UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM S-8 REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

HOOKIPA PHARMA INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization) 81-5395687 (I.R.S. Employer Identification No.)

350 Fifth Avenue, 72nd Floor, Suite 7240 New York, New York (Address of Principal Executive Offices)

> HOOKIPA Pharma Inc. 2019 Stock Option and Incentive Plan HOOKIPA Pharma Inc. 2019 Employee Stock Purchase Plan HOOKIPA Pharma Inc. 2023 Inducement Plan (Full Title of the Plans)

> > Joern Aldag Chief Executive Officer HOOKIPA Pharma Inc. 350 Fifth Avenue, 72nd Floor, Suite 7240 New York, New York 10118 +43 1 890 63 60

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Kingsley L. Taft, Esq. Robert E. Puopolo, Esq. Seo Salimi, Esq. Goodwin Procter LLP 100 Northern Avenue Boston, Massachusetts 02210 (617) 570-1000 Joern Aldag Chief Executive Officer HOOKIPA Pharma Inc. 350 Fifth Avenue, 72nd Floor, Suite 7240 New York, New York 10118 +43 1 890 63 60

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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Large accelerated filer Non-accelerated filer Accelerated filer□Smaller reporting company⊠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 7(a)(2)(B) of the Securities Act.

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10118 (Zip Code)

EXPLANATORY NOTE

This Registration Statement on Form S-8 is being filed by HOOKIPA Pharma Inc. (the "Registrant") to register (i) 500,000 shares of common stock, par value \$0.0001 per share ("Common Stock"), of the Registrant that may be issued pursuant to equity awards granted pursuant to the HOOKIPA Pharma Inc. 2023 Inducement Plan; (ii) additional securities issuable pursuant to the Registrant's 2019 Stock Option and Incentive Plan (the "2019 Plan"), as amended, as a result of the operation of an automatic annual increase provision therein, which added an aggregate of 2,188,666 shares of Common Stock on January 1, 2023, and 1,000,000 shares of Common Stock as a result of the Amendment and Restatement (as defined below); and (iii) additional securities issuable pursuant to the Registrant's 2019 ESPP") as a result of the operation of an automatic annual increase provision therein, which added an aggregate of 547,166 shares of Common Stock on January 1, 2023.

On April 15, 2022, the Registrant's board of directors approved an amendment and restatement to the 2019 Plan (the "Amendment and Restatement") to increase the maximum number of shares of Common Stock reserved and available for issuance under the 2019 Plan by 1,000,000, and the Amendment and Restatement was approved by the Registrant's stockholders on June 30, 2022. Pursuant to the Amendment and Restatement, the additional securities registered hereby include these 1,000,000 shares of Common Stock.

The additional securities registered herein pursuant to the 2019 Plan, as amended and restated, and the 2019 ESPP, are of the same class as other securities for which registration statements filed on Form S-8 (SEC File Nos. 333-230995, 333-237285, and 333-264587) of the Registrant are effective. Accordingly, the information contained in the Registrant's registration statements on Form S-8 (SEC File Nos. <u>333-230995</u>, <u>333-237285</u>, and <u>333-237285</u>, and <u>333-264587</u>) filed with the Securities and Exchange Commission (the "SEC") on April 23, 2019, March 19, 2020, and April 29, 2022, respectively, are hereby incorporated by reference pursuant to General Instruction E.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

Item 1. Plan Information.

The documents containing the information specified in this Item 1 will be sent or given to participants as specified by Rule 428(b)(1) under the Securities Act of 1933, as amended (the "Securities Act"). In accordance with the rules and regulations of the SEC and the instructions to Form S-8, such documents are not being filed with the SEC either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act.

Item 2. Registrant Information and Employee Plan Annual Information.

The documents containing the information specified in this Item 2 will be sent or given to participants, without charge, upon written or oral request, as specified by Rule 428(b)(1) under the Securities Act. In accordance with the rules and regulations of the SEC and the instructions to Form S-8, such documents are not being filed with the SEC either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act. Requests for such documents should be addressed to:

HOOKIPA Pharma Inc. 350 Fifth Avenue, 72nd Floor, Suite 7240 New York, New York 10118 +43 1 890 63 60

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The Registrant hereby incorporates by reference into this Registration Statement the following documents filed with the SEC:

