

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

**FORM S-8
REGISTRATION STATEMENT**
*UNDER
THE SECURITIES ACT OF 1933*

Bionano Genomics, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

26-1756290
(I.R.S. Employer
Identification No.)

9540 Towne Centre Drive, Suite 100
San Diego, California
(Address of Principal Executive Offices)

92121
(Zip Code)

Amended and Restated 2018 Equity Incentive Plan
2018 Employee Stock Purchase Plan
(Full titles of the plans)

R. Erik Holmlin, Ph.D.
President and Chief Executive Officer
Bionano Genomics, Inc.
9540 Towne Centre Drive, Suite 100
San Diego, California 92121
(858) 888-7600

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

Copies to:

Thomas A. Coll, Esq.
James C. Pennington, Esq.
Cooley LLP
4401 Eastgate Mall
San Diego, California 92121
(858) 550-6000

R. Erik Holmlin, Ph.D.
President and Chief Executive Officer
Bionano Genomics, Inc.
9640 Towne Centre Drive, Suite 100
San Diego, California 92121
(858) 888-7600

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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.

Large Accelerated filer	<input type="checkbox"/>		Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>		Smaller reporting company	<input checked="" type="checkbox"/>
Emerging growth company	<input checked="" type="checkbox"/>			

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.

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee
2018 Equity Incentive Plan				
Common Stock, \$0.0001 par value per share	502,753(3)	\$4.02	\$2,021,068	\$245
2018 Employee Stock Purchase Plan				
Common Stock, \$0.0001 par value per share	100,550(4)	\$4.02	\$404,211	\$49

Total	603,303	\$2,425,279	\$294
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- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the “**Securities Act**”), this Registration Statement shall also cover any additional shares of Common Stock (“**Common Stock**”) of Bionano Genomics, Inc. (the “**Registrant**”) that become issuable under the Registrant’s 2018 Equity Incentive Plan (the “**2018 Plan**”) or the Registrant’s 2018 Employee Stock Purchase Plan (the “**2018 ESPP**”) by reason of any stock dividend, stock split, recapitalization or other similar transaction.
- (2) This estimate is made pursuant to Rule 457(h)(1) and Rule 457(c) of the Securities Act solely for purposes of calculating the registration fee. The price per share and aggregate offering price are based upon the average of the high and low prices of the Common Stock on March 27, 2019, as reported on the Nasdaq Capital Market.
- (3) Represents shares of Common Stock that were automatically added to the shares authorized for issuance under the 2018 Plan on January 1, 2019 pursuant to an “evergreen” provision contained in the 2018 Plan. Pursuant to such provision, on January 1st of each year through January 1, 2028, the number of shares authorized for issuance under the 2018 Plan will be automatically increased by the lesser of: (a) 5% of the total number of shares of capital stock of the Registrant outstanding on December 31 of the preceding calendar year; or (b) such lesser number of shares of Common Stock as the Registrant’s board of directors (the “**Board**”) may designate prior to the applicable January 1st.
- (4) Represents shares of Common Stock that were automatically added to the shares authorized for issuance under the 2018 ESPP on January 1, 2019 pursuant to an “evergreen” provision contained in the 2018 ESPP. Pursuant to such provision, on January 1st of each year through January 1, 2028, the number of shares authorized for issuance under the 2018 ESPP will be automatically increased by a number equal to the lesser of: (a) 1% of the total number of shares of capital stock outstanding on December 31 of the preceding calendar year; (b) 220,000 shares; or (c) such lesser number of shares of Common Stock as the Board may designate prior to the applicable January 1st.

INCORPORATION OF DOCUMENTS BY REFERENCE

This Registration Statement is being filed for the purpose of increasing the number of securities of the same class as other securities for which a Registration Statement of the Registrant on Form S-8 relating to the same employee benefit plan is effective.

The Registrant previously registered shares of its Common Stock for issuance under the 2018 Plan and 2018 ESPP under a Registration Statement on Form S-8 filed with the Securities and Exchange Commission (the "**Commission**") on August 28, 2018 (File No. 333-227073). Pursuant to General Instruction E to Form S-8, this Registration Statement hereby incorporates by reference the contents of the Registration Statement referenced above.

ITEM 8. EXHIBITS.

