective amendment to the Registration Statement or on the cover page of a prospectus filed pursuant to Rule 424(b)).

(ii) *Continued Compliance with Securities Laws.* The Company will comply with the 1933 Act, the 1933 Act Regulations, the 1934 Act and the 1934 Act Regulations so as to permit the completion of the distribution of the Securities as contemplated in this Agreement and in the Registration Statement, the General Disclosure Package and the Prospectus. If at any time when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172 of the 1933 Act Regulations ("Rule 172"), would be) required by the 1933 Act to be delivered in connection with sales of the Securities, any event shall occur or condition shall exist as a result of which it is necessary, in the opinion of counsel for the Underwriters or for the Company, to (i) amend the Registration Statement in order that the Registration Statement will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) amend or supplement the General Disclosure Package or the Prospectus in order that the General Disclosure Package or the Prospectus, as the case may be, will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading in the light of the circumstances existing at the time it is delivered to a purchaser or (iii) amend the Registration Statement or amend or supplement the General Disclosure Package or the Prospectus, as the case may be, in order to comply with the requirements of the 1933 Act or the 1933 Act Regulations, the Company will promptly (A) give the Representatives notice of such event, (B) prepare any amendment or supplement as may be necessary to correct such statement or omission or to make the Registration Statement, the General Disclosure Package or the Prospectus comply with such requirements and, a reasonable amount of time prior to any proposed filing or use, furnish the Representatives with copies of any such amendment or supplement and (C) file with the Commission any such amendment or supplement; provided, that the Company shall not file or use any such amendment or supplement to which the Representatives or counsel for the Underwriters shall reasonably object. The Company will furnish to the Underwriters such number of copies of such amendment or supplement as the Underwriters may reasonably request. The Company has given the Representatives notice of any filings made pursuant to the 1934 Act or 1934 Act Regulations as soon as practicable prior to the Applicable Time; the Company will give the Representatives notice of its intention to make any such filing from the Applicable Time to the Closing Time and will furnish the Representatives with copies of any such documents a reasonable amount of time prior to such proposed filing, as the case may be, and will not file or use any such document to which the Representatives or counsel for the Underwriters shall reasonably object.

(iii) *Delivery of Registration Statements.* The Company has furnished or will deliver to the Representatives and counsel for the Underwriters, without charge, conformed copies of the Registration Statement as originally filed and each amendment thereto (including exhibits filed therewith or incorporated by reference therein and documents incorporated or deemed to be incorporated by reference therein) and conformed copies of all consents and certificates of experts. The copies of the Registration Statement and each amendment thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

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(iv) *Delivery of Prospectuses.* The Company has delivered to each Underwriter, without charge, as many copies of each preliminary prospectus as such Underwriter reasonably requested, and the Company hereby consents to the use of such copies for purposes permitted by the 1933 Act. The Company will furnish to each Underwriter, without charge, during the period when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the 1933 Act, such number of copies of the Prospectus (as amended or supplemented) as such Underwriter may reasonably request. The Prospectus and any amendments or supplements thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(v) *Blue Sky Qualifications.* The Company will use its reasonable best efforts, in cooperation with the Underwriters, to qualify the Securities for offering and sale under the applicable securities laws of such states and other jurisdictions (domestic or foreign) as the Representatives may designate and to maintain such qualifications in effect so long as required to complete the distribution of the Securities; provided, however, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

(vi) *Rule 158.* The Company will timely file such reports pursuant to the 1934 Act as are necessary in order to make generally available (which may be satisfied by filing with the Commission pursuant to EDGAR) to its securityholders as soon as practicable an earnings statement for the purposes of, and to provide to the Underwriters the benefits contemplated by, the last paragraph of Section 11(a) of the 1933 Act.

(vii) *Use of Proceeds.* The Company will use the net proceeds received by it from the sale of the Securities in the manner specified in the Registration Statement, the General Disclosure Package and the Prospectus under "Use of Proceeds."

(viii) *Listing.* The Company will use its reasonable best efforts to effect and maintain the listing of the Common Stock (including the Shares and the Warrant Shares) on The Nasdaq Global Market.

(ix) *Restriction on Sale of Securities.* During a period of 60 days from the date of the Prospectus, the Company will not, without the prior written consent of the Representatives, (i) directly or indirectly, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock or file or confidentially submit any registration statement under the 1933 Act with respect to any of the foregoing or (ii) enter into any swap or any other agreement or any transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Common Stock, whether any such swap or transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash or otherwise. The foregoing sentence shall not apply to (A) the Securities to be sold hereunder (including the issuance of the Pre-Funded Warrants and Warrant Shares), (B) any shares of Common Stock issued by the Company upon the exercise (including any net exercise or exercise



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by delivery of already-owned shares of Common Stock) of an option or warrant or the conversion of a security outstanding on the date hereof and referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (C) any shares of Common Stock issued or options to purchase Common Stock or restricted stock units covering shares of Common Stock granted pursuant to existing employee benefit plans of the Company referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (D) any shares of Common Stock issued or options to purchase shares of Common Stock granted pursuant to any non-employee director compensation plan or dividend reinvestment plan referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (E) the filing by the Company of a registration statement with the Commission on Form S-8 or a successor form thereto with respect to the registration of securities to be offered under any plans or programs referred to in clauses (C) and (D) above and (F) the sale or issuance of or entry into an agreement to sell or issue shares of Common Stock or other securities issued in connection with any (1) merger, (2) acquisition of securities, businesses, properties or other assets, (3) joint venture or (4) strategic alliance or relationship; provided, that the aggregate number of shares issued pursuant to this clause (F) shall not exceed 10.0% of the total number of outstanding shares of Common Stock immediately following the issuance and sale of the Securities; provided further that the recipient of any such shares of Common Stock or securities issued pursuant to clauses (B), (C), (D) and (F) during the 60-day restricted period shall enter into an agreement substantially in the form of Exhibit A hereto with respect to (and not in excess of) the 60-day restricted period and only if such recipient did not previously enter into such an agreement with the Representatives. Notwithstanding the foregoing, the Company may effect sales pursuant to the Sales Agreement, by and among the Company, SVB Securities and Cantor Fitzgerald & Co, dated March 25, 2021, as amended on February 15, 2023, provided that (X) the Company notifies the Representatives prior to effecting any sales and (Y) no sales shall be made for a period of 30 days from the date of the Prospectus.

(x) *Reporting Requirements.* The Company, during the period when a Prospectus relating to the Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the 1933 Act, will file all documents required to be filed with the Commission pursuant to the 1934 Act within the time periods required by the 1934 Act and 1934 Act Regulations. Additionally, the Company shall report the use of proceeds from the issuance of the Securities as may be required under Rule 463 under the 1933 Act.

(xi) *Issuer Free Writing Prospectuses.* The Company agrees that, unless it obtains the prior written consent of the Representatives, it will not make any offer relating to the Securities that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a “free writing prospectus,” or a portion thereof, required to be filed by the Company with the Commission or retained by the Company under Rule 433; provided that the Representatives will be deemed to have consented to the Issuer Free Writing Prospectuses listed on Schedule B-2 hereto and any “road show that is a written communication” within the meaning of Rule 433(d)(8)(i) that has been reviewed by the Representatives. The Company represents that it has treated or agrees that it will treat each such free writing prospectus consented to, or deemed consented to, by the Representatives as an “issuer free writing prospectus,” as defined in Rule 433, and that it has complied and will comply with the applicable requirements of Rule 433 with respect thereto, including timely filing with the Commission where required, legending and record keeping. If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information contained in the Registration Statement, any preliminary prospectus or the Prospectus or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

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(xii) *Certification Regarding Beneficial Owners.* The Company will deliver to the Representatives, on the date of execution of this Agreement, a properly completed and executed Certification Regarding Beneficial Owners of Legal Entity Customers, together with copies of identifying documentation, and the Company undertakes to provide such additional supporting documentation as the Representatives may reasonably request in connection with the verification of the foregoing certification.

(xiii) *Testing-the-Waters Materials.* If at any time following the distribution of any Written Testing-the-Waters Communication there occurred or occurs an event or development as a result of which such Written Testing-the-Waters Communication included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Written Testing-the-Waters Communication to eliminate or correct such untrue statement or omission.

(xiv) *Emerging Growth Company Status.* The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) completion of the distribution of the Securities within the meaning of the 1933 Act and (ii) completion of the 60-day restricted period referred to in Section 3(a)(ix).