- (a) <u>The Registrant's Annual Report on Form 10-K for the year ended December 31, 2022, which contains the Registrant's audited financial statements</u> for the latest fiscal year for which such statements have been filed;
- (b) All other reports filed pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), since the end of the fiscal year covered by the Registrant's Annual Report on Form 10-K referred to in (a) above; and
- (c) <u>The description of the Registrant's Common Stock contained in the Registrant's Registration Statement on Form 8-A (File No. 001-38869), filed by the Registrant with the SEC under Section 12(b) of the Exchange Act, on April 15, 2019, including any amendments or reports filed for the purpose of updating such description.</u>

All documents that the Registrant subsequently files pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act prior to the filing of a posteffective amendment to this Registration Statement which indicates that all of the shares of Common Stock offered have been sold or which deregisters all of such shares then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of the filing of such documents.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Under no circumstances will any information filed under current items 2.02 or 7.01 of Form 8-K be deemed incorporated herein by reference unless such Form 8-K expressly provides to the contrary.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law (the "DGCL") authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys' fees) judgments, fines and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys' fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

The Registrant has adopted provisions in its amended and restated certificate of incorporation and amended and restated bylaws that limit or eliminate the personal liability of its directors to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, a director will not be personally liable to the Registrant or its stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- · any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any unlawful payments related to dividends or unlawful stock purchases, redemptions or other distributions; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, the Registrant's amended and restated bylaws provide that:

- the Registrant will indemnify its directors, officers and, in the discretion of its board of directors, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- the Registrant will advance reasonable expenses, including attorneys' fees, to its directors and, in the discretion of its board of directors, to its
 officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of the Registrant, subject to
 limited exceptions.

The Registrant has entered into indemnification agreements with each of its directors and executive officers. These agreements provide that the Registrant will indemnify each of its directors, certain of its executive officers and, at times, their affiliates to the fullest extent permitted by Delaware law. The Registrant will advance expenses, including attorneys' fees (but excluding judgments, fines and settlement amounts), to each indemnified director, executive officer or affiliate in connection with any proceeding in which indemnification is available and the Registrant will indemnify its directors and officers for any action or proceeding arising out of that person's services as a director or officer brought on behalf of the Registrant or in furtherance of its rights. Additionally, certain of the Registrant's directors or officers may have certain rights to indemnification, advancement of expenses or insurance provided by their affiliates or other third parties, which indemnification relates to and might apply to the same proceedings arising out of such director's or officer's services as a director referenced herein. Nonetheless, the Registrant has agreed in the indemnification agreements that its obligations to those same directors or officers are primary and any obligation of such affiliates or other third parties to advance expenses or to provide indemnification for the expenses or liabilities incurred by those directors are secondary.

The Registrant also maintains general liability insurance which covers certain liabilities of its directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

See the Exhibit Index for a list of exhibits filed as part of this Registration Statement, which Exhibit Index is incorporated herein by reference.

Item 9. Undertakings.

(a) The Registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act.

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent posteffective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement.

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) herein do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act (15 U.S.C. 78m or 78o(d)) that are incorporated by reference in the Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(h) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

	EXHIBIT INDEX								
Exhibit No.	Description of Exhibit								
<u>4.1</u>	Amended and Restated Certificate of Incorporation of the Registrant (filed as Exhibit 3.1 to the Registrant's Annual Report on Form 10-K, filed with the SEC on March 24, 2022, and incorporated by reference herein).								
<u>4.2</u>	Certificate of Amendment of Amended and Restated Certificate of Incorporation of the Registrant (filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on July 1, 2022, and incorporated by reference herein).								
<u>4.3</u>	Amended and Restated By-laws of the Registrant (filed as Exhibit 3.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 23, 2019, and incorporated by reference herein).								
<u>4.4</u>	Specimen stock certificate evidencing the shares of common stock (filed as Exhibit 4.1 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-230451), filed with the SEC on April 8, 2019, and incorporated by reference herein).								
<u>4.5</u>	Shareholders Agreement among the Registrant and certain of its shareholders, dated February 15, 2019 (filed as Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 23, 2019, and incorporated by reference herein).								
<u>5.1*</u>	Opinion of Goodwin Procter LLP.								
<u>23.1*</u>	Consent of PwC Wirtschaftsprüfung GmbH, independent registered public accounting firm.								
<u>23.2*</u>	Consent of Goodwin Procter LLP (included in Exhibit 5.1).								
<u>24.1*</u>	Power of Attorney (included on signature page).								
<u>99.1</u>	2019 Stock Option and Incentive Plan, as amended and restated (filed as Annex C to the Registrant's Definitive Proxy Statement on Schedule 14A filed on May 16, 2022, and incorporated by reference herein).								
<u>99.2</u>	Form of Incentive Stock Option Agreement under the Registrant's 2019 Stock Option and Incentive Plan (filed as Exhibit 10.3 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-230451), filed with the SEC on April 8, 2019, and incorporated by reference herein).								
<u>99.3</u>	Form of Non-Qualified Stock Option Agreement for Company Employees under the Registrant's 2019 Stock Option and Incentive Plan (filed as Exhibit 10.4 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-230451), filed with the SEC on April 8, 2019, and incorporated by reference herein).								
<u>99.4</u>	Form of Non-Qualified Stock Option Agreement for Non-Employee Directors under the Registrant's 2019 Stock Option and Incentive Plan (filed as Exhibit 10.5 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-230451), filed with the SEC on April 8, 2019, and incorporated by reference herein).								
<u>99.5</u>	Form of Restricted Stock Award Agreement under the Registrant's 2019 Stock Option and Incentive Plan (filed as Exhibit 10.6 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-230451), filed with the SEC on April 8, 2019, and incorporated by reference herein).								