<u>Exhibit Number</u>	<u>Description</u>
4.1(1)	Amended and Restated Certificate of Incorporation of the Registrant.
4.2(1)	Amended and Restated Bylaws of the Registrant.
4.3(2)	Form of Common Stock Certificate of the Registrant.
5.1	Opinion of Cooley LLP.
23.1	Consent of Independent Registered Public Accounting Firm.
23.2	Consent of Cooley LLP. Reference is made to Exhibit 5.1.
24.1	Power of Attorney. Reference is made to the signature page hereto.
99.1(3)	Bionano Genomics, Inc. 2018 Equity Incentive Plan.
99.2(2)	Forms of Stock Option Grant Notice, Option Agreement and Notice of Exercise under the 2018 Plan.
99.3(3)	Bionano Genomics, Inc. 2018 Employee Stock Purchase Plan.

(1) Incorporated by reference to the Registrant's Current Report on Form 8-K, filed with the SEC on August 24, 2018.

(2) Incorporated by reference to the Registrant's Registration Statement on Form S-1 (File No. 333-225970), as amended.

(3) Incorporated by reference to the Registrant's Registration Statement on Form S-8 (File No. 333-227073).

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, 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 San Diego, State of California, on March 28, 2019.

BIONANO GENOMICS, INC.

By: /s/ R. Erik Holmlin, Ph.D.

R. Erik Holmlin, Ph.D.

President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints R. Erik Holmlin, Ph.D. and Mike Ward, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him or her and in his or her name, place or stead, in any and all capacities, to sign any and all amendments to this Registration Statement (including post-effective amendments), and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ R. Erik Holmlin, Ph.D.</u> R. Erik Holmlin, Ph.D.	Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	March 28, 2019
<u>/s/ Mike Ward</u> Mike Ward	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	March 28, 2019
<u>/s/ David L. Barker, Ph.D.</u> David L. Barker, Ph.D.	Director	March 28, 2019
<u>/s/ Darren Cai, Ph.D.</u> Darren Cai, Ph.D.	Director	March 28, 2019
<u>/s/ Albert A. Luderer, Ph.D.</u> Albert A. Luderer, Ph.D.	Director	March 28, 2019
<u>/s/ Junfeng Wang</u> Junfeng Wang	Director	March 28, 2019
<u>/s/ Christopher Twomey</u> Christopher Twomey	Director	March 28, 2019
<u>/s/ Quan Zhou</u> Quan Zhou	Director	March 28, 2019



Thomas A. Coll
+1 858 550 6013
collta@cooley.com

March 28, 2019

Bionano Genomics, Inc.
9540 Towne Centre Drive, Suite 100
San Diego, CA 92121

Ladies and Gentlemen:

You have requested our opinion, as counsel to Bionano Genomics, Inc., a Delaware corporation (the "**Company**"), in connection with the filing by the Company of a Registration Statement on Form S-8 (the "**Registration Statement**") with the Securities and Exchange Commission covering the offering of an aggregate of up to 603,303 shares of the Company's Common Stock, par value \$0.0001 per share (the "**Shares**"), including (i) 502,753 shares issuable pursuant to the Company's 2018 Equity Incentive Plan (the "**Incentive Plan**") and (ii) 100,550 shares issuable pursuant to the Company's 2018 Employee Stock Purchase Plan (the "**Employee Plan**").

In connection with this opinion, we have examined and relied upon the Registration Statement and related prospectuses, the Incentive Plan, the Employee Plan, the Company's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, each as currently in effect, and the originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness and authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies, the accuracy, completeness and authenticity of certificates of public officials; and the due authorization, execution and delivery of all documents where authorization, execution and delivery are prerequisites to the effectiveness of such documents. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought independently to verify such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the Incentive Plan or the Employee Plan, as applicable, the Registration Statement and related prospectus, will be validly issued, fully paid and nonassessable (except as to shares issued pursuant to certain deferred payment arrangements under the Incentive Plan, which will be fully paid and nonassessable when such deferred payments are made in full).

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March 28, 2019

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We consent to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

Cooley LLP

By: /s/ Thomas A. Coll
Thomas A. Coll

Cooley LLP 4401 Eastgate Mall San Diego, CA 92121
t: (858) 550-6000 f: (858) 550-6420 cooley.com

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated March 14, 2019, relating to the consolidated financial statements of Bionano Genomics, Inc. (which report expresses an unqualified opinion and includes an explanatory paragraph relating to substantial doubt about Bionano Genomics, Inc.'s ability to continue as a going concern), appearing in the Annual Report on Form 10-K of Bionano Genomics, Inc. for the year ended December 31, 2018.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
March 28, 2019