(xv) *Warrant Shares.* The Company shall, at all times while any Pre-Funded Warrants are outstanding, use its commercially reasonable best efforts to maintain a registration statement covering the issue and sale of the Warrant Shares upon exercise of the Pre-Funded Warrants such that the Warrant Shares, when issued, will not be subject to resale restrictions under the Securities Act except to the extent that the Warrant Shares are owned by affiliates. The Company shall, at all times while any Pre-Funded Warrants are outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved shares of Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of such Pre-Funded Warrants, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of the then-outstanding Pre-Funded Warrants.

#### SECTION 4. Payment of Expenses.

(a) *Expenses.* The Company will pay or cause to be paid all expenses incident to the performance of its obligations under this Agreement including (i) the preparation, printing and filing of the Registration Statement (including financial statements and exhibits) as originally filed and each amendment thereto, (ii) the preparation, printing and delivery to the Underwriters of copies of each preliminary prospectus, each Issuer Free Writing Prospectus and the Prospectus and any amendments or supplements thereto and any costs associated with electronic delivery of any of the foregoing by the Underwriters to investors, (iii) the preparation, issuance and delivery of the certificates or security entitlements for the Securities to the Underwriters and the Pre-Funded Warrants to the purchasers, including any stock or other transfer taxes and any stamp or other duties payable upon the sale, issuance or delivery of the Securities to the Underwriters, (iv) the fees and disbursements of the Company's counsel, accountants and other advisors, (v) the qualification of the Securities under securities laws in accordance with the provisions of Section 3(a)(v) hereof, including filing fees and the reasonable fees and disbursements of counsel for the Underwriters in connection therewith and in connection with the preparation of the Blue Sky Survey and any supplement thereto, (vi) the fees and expenses of any transfer agent or registrar for the Securities, (vii)

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the costs and expenses of the Company relating to investor presentations on any “road show” undertaken in connection with the marketing of the Securities, including without limitation, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged by the Company or with the Company’s prior written consent (which may be by email) in connection with the road show presentations, travel and lodging expenses of the representatives and officers of the Company and any such consultants, and the cost of aircraft and other transportation (provided that the travel and lodging expenses of the Representatives shall be paid for by the Underwriters), and fifty percent (50%) of the cost of any aircraft chartered in connection with the road show (with the Underwriters agreeing to pay for the other fifty percent (50%) of the cost of such chartered aircraft), (viii) the filing fees incident to, and the reasonable fees and disbursements of counsel to the Underwriters in connection with, the review by FINRA of the terms of the sale of the Securities, with such legal fees, taken together with the legal fees described in clause (v) above, not to exceed \$40,000; (ix) the fees and expenses incurred in connection with the listing of the Securities and the Warrant Shares on The Nasdaq Global Market and (x) the costs and expenses (including, without limitation, any damages or other amounts payable in connection with legal or contractual liability) associated with the reforming of any contracts for sale of the Securities made by the Underwriters caused by a breach of the representation contained in the third sentence of Section 1(a)(ii). Except as provided in this Section 4, the Underwriters will pay all of their own costs and expenses, including the fees and disbursements of their counsel, stock transfer taxes payable on the resale of any of the Securities by them and any advertising expenses connected with any offers they may make.

(b) *Termination of Agreement.* If this Agreement is terminated by the Representatives in accordance with the provisions of Section 5, Section 9(a)(i) or (iii) or Section 10 hereof, the Company shall reimburse the non-defaulting Underwriters for all of their reasonable out-of-pocket expenses actually incurred, including the reasonable fees and disbursements of counsel for the Underwriters.

SECTION 5. Conditions of Underwriters’ Obligations. The obligations of the several Underwriters hereunder are subject to the accuracy of the representations and warranties of the Company contained herein or in certificates of any officer of the Company or any of its subsidiaries delivered pursuant to the provisions hereof, to the performance by the Company of its covenants and other obligations hereunder, and to the following further conditions:

(a) *Effectiveness of Registration Statement.* The Registration Statement has become effective and, at the Closing Time, no stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company’s knowledge, contemplated; and the Company has complied with each request (if any) from the Commission for additional information. The Company shall have paid the required Commission filing fees relating to the Securities within the time period required by Rule 456(b)(1)(i) under the 1933 Act Regulations without regard to the proviso therein and otherwise in accordance with Rules 456(b) and 457(r) under the 1933 Act Regulations and, if applicable, shall have updated the “Calculation of Registration Fee” table in accordance with Rule 456(b)(1)(ii) either in a post-effective amendment to the Registration Statement or on the cover page of a prospectus filed pursuant to Rule 424(b).

(b) *Opinion and Negative Assurance Letter of Counsel for Company.* At the Closing Time, the Representatives shall have received an opinion and negative assurance letter, dated the Closing Time, of Gibson, Dunn & Crutcher LLP, counsel for the Company, in form and substance satisfactory to counsel for the Underwriters, together with signed or reproduced copies of such letter for each of the other Underwriters.

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(c) *Opinion of Intellectual Property Counsels for Company.* At the Closing Time, the Representatives shall have received the favorable opinion, dated the Closing Time, of Greenberg Traurig, LLP, intellectual property counsel for the Company, in form and substance satisfactory to counsel for the Underwriters, together with signed or reproduced copies of such letter for each of the other Underwriters.

(d) *Opinion and Negative Assurance Letter of Counsel for Underwriters.* At the Closing Time, the Representatives shall have received the favorable opinion and negative assurance letter, dated the Closing Time, of Cooley LLP, counsel for the Underwriters, in the form and substance reasonably satisfactory to the Representatives, together with signed or reproduced copies of such letter for each of the other Underwriters.

(e) *Officers' Certificate.* At the Closing Time, there shall not have been, since the date hereof or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, any Material Adverse Effect change, and the Representatives shall have received a certificate of the Chief Executive Officer or the President of the Company and of the chief financial or chief accounting officer of the Company, dated the Closing Time, to the effect that (i) there has been no such material adverse change, (ii) the representations and warranties of the Company in this Agreement are true and correct with the same force and effect as though expressly made at and as of the Closing Time, (iii) the Company has complied in all material respects with all agreements and satisfied all conditions on its part to be performed or satisfied at or prior to the Closing Time, and (iv) no stop order suspending the effectiveness of the Registration Statement under the 1933 Act has been issued, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to their knowledge, contemplated by the Commission.

(f) *Accountant's Comfort Letter.* At the time of the execution of this Agreement, the Representatives shall have received from KPMG LLP, a letter, dated such date, in form and substance satisfactory to the Representatives, together with signed or reproduced copies of such letter for each of the other Underwriters containing statements and information of the type ordinarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and certain financial information contained in the Registration Statement, the General Disclosure Package and the Prospectus.

(g) *Bring-down Comfort Letter.* At the Closing Time, the Representatives shall have received from KPMG LLP, a letter, dated as of the Closing Time, to the effect that they reaffirm the statements made in the letter furnished pursuant to subsection (f) of this Section, except that the specified date referred to shall be a date not more than three business days prior to the Closing Time.

(h) *Approval of Listing.* At the Closing Time, the Securities and the Warrant Shares shall have been approved for listing on The Nasdaq Global Market, subject only to official notice of issuance.

(i) *No Objection.* FINRA has confirmed that it has not raised any objection with respect to the fairness and reasonableness of the underwriting terms and arrangements relating to the offering of the Securities.

(j) *Lock-up Agreements.* At the date of this Agreement, the Representatives shall have received an agreement substantially in the form of Exhibit A hereto signed by each of the Company's directors and officers and their respective affiliates.

(k) *No Rated Securities.* Neither the Company nor its subsidiaries have any debt securities or preferred stock that are rated by any "nationally recognized statistical rating organization" (as defined in Section 3(a)(62) of the 1934 Act).

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(l) *Conditions to Purchase of Option Securities.* In the event that the Underwriters exercise their option provided in Section 2(b) hereof to purchase all or any portion of the Option Securities, the representations and warranties of the Company contained herein and the statements in any certificates furnished by the Company and any of its subsidiaries hereunder shall be true and correct as of each Date of Delivery and, at the relevant Date of Delivery, the Representatives shall have received, if applicable:

(i) Officers' Certificate. A certificate, dated such Date of Delivery, of the President or a Vice President of the Company and of the chief financial or chief accounting officer of the Company confirming that the certificate delivered at the Closing Time pursuant to Section 5(e) hereof remains true and correct as of such Date of Delivery.