- 99.6 Form of Restricted Stock Award Agreement for Company Employees under the Registrant's 2019 Stock Option and Incentive Plan (filed as Exhibit 10.7 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-230451), filed with the SEC on April 8, 2019, and incorporated by reference herein).
- 99.7 Form of Restricted Stock Award Agreement for Non-Employee Directors under the Registrant's 2019 Stock Option and Incentive Plan (filed as Exhibit 10.8 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-230451), filed with the SEC on April 8, 2019, and incorporated by reference herein).
- 99.82019 Employee Stock Purchase Plan (filed as Exhibit 10.9 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-
230451), filed with the SEC on April 8, 2019, and incorporated by reference herein).
- 99.9 2023 Inducement Plan and forms of award agreements thereunder (filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 13, 2023, and incorporated by reference herein).
- <u>107*</u> <u>Filing Fee Table.</u>
- * Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of New York, State of New York, on April 13, 2023.

HOOKIPA PHARMA INC.

By: /s/ Joern Aldag

Joern Aldag

Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of HOOKIPA Pharma Inc. (the "Registrant"), hereby severally constitute and appoint Joern Aldag and Reinhard Kandera, and each of them singly, our true and lawful attorneys, with full power to them, and to each of them singly, to sign for us and in our names in the capacities indicated below, any and all amendments (including post-effective amendments) to this Registration Statement, and all other documents in connection therewith to be filed with the Securities and Exchange Commission, and generally to do all things in our names and on our behalf in such capacities to enable the Registrant to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title(s)	Date		
/s/ Joern Aldag Joern Aldag	Chief Executive Officer and Director (Principal Executive Officer)	April 13, 2023		
/s/ Reinhard Kandera Reinhard Kandera	Chief Financial Officer and Director (Principal Financial and Accounting Officer)	April 13, 2023		
/s/ Jan van de Winkel Jan van de Winkel, Ph.D.	Chairman of the Board	April 13, 2023		
/s/ David Kaufman David Kaufman	Director	April 13, 2023		
/s/ Malte Peters Malte Peters, M.D.	Director	April 13, 2023		
/s/ Terry Coelho Terry Coelho	Director	April 13, 2023		
/s/ Julie O'Neill Julie O'Neill	Director	April 13, 2023		
/s/ Timothy Reilly Timothy Reilly, Ph.D.	Director	April 13, 2023		

Exhibit 5.1



Goodwin Procter LLP The New York Times Building 620 Eighth Avenue New York, NY 10018

goodwinlaw.com +1 212 813 8800

April 13, 2023

HOOKIPA Pharma Inc. 350 Fifth Avenue, 72nd Floor Suite 7240 New York, NY 10118

Re: Securities Being Registered under Registration Statement on Form S-8

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-8 (the "Registration Statement") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), on or about the date hereof relating to an aggregate of 4,235,832 shares (the "Shares") of Common Stock, \$0.0001 par value per share ("Common Stock"), of HOOKIPA Pharma Inc., a Delaware corporation (the "Company"), that may be issued pursuant to the HOOKIPA Pharma Inc. 2023 Inducement Plan (the "Inducement Plan"), the Company's 2019 Stock Option and Incentive Plan, and the Company's 2019 Employee Stock Purchase Plan (the "Plans").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

For purposes of the opinion set forth below, we have assumed that no event occurs that causes the number of authorized shares of Common Stock available for issuance by the Company to be less than the number of then unissued Shares.

Based on the foregoing, we are of the opinion that the Shares have been duly authorized and, upon issuance and delivery against payment therefor in accordance with the terms of the Plans, will be validly issued, fully paid and nonassessable.