(ii) Opinion and Negative Assurance Letter of Counsel for Company. If requested by the Representatives, the favorable opinion and negative assurance letter of Gibson, Dunn & Crutcher LLP, counsel for the Company, in form and substance satisfactory to counsel for the Underwriters, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinion required by Section 5(b) hereof.

(iii) Opinion of Intellectual Property Counsels for Company. If requested by the Representatives, the favorable opinion of Greenberg Traurig, LLP, intellectual property counsel for the Company, in form and substance satisfactory to counsel for the Underwriters, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinion required by Section 5(c) hereof.

(iv) Opinion and Negative Assurance Letter of Counsel for Underwriters. If requested by the Representatives, the favorable opinion and negative assurance letter of Cooley LLP, counsel for the Underwriters, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinion required by Section 5(d) hereof.

(v) Bring-down Comfort Letter. If requested by the Representatives, a letter from KPMG LLP, a letter, dated such date, in form and substance satisfactory to the Representatives and dated such Date of Delivery, substantially in the same form and substance as the letter furnished to the Representatives pursuant to Section 5(f) hereof, except that the "specified date" in the letter furnished pursuant to this paragraph shall be a date not more than three business days prior to such Date of Delivery.

(m) *Additional Documents.* At the Closing Time and at each Date of Delivery (if any) counsel for the Underwriters shall have been furnished with such documents and opinions as they may reasonably require for the purpose of enabling them to pass upon the issuance and sale of the Securities as herein contemplated, or in order to evidence the accuracy of any of the representations or warranties, or the fulfillment of any of the conditions, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Securities as herein contemplated shall be reasonably satisfactory in form and substance to the Representatives and counsel for the Underwriters.

(n) *Termination of Agreement.* If any condition specified in this Section shall not have been fulfilled when and as required to be fulfilled, this Agreement, or, in the case of any condition to the purchase of Option Securities on a Date of Delivery which is after the Closing Time, the obligations of the several Underwriters to purchase the relevant Option Securities, may be terminated by the Representatives by notice to the Company at any time at or prior to Closing Time or such Date of Delivery, as the case may be, and such termination shall be without liability of any party to any other party except as provided in Section 4 and except that Sections 1, 6, 7, 8, 14, 15, 16 and 17 shall survive any such termination and remain in full force and effect.

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SECTION 6. Indemnification.

(a) *Indemnification of Underwriters.* The Company agrees to indemnify and hold harmless each Underwriter, its affiliates (as such term is defined in Rule 501(b) under the 1933 Act (each, an "Affiliate")), its selling agents and each person, if any, who controls any Underwriter within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act as follows:

(i) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, arising out of any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), including any information deemed to be a part thereof pursuant to Rule 430B, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading or arising out of any untrue statement or alleged untrue statement of a material fact included (A) in any preliminary prospectus, any Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto), or (B) in any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Securities ("Marketing Materials"), including any road show (as defined in Rule 433(h) under the 1933 Act) or investor presentations made to investors by the Company (whether in person or electronically), or the omission or alleged omission in any preliminary prospectus, Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, Prospectus or in any Marketing Materials of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(ii) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that (subject to Section 6(d) below) any such settlement is effected with the written consent of the Company;

(iii) against any and all expense whatsoever, as incurred (including the fees and disbursements of counsel chosen by the Representatives), reasonably incurred in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission, to the extent that any such expense is not paid under (i) or (ii) above;

provided, however, that this indemnity agreement shall not apply to any loss, liability, claim, damage or expense to the extent arising out of any untrue statement or omission or alleged untrue statement or omission made in the Registration Statement (or any amendment thereto), including any information deemed to be a part thereof pursuant to Rule 430B, the General Disclosure Package, any preliminary prospectus, any Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, any Marketing Materials or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the Underwriter Information.

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(b) *Indemnification of Company and Directors and Officers.* Each Underwriter severally agrees to indemnify and hold harmless the Company, its directors, each of its officers who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act against any and all loss, liability, claim, damage and expense described in the indemnity contained in subsection (a) of this Section, as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendment thereto), including any information deemed to be a part thereof pursuant to Rule 430B, the General Disclosure Package, any preliminary prospectus, any Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, any Marketing Materials or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the Underwriter Information.

(c) *Actions against Parties; Notification.* Each indemnified party shall give notice as promptly as reasonably practicable to each indemnifying party of any action commenced against it in respect of which indemnity may be sought hereunder, but failure to so notify an indemnifying party shall not relieve such indemnifying party from any liability hereunder to the extent it is not materially prejudiced as a result thereof and in any event shall not relieve it from any liability which it may have otherwise than on account of this indemnity agreement. In the case of parties indemnified pursuant to Section 6(a) above, counsel to the indemnified parties shall be selected by the Representatives, and, in the case of parties indemnified pursuant to Section 6(b) above, counsel to the indemnified parties shall be selected by, in the case of any indemnification in favor of the Company or its directors or officers, the Company. An indemnifying party may participate at its own expense in the defense of any such action; provided, however, that counsel to the indemnifying party shall not (except with the consent of the indemnified party) also be counsel to the indemnified party. In no event shall the indemnifying parties be liable for fees and expenses of more than one counsel (in addition to any local counsel) separate from their own counsel for all indemnified parties in connection with any one action or separate but similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances. No indemnifying party shall, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of any judgment with respect to any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever in respect of which indemnification or contribution could be sought under this Section 6 or Section 7 hereof (whether or not the indemnified parties are actual or potential parties thereto), unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party from all liability arising out of such litigation, investigation, proceeding or claim and (ii) does not include a statement as to an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) *Settlement without Consent if Failure to Reimburse.* If at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 6(a)(ii) or settlement of any claim in connection with any violation referred to in Section 6(c) effected without its written consent if (i) such settlement is entered into more than 45 days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall have received notice of the terms of such settlement at least 30 days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

SECTION 7. Contribution. If the indemnification provided for in Section 6 hereof is for any reason unavailable to or insufficient to hold harmless an indemnified party in respect of any losses, liabilities, claims, damages or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount of such losses, liabilities, claims, damages and expenses incurred by such indemnified party, as incurred, (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, from the offering of the Securities pursuant to this Agreement or (ii) if the allocation provided by clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and of the Underwriters, on the other hand, in connection with the statements or omissions which resulted in such losses, liabilities, claims, damages or expenses, as well as any other relevant equitable considerations.

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The relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, in connection with the offering of the Securities pursuant to this Agreement shall be deemed to be in the same respective proportions as the total net proceeds from the offering of the Securities pursuant to this Agreement (after deducting underwriting discounts and commissions but before deducting expenses) received by the Company, on the one hand, and the total underwriting discount received by the Underwriters, on the other hand, in each case as set forth on the cover of the Prospectus, bear to the aggregate initial public offering price of the Securities as set forth on the cover of the Prospectus.

The relative fault of the Company, on the one hand, and the Underwriters, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 7 were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 7. The aggregate amount of losses, liabilities, claims, damages and expenses incurred by an indemnified party and referred to above in this Section 7 shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue or alleged untrue statement or omission or alleged omission.

Notwithstanding the provisions of this Section 7, no Underwriter shall be required to contribute any amount in excess of the underwriting commissions received by such Underwriter in connection with the Securities underwritten by it and distributed to the public.

No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

For purposes of this Section 7, each person, if any, who controls an Underwriter within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act and each Underwriter's Affiliates and selling agents shall have the same rights to contribution as such Underwriter, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act shall have the same rights to contribution as the Company. The Underwriters' respective obligations to contribute pursuant to this Section 7 are several in proportion to the number of Initial Securities set forth opposite their respective names in Schedule A hereto and not joint.

SECTION 8. Representations, Warranties and Agreements to Survive. All representations, warranties and agreements contained in this Agreement or in certificates of officers of the Company or any of its subsidiaries or submitted pursuant hereto, shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of any Underwriter or its Affiliates or selling agents, any person controlling any Underwriter, its officers or directors or any person controlling the Company and (ii) delivery of and payment for the Securities.



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SECTION 9. Termination of Agreement.

(a) *Termination.* The Representatives may terminate this Agreement, by notice to the Company, at any time at or prior to the Closing Time (i) if there has been, in the judgment of the Representatives, since the time of execution of this Agreement or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, any material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company and its subsidiaries considered as one enterprise, whether or not arising in the ordinary course of business, or (ii) if there has occurred any material adverse change in the financial markets in the United States or the international financial markets, any outbreak of hostilities or escalation thereof or other calamity or crisis or any change or development involving a prospective change in national or international political, financial or economic conditions, in each case the effect of which is such as to make it, in the judgment of the Representatives, impracticable or inadvisable to proceed with the completion of the offering or to enforce contracts for the sale of the Securities, or (iii) if trading in any securities of the Company has been suspended or materially limited by the Commission or The Nasdaq Global Market, or (iv) if trading generally on the NYSE MKT or the New York Stock Exchange or in The Nasdaq Global Market has been suspended or materially limited, or minimum or maximum prices for trading have been fixed, or maximum ranges for prices have been required, by any of said exchanges or by order of the Commission, FINRA or any other governmental authority, or (v) a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States or with respect to Clearstream or Euroclear systems in Europe, or (vi) if a banking moratorium has been declared by either Federal or New York authorities.

(b) *Liabilities.* If this Agreement is terminated pursuant to this Section, such termination shall be without liability of any party to any other party except as provided in Section 4 hereof, and provided further that Sections 1, 6, 7, 8, 14, 15, 16 and 17 shall survive such termination and remain in full force and effect.

SECTION 10. Default by One or More of the Underwriters. If one or more of the Underwriters shall fail at the Closing Time or a Date of Delivery to purchase the Securities which it or they are obligated to purchase under this Agreement (the "Defaulted Securities"), the Representatives shall have the right, within 24 hours thereafter, to make arrangements for one or more of the non defaulting Underwriters, or any other underwriters, to purchase all, but not less than all, of the Defaulted Securities in such amounts as may be agreed upon and upon the terms herein set forth; if, however, the Representatives shall not have completed such arrangements within such 24 hour period, then:

(a) if the number of Defaulted Securities does not exceed 10% of the number of Securities to be purchased on such date, each of the non-defaulting Underwriters shall be obligated, severally and not jointly, to purchase the full amount thereof in the proportions that their respective underwriting obligations hereunder bear to the underwriting obligations of all non-defaulting Underwriters.

(b) if the number of Defaulted Securities exceeds 10% of the number of Securities to be purchased on such date, this Agreement or, with respect to any Date of Delivery which occurs after the Closing Time, the obligation of the Underwriters to purchase, and the Company to sell, the Option Securities to be purchased and sold on such Date of Delivery, in each case, may be terminated without liability on the part of any non-defaulting Underwriter upon the election of the Representatives by written notice to the Company.

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No action taken pursuant to this Section shall relieve any defaulting Underwriter from liability in respect of its default.

In the event of any such default which does not result in a termination of this Agreement or, in the case of a Date of Delivery which is after the Closing Time, which does not result in a termination of the obligation of the Underwriters to purchase and the Company to sell the relevant Option Securities, as the case may be, either the (i) Representatives or (ii) the Company shall have the right to postpone Closing Time or the relevant Date of Delivery, as the case may be, for a period not exceeding seven days in order to effect any required changes in the Registration Statement, the General Disclosure Package or the Prospectus or in any other documents or arrangements. As used herein, the term "Underwriter" includes any person substituted for an Underwriter under this Section 10.

SECTION 11. Notices. All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted by any standard form of telecommunication. Notices to the Underwriters shall be directed to (i) BofA at One Bryant Park, New York, New York 10036, attention of Syndicate Department (facsimile: (646) 855-3073), with a copy to ECM Legal (facsimile: (212)230-8730), and (ii) Leerink Partners at 1301 Avenue of the Americas, 12th Floor, New York, New York 10019, attention of Stuart R. Nayman, Esq. (facsimile (646) 499-7051); and notices to the Company shall be directed to it at 89bio, Inc., 142 Sansome Street, 2nd Floor, San Francisco, California 94104, attention of Rohan Palekar, Chief Executive Officer.

SECTION 12. No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (a) the purchase and sale of the Securities pursuant to this Agreement, including the determination of the initial public offering price of the Securities and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other hand, and does not constitute a recommendation, investment advice, or solicitation of any action by the Underwriters, (b) in connection with the offering of the Securities and the process leading thereto, each Underwriter is and has been acting solely as a principal and is not the agent or fiduciary of the Company or any of its subsidiaries, or their respective stockholders, creditors, employees or any other party, (c) no Underwriter has assumed or will assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering of the Securities or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company or any of its subsidiaries on other matters) and no Underwriter has any obligation to the Company with respect to the offering of the Securities except the obligations expressly set forth in this Agreement, (d) the Underwriters and their respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, (e) the Underwriters have not provided any legal, accounting, financial, regulatory, investment or tax advice with respect to the offering of the Securities and the Company has consulted its own respective legal, accounting, financial, regulatory, investment and tax advisors to the extent it deemed appropriate and (f) none of the activities of the Underwriters in connection with the transactions contemplated herein constitutes a recommendation, investment advice or solicitation of any action by the Underwriters with respect to any entity or natural person.

SECTION 13. Recognition of the U.S. Special Resolution Regimes

(a) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

For purposes of this Section 13, a “BHC Act Affiliate” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k). “Covered Entity” means any of the following: (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b). “Default Right” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable. “U.S. Special Resolution Regime” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

SECTION 14. Parties. This Agreement shall each inure to the benefit of and be binding upon the Underwriters and the Company and their respective successors. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, firm or corporation, other than the Underwriters and the Company and their respective successors and the controlling persons and officers and directors referred to in Sections 6 and 7 and their heirs and legal representatives, any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision herein contained. This Agreement and all conditions and provisions hereof are intended to be for the sole and exclusive benefit of the Underwriters and the Company and their respective successors, and said controlling persons and officers and directors and their heirs and legal representatives, and for the benefit of no other person, firm or corporation. No purchaser of Securities from any Underwriter shall be deemed to be a successor by reason merely of such purchase.

SECTION 15. Trial by Jury. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

SECTION 16. GOVERNING LAW. THIS AGREEMENT AND ANY CLAIM, CONTROVERSY OR DISPUTE ARISING UNDER OR RELATED TO THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF, THE STATE OF NEW YORK WITHOUT REGARD TO ITS CHOICE OF LAW PROVISIONS.

SECTION 17. Consent to Jurisdiction. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby shall be instituted in (i) the federal courts of the United States of America located in the City and County of New York, Borough of Manhattan or (ii) the courts of the State of New York located in the City and County of New York, Borough of Manhattan (collectively, the “Specified Courts”), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court, as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party’s address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

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SECTION 18. TIME. TIME SHALL BE OF THE ESSENCE OF THIS AGREEMENT. EXCEPT AS OTHERWISE SET FORTH HEREIN, SPECIFIED TIMES OF DAY REFER TO NEW YORK CITY TIME.

SECTION 19. Counterparts and Electronic Signatures. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same Agreement. Electronic signatures complying with the New York Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law will be deemed original signatures for purposes of this Agreement. Transmission by telecopy, electronic mail or other transmission method of an executed counterpart of this Agreement will constitute due and sufficient delivery of such counterpart.

SECTION 20. Effect of Headings. The section headings herein are for convenience only and shall not affect the construction hereof.

*[signature pages follow]*

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If the foregoing is in accordance with your understanding of our agreement, please sign and return to the Company a counterpart hereof, whereupon this instrument, along with all counterparts, will become a binding agreement among the Underwriters and the Company in accordance with its terms.

Very truly yours,

**89BIO, INC.**

By: /s/ Ryan Martins

Name: Ryan Martins

Title: Chief Financial Officer

*[Signature Page to Underwriting Agreement]*

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**CONFIRMED AND ACCEPTED,**  
as of the date first above written:

**BOFA SECURITIES, INC.**  
**LEERINK PARTNERS LLC**

By: **BOFA SECURITIES, INC.**

By: /s/ Aamir Mecklai  
Authorized Signatory

By: **LEERINK PARTNERS LLC**

By: /s/ Anurag Jindal  
Authorized Signatory

For themselves and as Representatives of the other Underwriters named in Schedule A hereto.

*[Signature Page to Underwriting Agreement]*

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**SCHEDULE A**

The initial public offering price per share for the Shares shall be \$9.25. The initial public offering price per Pre-Funded Warrant shall be \$9.249.