This opinion letter and the opinion it contains shall be interpreted in accordance with the Core Opinion Principles as published in 74 *Business Lawyer* 815 (Summer 2019).

HOOKIPA Pharma Inc. April 13, 2023 Page 2

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/S/ GOODWIN PROCTER LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of HOOKIPA Pharma Inc. of our report dated March 15, 2023 relating to the financial statements, which appears in HOOKIPA Pharma Inc.'s Annual Report on Form 10-K for the year ended December 31, 2022.

Vienna, Austria April 13, 2023

PwC Wirtschaftsprüfung GmbH /s/ Stefano Mulas Stefano Mulas German Certified Public Accountant

Calculation of Filing Fee Table

Form S-8

(Form Type)

HOOKIPA Pharma Inc.

(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

Securi Typ	5	Fee Calculation Rule	Amount to be registered (1)	Proposed maximum offering price per share	C	Maximum Aggregate Offering Price	Fee Rate		Amount of egistration fee (8)
Equit	y Common Stock, \$0.0001 par value	Other							
	per share		3,188,666(2)	\$ 0.7255(3) \$	2,313,377.18	\$ 0.00011020	\$	254.94
Equi	y Common Stock, \$0.0001 par value per share	Other	547,166(4)	\$ 0.6167(5)\$	337,437.27	\$ 0.00011020	\$	37.19
Equi	y Common Stock, \$0.0001 par value	Other							
	per share		500,000(6)	\$ 0.7255(7) \$	362,750.00	\$ 0.00011020	\$	39.98
Total Of	Total Offering Amounts				\$	3,013,564.45			
Total Fees Previously Paid									
Total Fee Offsets									
	Net Fee 1	Due						\$	332.11

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement shall also cover any additional shares of common stock which become issuable under the above-named plans by reason of any stock dividend, stock split, recapitalization or any other similar transaction effected without the receipt of consideration which results in an increase in the number of our outstanding shares of common stock.
- (2) Represents (A) 2,188,666 shares of Common Stock, pursuant to an automatic annual increase on January 1, 2023 to the number of shares reserved for issuance under the 2019 Stock Option and Incentive Plan (the "2019 Plan") pursuant to the terms of the 2019 Plan; and (B) 1,000,000 shares of Common Stock that were added to the 2019 Plan pursuant to the Amended and Restated 2019 Plan dated June 30, 2022. Other shares available for issuance under the 2019 Plan, as amended, were previously registered on registration statements on Form S-8 (SEC File Nos. 333-230995, 333-237285, and 333-264587) filed with the Securities and Exchange Commission (the "SEC") on April 23, 2019, March 19, 2020, and April 29, 2022, respectively.
- (3) The price of \$0.7255 per share, which is the average of the high and low sale prices of the Common Stock of the registrant as quoted on the Nasdaq Global Select Market on April 10, 2023, is set forth solely for purposes of calculating the registration fee pursuant to Rules 457(c) and (h) of the Securities Act, and has been used as these shares are without a fixed price.
- (4) Represents an automatic annual increase on January 1, 2023 to the number of shares reserved for issuance under the 2019 Employee Stock Purchase Plan (the "2019 ESPP") pursuant to the terms of the 2019 ESPP. Other shares available for issuance under the 2019 ESPP were previously registered on registration statements on Form S-8 (SEC File Nos. 333-230995, 333-237285, and 333-264587) filed with the SEC on April 23, 2019, March 19, 2020, and April 29, 2022, respectively.
- (5) The price of \$0.6167 per share, which is 85% of the average of the high and low sale prices of the Common Stock of the registrant as quoted on the Nasdaq Global Select Market on April 10, 2023, is set forth solely for purposes of calculating the registration fee pursuant to Rules 457(c) and (h) of the Securities Act, and has been used as these shares are without a fixed price. Pursuant to the 2019 ESPP, the purchase price of the shares of Common Stock reserved for issuance thereunder will be 85% of the fair market value of a share of Common Stock on the first trading day of the offering period or on the exercise date, whichever is less.
- (6) Represents the number of shares of Common Stock available for issuance under the 2023 Inducement Plan.
- (7) The price of \$0.7255 per share, which is the average of the high and low sale prices of the Common Stock of the registrant as quoted on the Nasdaq Global Select Market on April 10, 2023, is set forth solely for purposes of calculating the registration fee pursuant to Rules 457(c) and (h) of the Securities Act, and has been used as these shares are without a fixed price.
- (8) Calculated pursuant to Section 6(b) of the Securities Act.