The purchase price per share for the Shares to be paid by the several Underwriters shall be \$8.695, being an amount equal to the applicable initial public offering price set forth above less \$0.555 per share, and the purchase price per Pre-Funded Warrant to be paid by the several Underwriters shall be \$8.694, being an amount equal to the applicable initial public offering price set forth above less \$0.555 per share underlying the Pre-Funded Warrant, in each case subject to adjustment in accordance with Section 2(b) for dividends or distributions declared by the Company and payable on the Initial Securities but not payable on the Option Securities.

<u>Name of Underwriter</u>	<u>Number of Initial Shares</u>	<u>Number of Pre-Funded Warrants</u>
BofA Securities, Inc.	5,675,677	405,408
Leerink Partners LLC	4,540,540	324,324
Cantor Fitzgerald & Co.	1,816,216	129,729
Raymond James & Associates, Inc.	1,816,216	129,729
UBS Securities LLC	908,108	64,864
H.C. Wainwright & Co., LLC	378,378	27,027
<b>Total</b>	<b><u>15,135,135</u></b>	<b><u>1,081,081</u></b>

Sch A

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**SCHEDULE B-1**

**Pricing Terms**

1. The Company is selling 15,135,135 shares of Common Stock.
2. The Company is selling Pre-Funded Warrants to purchase 1,081,081 shares of Common Stock.
3. The Company has granted an option to the Underwriters, severally and not jointly, to purchase an aggregate of up to an additional 2,432,432 shares of Common Stock.
4. The initial public offering price per share for the Common Stock shall be \$9.25.
5. The initial public offering price per Pre-Funded Warrant shall be \$9.249.

Sch B-1



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**SCHEDULE B-2**

**Free Writing Prospectuses**

None.

Sch B-2

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**SCHEDULE B-3**

**Written Testing-the-Waters Communications**

None.

Sch B-3

**EXHIBIT A**

**Form of Lock-Up from Directors, Officers or other Stockholders Pursuant to Section 5(j)**

\_\_\_\_\_, 2023

BofA Securities, Inc.  
Leerink Partners LLC

as Representatives of the several  
Underwriters to be named in the  
within-mentioned Underwriting Agreement

c/o BofA Securities, Inc.  
One Bryant Park  
New York, New York 10036

c/o Leerink Partners LLC  
1301 Avenue of the Americas, 12th Floor  
New York, New York 10019

Re: Proposed Public Offering by 89bio, Inc.

Ladies and Gentlemen:

The undersigned, a securityholder, an officer and/or a director, as applicable, of 89bio, Inc., a Delaware corporation (the "Company"), understands that BofA Securities, Inc. ("BofAS") and Leerink Partners LLC (together with BofAS, the "Representatives") propose to enter into an Underwriting Agreement (the "Underwriting Agreement") with the Company, providing for the public offering (the "Public Offering") of shares of the Company's common stock, par value \$0.001 per share ("Common Stock"). In recognition of the benefit that the Public Offering will confer upon the undersigned as a securityholder, an officer and/or a director, as applicable, of the Company, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned agrees with each underwriter to be named in the Underwriting Agreement that, during the period beginning on the date hereof and ending on the date that is 60 days from the date of the Underwriting Agreement (the "Lock-Up Period"), the undersigned will not, without the prior written consent of the Representatives, (i) directly or indirectly, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for shares of Common Stock, whether now owned or hereafter acquired by the undersigned or with respect to which the undersigned has or hereafter acquires the power of disposition (collectively, the "Lock-Up Securities"), or exercise any right with respect to the registration of any of the Lock-Up Securities, or file, cause to be filed or cause to be confidentially submitted any registration statement in connection therewith, under the Securities Act of 1933, as amended, or (ii) enter into any swap or any other agreement or any transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Lock-Up Securities, whether any such swap or transaction is to be settled by delivery of shares of Common Stock or other securities, in cash or otherwise. If the undersigned is an officer or director of the Company, the undersigned further agrees that the foregoing provisions shall be equally applicable to any issuer-directed Common Stock the undersigned may purchase in the Public Offering.

Ex A-1

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Notwithstanding the foregoing, and subject to the conditions below, the undersigned may transfer the Lock-Up Securities without the prior written consent of the Representatives:

- (1) as a *bona fide* gift or gifts, *provided* that (i) the Representatives receive a signed lock-up agreement for the balance of the Lock-Up Period from each transferee prior to such transfer, (ii) any such transfer shall not involve a disposition for value, (iii) any such transfer is not required to be publicly filed or reported during the Lock-Up Period, and (iv) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers during the Lock-Up Period;
- (2) by will or intestate succession upon the death of the undersigned, including to the transferee's nominee or custodian, *provided* that (i) the Representatives receive a signed lock-up agreement for the balance of the Lock-Up Period from each transferee prior to such transfer, (ii) any such transfer shall not involve a disposition for value, (iii) if required, any public filing or report under Section 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") during the Lock-Up Period shall clearly indicate in the footnotes thereto that the such transfer is being made pursuant to the circumstances described in this clause, and (iv) no public filings or reports regarding such transfers shall be otherwise voluntarily effected during the Lock-Up Period;
- (3) to the immediate family of the undersigned or any trust, partnership or similar entity for the direct or indirect benefit of the undersigned or the immediate family of the undersigned (for purposes of this Lock-Up Agreement, "immediate family" shall mean any relationship by blood, marriage or adoption, not more remote than first cousin) or if the undersigned is a trust, to any beneficiary of the undersigned (including such beneficiary's estate), *provided* that (i) the Representatives receive a signed lock-up agreement for the balance of the Lock-Up Period from each transferee prior to such transfer, (ii) any such transfer shall not involve a disposition for value, (iii) any such transfer is not required to be publicly filed or reported during the Lock-Up Period, and (iv) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers during the Lock-Up Period;
- (4) if the undersigned is a non-natural person, as a distribution to limited partners, general partners, limited liability company members, stockholders or other equity holders of the undersigned, *provided* that (i) the Representatives receive a signed lock-up agreement for the balance of the Lock-Up Period from each transferee prior to such transfer, (ii) any such transfer shall not involve a disposition for value, (iii) any such transfer is not required to be publicly filed or reported during the Lock-Up Period, and (iv) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers during the Lock-Up Period;
- (5) to the undersigned's affiliates or to any investment fund or other entity controlled or managed by the undersigned, *provided* that (i) the Representatives receive a signed lock-up agreement for the balance of the Lock-Up Period from each transferee prior to such transfer, (ii) any such transfer shall not involve a disposition for value, (iii) any such transfer is not required to be publicly filed or reported during the Lock-Up Period, and (iv) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers during the Lock-Up Period;

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- (6) to the Company upon exercise of any right in respect of any option granted under any incentive plan of the Company described in the final prospectus relating to the Public Offering or any document incorporated by reference therein, including the surrender of shares of Common Stock to the Company in “net” or “cashless” exercise of any option, *provided*, that (i) the shares of Common Stock received by the undersigned upon exercise continue to be subject to the restrictions on transfer set forth in this Lock-Up Agreement, (ii) if required, any public filing or report under Section 16 of the Exchange Act during the Lock-Up Period shall clearly indicate in the footnotes thereto that the filing relates to the exercise of a stock option, that no shares were sold by the reporting person and that the shares received upon exercise of the stock option are subject to this Lock-Up Agreement, and (iii) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers during the Lock-Up Period;
  - (7) pursuant to an order of a court of competent jurisdiction or in connection with a qualified domestic order or divorce settlement *provided*, that (i) the Representatives receive a signed lock-up agreement for the balance of the Lock-Up Period from each transferee prior to such transfer, (ii) if required, any public filing or report under Section 16 of the Exchange Act during the Lock-Up Period shall clearly indicate in the footnotes thereto that the such transfer is being made pursuant to the circumstances described in this clause, and (iii) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers during the Lock-Up Period; or
  - (8) to a *bona fide* third party pursuant to a merger, consolidation, tender offer or other similar transaction made to all holders of Common Stock and involving a Change of Control of the Company and approved by the Company’s board of directors, *provided*, that (i) in the event that such Change of Control is not completed, the undersigned’s Lock-Up Securities shall remain subject to the restrictions contained herein, and (ii) any shares of Common Stock not transferred in such merger, consolidation, tender offer or similar transaction shall remain subject to the restrictions contained herein. “Change of Control” shall mean the transfer (whether by tender offer, merger, consolidation or other similar transaction), in one transaction or a series of related transactions, to a person or group of affiliated persons (other than an underwriter pursuant to the Public Offering), of the Company’s voting securities if, after such transfer, such person or group of affiliated persons would hold more than 50% of the outstanding voting securities of the Company (or the surviving entity).

Furthermore, during the Lock-Up Period, the undersigned may sell shares of Common Stock purchased by the undersigned in the Public Offering or in the open market transactions following the Public Offering if and only if (i) such sales are not required to be publicly filed or reported during the Lock-Up Period and (ii) the undersigned does not otherwise voluntarily effect any public filing or report regarding such sales during the Lock-Up Period.

Nothing herein shall prevent the undersigned from [(a)] establishing a 10b5-1 trading plan that complies with Rule 10b5-1 under the Exchange Act (a “10b5-1 trading plan”) so long as any such plan does not permit sales of Lock-Up Securities during the Lock-Up Period; and *provided* that the establishment of a 10b5-1 trading plan shall only be permitted if (i) the establishment of such plan is not required to be reported in any public filing or report with the Securities and Exchange Commission, or otherwise and (ii) the undersigned does not otherwise voluntarily effect any public filing or report regarding the establishment of such plan during the Lock-Up Period [or (b) selling or transferring Lock-

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Up Securities pursuant to a 10b5-1 trading plan that has been entered into by the undersigned prior to the date of this Lock-Up Agreement, provided, that (i) the existence of such 10b-5 trading plan was communicated to the Representatives and such 10b-5 trading plan will not be amended or otherwise modified during the Lock-Up Period, (ii) any filing under the Exchange Act shall include a statement to the effect that the sale or transfer was made pursuant to a 10b5-1 trading plan and (iii) no other filing or public announcement shall be required or shall be made voluntarily in connection with such sale or transfer]<sup>1</sup>.

The undersigned acknowledges and agrees that the underwriters have not provided any recommendation or investment advice nor have the underwriters solicited any action from the undersigned with respect to the offering of the securities and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate.

The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of the Lock-Up Securities, except in compliance with the foregoing restrictions.

Notwithstanding anything to the contrary contained herein, this Lock-Up Agreement will automatically terminate and the undersigned will be released from all of his, her or its obligations hereunder upon the earliest to occur, if any, of (i) if the Representatives, on the one hand, or the Company, on the other hand, informs the other, prior to the execution of the Underwriting Agreement, that it has determined not to proceed with the Public Offering, (ii) the date the Company files an application with the Securities and Exchange Commission to withdraw the registration statement related to the Public Offering, (iii) the date the Underwriting Agreement is terminated prior to payment for and delivery of the shares of Common Stock to be sold thereunder or (iv) December 31, 2023, in the event that the Underwriting Agreement has not been executed by such date.

*[signature page follows]*

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<sup>1</sup> To be included only in lock-up agreements for signatories that have existing 10b5-1 trading plans.

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Very truly yours,

\_\_\_\_\_  
Name of Security Holder *(Print exact name)*

By: \_\_\_\_\_  
*(Signature)*

If not signing in an individual capacity:

\_\_\_\_\_  
Name of Authorized Signatory *(Print)*

\_\_\_\_\_  
Title of Authorized Signatory *(Print)*

*(Indicate capacity of person signing if signing as  
custodian, trustee, or on behalf of an entity)*

Ex A-0

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**EXHIBIT B**

**Form of Pre-Funded Warrant**

*[attached]*

Ex B-1



## 89BIO, INC.

## PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK

Number of Shares: [•]  
(subject to adjustment)

Warrant No. [•]

Original Issue Date: December 11, 2023

89bio, Inc., a Delaware corporation (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [•] or its permitted registered assigns (the “**Holder**”), is entitled, subject to the terms set forth below, to purchase from the Company up to a total of [•] shares of common stock, \$0.001 par value per share (the “**Common Stock**”), of the Company (each such share, a “**Warrant Share**” and all such shares, the “**Warrant Shares**”) at an exercise price per share equal to \$0.001 per share (as adjusted from time to time as provided in Section 9 herein, the “**Exercise Price**”), upon surrender of this Pre-Funded Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the “**Warrant**”) at any time and from time to time on or after the date hereof (the “**Original Issue Date**”), and subject to the following terms and conditions:

**1 DEFINITIONS.** For purposes of this Warrant, the following terms shall have the following meanings:

(a) “**Affiliate**” means any Person directly or indirectly controlled by, controlling, or under common control with, a Holder, but only for so long as such control shall continue. For purposes of this definition, “control” (including, with correlative meanings, “controlled by,” “controlling” and “under common control with”) means, with respect to a Person, possession, direct or indirect, of (a) the power to direct or cause direction of the management and policies of such Person (whether through ownership of securities or partnership or other ownership interests, by contract or otherwise), or (b) at least 50% of the voting securities (whether directly or pursuant to any option, warrant, or other similar arrangement) or other comparable equity interests.

(b) “**Commission**” means the United States Securities and Exchange Commission.

(c) “**Exchange Act**” means the Securities Exchange Act of 1934, as amended.

(d) “**Principal Trading Market**” means the national securities exchange or other trading market on which the Common Stock is primarily listed and quoted for trading, which, as of the Original Issue Date, shall be The Nasdaq Global Select Market.

(e) “**Registration Statement**” means the Company’s registration statement on Form S-3 (File No. 333-272144), which was filed and became effective on May 23, 2023.

(f) “**Securities Act**” means the Securities Act of 1933, as amended.

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(g) “**Trading Day**” means any weekday on which the Principal Trading Market is open for trading.

(h) “**Transfer Agent**” means Equiniti Trust Company, LLC, the Company’s transfer agent and registrar for the Common Stock, and any successor appointed in such capacity.

(i) “**VWAP**” means, for any date, the price determined by the first of the following clauses that applies: (i) if the Common Stock is then listed or quoted on a national securities exchange or other trading market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Principal Trading Market as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (ii) if the Common Stock is then listed or quoted for trading and neither OTCQB nor OTCQX is the Principal Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX, as applicable, (iii) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “**Pink Sheets**” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (iv) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holder and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

**2 ISSUANCE OF SECURITIES; REGISTRATION OF WARRANTS.** The Warrant, as initially issued by the Company, is offered and sold pursuant to the Registration Statement. As of the Original Issue Date, the Warrant Shares are issuable under the Registration Statement. Accordingly, the Warrant and, assuming issuance pursuant to the Registration Statement or an exchange meeting the requirements of Section 3(a)(9) of the Exchange Act as in effect on the Original Issue Date, the Warrant Shares, are not “restricted securities” under Rule 144 promulgated under the Securities Act. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “**Warrant Register**”), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any registered assignee to which this Warrant is permissibly assigned hereunder) from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

**3 REGISTRATION OF TRANSFERS.** Subject to compliance with all applicable securities laws, the Company shall, or will cause its Transfer Agent to, register the transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, and payment for all applicable transfer taxes (if any). Upon any such registration or transfer, a new warrant to purchase Common Stock in substantially the form of this Warrant (any such new warrant, a “**New Warrant**”) evidencing the portion of this Warrant so transferred shall be issued to the transferee, and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder has in respect of this Warrant. The Company shall, or will cause its Transfer Agent to, prepare, issue, and deliver at the Company’s own expense any New Warrant under this Section 3. Until due presentment for registration of transfer, the Company may treat the registered Holder hereof as the owner and holder of this Warrant for all purposes and the Company shall not be affected by any notice to the contrary.

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#### 4 EXERCISE AND DURATION OF WARRANTS.

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by Section 10 of this Warrant at any time and from time to time on or after the Original Issue Date.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached as Schedule 1 hereto (the “**Exercise Notice**”), completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised (which may take the form of a “cashless exercise” if so indicated in the Exercise Notice pursuant to Section 10 below), and the date on which the last of such items is delivered to the Company (as determined in accordance with the notice provisions hereof) is an “**Exercise Date**.” The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to purchase the remaining number of Warrant Shares.

#### 5 DELIVERY OF WARRANT SHARES.

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event more than three (3) Trading Days after the Exercise Date), upon the request of the Holder, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with The Depository Trust Company (“**DTC**”) through its Deposit Withdrawal Agent Commission system, or if the Transfer Agent is not participating in the Fast Automated Securities Transfer Program (the “**FAST Program**”) or if the certificates or book entry position are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate or book entry position, registered in the Company’s share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. The Holder, or any natural person or legal entity (each, a “**Person**”) permissibly so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account or the date of delivery of the certificates or book entry position evidencing such Warrant Shares, as the case may be.

(b) If by the close of the third Trading Day after the Exercise Date, the Company fails to credit the Holder’s balance account with DTC for such number of Warrant Shares to which the Holder is entitled, and if after such third Trading Day and prior to the receipt of such Warrant Shares, the Holder purchases (in an open market transaction, provided such purchases shall be made in a commercially reasonable manner at prevailing market prices) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which

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the Holder anticipated receiving upon such exercise (a “**Buy-In**”), then the Company shall, within two Trading Days after the Holder’s request, in the Holder’s sole discretion, either (i) pay in cash to the Holder an amount equal to the Holder’s total purchase price (including commercially reasonable brokerage commissions, if any) for the shares of Common Stock so purchased, at which point the Company’s obligation to deliver such Warrant Shares shall terminate, or (ii) (A) pay in cash to the Holder the amount, if any, by which (1) the Holder’s total purchase price (including commercially reasonable brokerage commissions, if any) for the shares of Common Stock purchased in the Buy-In exceeds (2) the product of (x) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue, times (y) the price at which the sell order giving rise to such purchase obligation was executed (assuming such sale was executed on commercially reasonable terms at prevailing market prices and, if the sale was executed in multiple transactions, the volume weighted average price), and (B) at the option of the Holder, either (1) reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or (2) deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. The provisions of this Section 5(b) shall be the only remedy available to the Holder in the event the Company fails to deliver to the Holder the required number of Warrant Shares in the manner required pursuant to Section 5(a) and a Buy-In occurs. Irrespective of whether there is a Buy-In, no remedy shall be available, notwithstanding the requirements of Section 5(a), unless and until the Company fails to deliver to the Holder the required number of Warrant Shares by the close of the third Trading Day after the Exercise Date.

(c) To the extent permitted by law and subject to Section 5(b), the Company’s obligations to issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Subject to Section 5(b), nothing herein shall limit the Holder’s right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company’s failure to timely deliver certificates or a book entry position representing shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

**6 CHARGES, TAXES AND EXPENSES.** Issuance and delivery of a book entry position for shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, transfer agent fee or other incidental tax or expense (excluding any applicable stamp duties) in respect of the issuance of such or book entry shares, all of which taxes and expenses shall be paid by the Company; provided, however, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or the Warrants in a name other than that of the Holder or an Affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

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**7 REPLACEMENT OF WARRANT.** If this Warrant is mutilated, lost, stolen, or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft, or destruction (in such case) and, in each case, a customary and reasonable indemnity and surety bond if requested by the Company. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company's obligation to issue the New Warrant.

**8 RESERVATION OF WARRANT SHARES.** The Company covenants that it will at all times while this Warrant is outstanding reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are then issuable and deliverable upon the exercise of this Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid, and nonassessable. The Company will take all such action as may be reasonably necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation or of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed.

**9 CERTAIN ADJUSTMENTS.** The number of Warrant Shares issuable upon exercise of this Warrant is subject to adjustment from time to time as set forth in this Section 9.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock issued and outstanding on the Original Issue Date and in accordance with the terms of such stock on the Original Issue Date or as amended, that is payable in shares of Common Stock, (ii) subdivides its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the number of Warrant Shares then underlying this Warrant shall be divided by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the

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date fixed therefor, the number of Warrant Shares shall be recomputed accordingly as of the close of business on such record date and thereafter the Warrant Shares shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination.

(b) Pro Rata Distributions. If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph), (iii) rights or warrants to subscribe for or purchase any security, or (iv) cash or any other asset (in each case, “**Distributed Property**”), then, upon any exercise of this Warrant that occurs after the record date fixed for determination of stockholders entitled to receive such distribution, the Holder shall be entitled to receive, in addition to the Warrant Shares otherwise issuable upon such exercise (if applicable), the Distributed Property that such Holder would have been entitled to receive in respect of such number of Warrant Shares had the Holder been the record holder of such Warrant Shares immediately prior to such record date without regard to any limitation on exercise contained therein.

(c) Fundamental Transactions. If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity or the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity immediately after such merger or consolidation, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one transaction or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock who tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company (except for any such transaction in which the stockholders of the Company immediately prior to such transaction maintain, in substantially the same proportions, the voting power of such Person immediately after the transaction) or (v) the Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a “**Fundamental Transaction**”), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant without regard to any limitations on exercise contained herein (the “**Alternate Consideration**”). The Company shall not effect any Fundamental Transaction in which the Company is not the surviving entity or the Alternate Consideration includes securities of another Person unless (x) the Alternate Consideration is solely cash and the Company provides for the simultaneous “cashless exercise”

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of this Warrant pursuant to Section 10 below or (y) prior to, simultaneously with or promptly following the consummation thereof, any successor to the Company, surviving entity or other Person (including any purchaser of assets of the Company) shall assume the obligation to deliver to the Holder, such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to receive, and the other obligations under this Warrant. The provisions of this paragraph (c) shall similarly apply to subsequent transactions analogous of a Fundamental Transaction type.

(d) Calculations. All calculations under this Section 9 shall be made to the nearest share.

(e) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Transfer Agent.

(f) Notice of Corporate Events. If, while this Warrant is outstanding, the Company (i) declares a dividend or any other distribution of cash, securities or other property in respect of its Common Stock, including, without limitation, any granting of rights or warrants to subscribe for or purchase any capital stock of the Company or any subsidiary, (ii) enters into any definitive agreement contemplating or soliciting stockholder approval for any Fundamental Transaction or (iii) authorizes the voluntary dissolution, liquidation or winding up of the affairs of the Company, then, except if such notice and the contents thereof shall be deemed to constitute material non-public information, the Company shall deliver to the Holder a notice of such transaction at least ten (10) days prior to the applicable record or effective date on which a Person would need to hold Common Stock in order to participate in or vote with respect to such transaction; *provided, however*, that the failure to deliver such notice or any defect therein shall not affect the validity of the corporate action required to be described in such notice. In addition, if while this Warrant is outstanding, the Company enters into any definitive agreement contemplating or solicits stockholder approval for any Fundamental Transaction contemplated by Section 9(c), other than a Fundamental Transaction under clause (iii) of Section 9(c), the Company shall deliver to the Holder a notice of such Fundamental Transaction at least ten (10) days prior to the date such Fundamental Transaction is consummated. Holder agrees to maintain any information disclosed pursuant to this Section 9(f) in confidence until such information is publicly available and shall comply with applicable law with respect to trading in the Company's securities following receipt any such information.

**10 PAYMENT OF EXERCISE PRICE.** Notwithstanding anything contained herein to the contrary, the Holder may, in its sole discretion, satisfy its obligation to pay the Exercise Price through a "cashless exercise," in which event the Company shall issue to the Holder the number of Warrant Shares determined as follows:

$$X = Y[(A-B)/A]$$

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where:

“X” equals the number of Warrant Shares to be issued to the Holder;

“Y” equals the total number of Warrant Shares with respect to which this Warrant is then being exercised;

“A” equals the last VWAP immediately preceding the time of delivery of the Exercise Notice giving rise to the applicable “cashless exercise,” as set forth in the applicable Exercise Notice (to clarify, the “last VWAP” will be the last VWAP as calculated over an entire Trading Day such that, in the event that this Warrant is exercised at a time that the Principal Trading Market is open, the prior Trading Day’s VWAP shall be used in this calculation); and

“B” equals the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood, and acknowledged that the Warrant Shares issued in a “cashless exercise” transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise).

Except as set forth in Section 12 (payment of cash in lieu of fractional shares), in no event will the exercise of this Warrant be settled in cash.

#### **11 LIMITATIONS ON EXERCISE.**

(a) Notwithstanding anything to the contrary contained in any Section herein, the Company shall not effect any exercise of this Warrant, and the Holder shall not be entitled to exercise this Warrant for a number of Warrant Shares in excess of that number of Warrant Shares which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of Common Stock beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder’s for purposes of Section 13(d) of the Exchange Act, to exceed [4.99][9.99% (or, at the election of the Holder prior to the issuance of the Warrant, 4.99%)] of the total number of issued and outstanding shares of Common Stock of the Company following such exercise, or (ii) the combined voting power of the securities of the Company beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder’s for purposes of Section 13(d) of the Exchange Act to exceed 9.99% of the combined voting power of all of the securities of the Company then outstanding following such exercise. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company’s most recent Quarterly Report on Form 10-Q or Annual Report on Form 10-K, as the case may be, filed with the Commission prior to the date hereof, (y) a more recent public announcement by the Company or (z) any other notice by the Company or its transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written request of the Holder, the Company shall within three (3) Trading Days confirm in writing or by electronic



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mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to the Company, the Holder may from time to time increase or decrease the maximum percentage to any other percentage specified not in excess of 19.99% (the “**Maximum Cap**”) in such notice; provided that any such increase will not be effective until the sixty-first (61<sup>st</sup>) day after such notice is delivered to the Company; provided, that the Maximum Cap shall only apply to the extent required by Nasdaq Marketplace Rule 5635(b) and if the Maximum Cap is not applicable then the Warrant shall be fully exercisable. For purposes of this Section 11(a), the aggregate number of shares of Common Stock or voting securities beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder’s for purposes of Section 13(d) of the Exchange Act shall include the shares of Common Stock issuable upon the exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (x) exercise of the remaining unexercised and non-cancelled portion of this Warrant by the Holder and (y) exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Company that do not have voting power (including, without limitation, any securities of the Company which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), is subject to a limitation on conversion or exercise analogous to the limitation contained herein and is beneficially owned by the Holder or any of its Affiliates and other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder’s for purposes of Section 13(d) of the Exchange Act.

(b) This Section 11 shall not restrict the number of shares of Common Stock that a Holder may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction as contemplated in Section 9 of this Warrant.

**12 NO FRACTIONAL SHARES.** No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the number of Warrant Shares to be issued shall be rounded down to the next whole number and the Company shall pay the Holder in cash the fair market value (based on the last VWAP immediately preceding the time of delivery of the applicable Exercise Notice) for any such fractional shares.

**13 NOTICES.** Any and all notices or other communications or deliveries hereunder (including, without limitation, any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via confirmed e-mail at the e-mail address specified below prior to 4:00 P.M., New York City time, on a Trading Day, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via confirmed e-mail at the e-mail address specified below on a day that is not a Trading Day or later than 4:00 P.M., New York City time, on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by nationally recognized overnight courier service specifying next business day delivery, or (iv) upon actual receipt by the Person to whom such notice is required to be given, if by hand delivery. The e-mail address for purposes of providing notice hereunder is: Ryan.Martins@89bio.com and Shiva.Natarajan@89bio.com.

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**14 WARRANT AGENT.** The Company shall initially serve as warrant agent under this Warrant. Upon ten (10) days' notice to the Holder, the Company may appoint a new warrant agent. Any corporation into which the Company or any new warrant agent may be merged, or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party, or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or shareholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder's last address as shown on the Warrant Register.

**15 MISCELLANEOUS.**

(a) No Rights as a Stockholder. The Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, amalgamation, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

(b) Authorized Shares. Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation amending its articles of organization or effect any reorganization, transfer of assets, consolidation, merger, dissolution, issue, or sale of securities or any other voluntary action to avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant, and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

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(c) Successors and Assigns. Subject to compliance with applicable securities laws, this Warrant may be assigned by the Holder. This Warrant may not be assigned by the Company without the written consent of the Holder except to a successor in the event of a Fundamental Transaction. This Warrant shall be binding on and inure to the benefit of the Company and the Holder and their respective successors and assigns. Subject to the preceding sentence, nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy, or cause of action under this Warrant. This Warrant may be amended only in writing signed by the Company and the Holder, or their successors and assigns.

(d) Amendment and Waiver. Except as otherwise provided herein, the provisions of the Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

(e) Acceptance. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT, AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY, AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE STATE OF NEW YORK, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HERewith OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF VIA REGISTERED OR CERTIFIED MAIL OR OVERNIGHT DELIVERY (WITH EVIDENCE OF DELIVERY) TO SUCH PERSON AT THE ADDRESS IN EFFECT FOR NOTICES TO IT AND AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

(g) Headings. The headings herein are for convenience only, do not constitute a part of this Warrant, and shall not be deemed to limit or affect any of the provisions hereof.

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(h) Severability. In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby, and the Company and the Holder will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

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IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

**89BIO, INC.**

By: \_\_\_\_\_

Name:

Title:

SCHEDULE 1

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

Ladies and Gentlemen:

- (1) The undersigned is the Holder of Warrant No. \_\_\_\_\_ (the "**Warrant**") issued by 89bio, Inc., a Delaware corporation (the "**Company**"). Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant.
- (2) The undersigned hereby exercises its right to purchase Warrant Shares pursuant to the Warrant.
- (3) The Holder intends that payment of the Exercise Price shall be made as (check one):  
 Cash Exercise  
 "**Cashless Exercise**" under Section 10 of the Warrant
- (4) If the Holder has elected a Cash Exercise, the Holder shall pay the sum of \$\_\_\_\_\_ in immediately available funds to the Company in accordance with the terms of the Warrant.
- (5) Pursuant to this Exercise Notice, the Company shall deliver to the Holder Warrant Shares determined in accordance with the terms of the Warrant.
- (6) By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended) permitted to be owned under Section 11(a) of the Warrant to which this notice relates.

Dated: \_\_\_\_\_

Name of Holder: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

(Signature must conform in all respects to name of Holder as specified on the face of the Warrant)

**GIBSON DUNN**Gibson, Dunn & Crutcher LLP  
555 Mission Street  
San Francisco, CA 94105-0921  
Tel 415.393.8200  
www.gibsondunn.com

Client: 26925-00014

December 8, 2023

89bio, Inc.  
142 Sansome Street, Second Floor  
San Francisco, California 94104Re: *89bio, Inc.*  
*Registration Statement on Form S-3 (File No. 333-272144)*

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-3, File No. 333-272144 (the "Registration Statement"), of 89bio, Inc., a Delaware corporation (the "Company"), filed with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), and the prospectus supplement thereto dated December 6, 2023 (the "Prospectus Supplement"), in connection with the offering by the Company of (i) up to 17,567,567 shares of the Company's common stock (the "Common Stock"), par value \$0.001 per share (the "Shares") and (ii) pre-funded warrants (the "Pre-Funded Warrants") to purchase an aggregate of 1,081,081 shares of Common Stock (the "Pre-Funded Warrant Shares"). The Shares and Pre-Funded Warrants are being sold pursuant to an underwriting agreement, dated December 6, 2023, among the Company and the representatives of the underwriters named therein.

In arriving at the opinion expressed below, we have examined originals, or copies certified or otherwise identified to our satisfaction as being true and complete copies of the originals, of specimen Common Stock certificates, form of Pre-Funded Warrant and such other documents, corporate records, certificates of officers of the Company and of public officials and other instruments as we have deemed necessary or advisable to enable us to render the opinions set forth below. In our examination, we have assumed without independent investigation the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies.

Based upon the foregoing, and subject to the assumptions, exceptions, qualifications and limitations set forth herein, we are of the opinion that (i) the Shares, when issued against payment therefor as set forth in the Registration Statement, will be validly issued, fully paid and non-assessable, (ii) provided that the Pre-Funded Warrants have been duly executed and delivered by the Company and duly delivered to the purchaser thereof against payment therefor, then the Pre-Funded Warrants, when issued and sold as described in the Registration Statement, assuming a sufficient number of Pre-Funded Warrant Shares are at

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December 8, 2023

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the time available for issuance, will be a valid and legally binding obligation of the Company, enforceable against the Company in accordance with its terms, except as enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting creditors' rights generally and by general equitable principles (regardless of whether such enforceability is considered in a proceeding at law or in equity) and implied covenants of good faith and fair dealing, and (iii) the Pre-Funded Warrant Shares, when issued upon a valid exercise of the Pre-Funded Warrants in accordance with their terms, will have been duly authorized and validly issued and will be fully paid and non-assessable.

We consent to the filing of this opinion as an exhibit to the Registration Statement, and we further consent to the use of our name under the caption "Legal Matters" in the Registration Statement and the Prospectus Supplement. In giving these consents, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the Rules and Regulations of the Commission.

Very truly yours,

/s/ Gibson, Dunn & Crutcher LLP



