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

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AMENDMENT NO. 1  
TO  
FORM S-3  
REGISTRATION STATEMENT  
UNDER  
*THE SECURITIES ACT OF 1933*

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**Bionano Genomics, Inc.**

(Exact name of registrant as specified in its charter)

Delaware  
(State or Other Jurisdiction of  
Incorporation or Organization)

3826  
(Primary Standard Industrial  
Classification Code Number)

26-1756290  
(I.R.S. Employer  
Identification Number)

Bionano Genomics, Inc.  
9540 Towne Centre Drive, Suite 100  
San Diego, California 92121  
(858) 888-7600

(Address, including zip code, and telephone number, including area code of registrant's principal executive offices)

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:*

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

Thomas A. Coll, Esq.  
Phillip S. McGill, Esq.  
Cooley LLP  
10265 Science Center Drive  
San Diego, California 92121  
(858) 550-6000

**From time to time after the effective date of this Registration Statement  
(Approximate date of commencement of proposed sale to the public)**

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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.

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 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.

**The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.**

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## **EXPLANATORY NOTE**

This Amendment No. 1 to the Registration Statement on Form S-3 (File No. 333-270459) is filed solely to amend Item 16 of Part II thereof to file certain exhibits thereto. This Amendment No. 1 does not modify any provision of Part I of the Registration Statement. Accordingly, Part I of the Registration Statement has been omitted.

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## INFORMATION NOT REQUIRED IN PROSPECTUS

**Item 14. Other Expenses of Issuance and Distribution.**

The following table sets forth the estimated costs and expenses, other than underwriting discounts and commissions, payable by us in connection with the offering of the securities being registered. All the amounts shown are estimates, except for the SEC registration fee.

SEC registration fee	\$	11,594
FINRA filing fee		*
Accounting fees and expenses		*
Legal fees and expenses		*
Transfer agent and registrar fees and expenses		*
Trustee fees and expenses		*
Printing and miscellaneous expenses		*
Total	\$	11,594

\* The amount of securities and number of offerings are indeterminable and the expenses cannot be estimated at this time. An estimate of the aggregate expenses in connection with the sale and distribution of securities being offered will be included in the applicable prospectus supplement.

**Item 15. Indemnification of Directors and Officers.**

We are incorporated under the laws of the State of Delaware. Section 145 of the General Corporation Law of the State of Delaware provides that a Delaware corporation may indemnify any persons who were, are, or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation, or is or was serving at the request of such corporation as an officer, director, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may indemnify any persons who were, are, or are threatened to be made, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses (including attorneys' fees) actually and reasonably incurred.

Our amended and restated certificate of incorporation, as amended, and amended and restated bylaws provide for the indemnification of our directors and officers to the fullest extent permitted under the General Corporation Law of the State of Delaware. Section 102(b)(7) of the General Corporation Law of the State of Delaware permits a corporation to provide in its certificate of incorporation that a director or officer of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director or officer, except for liability for any:

- transaction from which the director or officer derives an improper personal benefit;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- in the case of a director, unlawful payment of dividends or redemption of shares;
- breach of a director's duty of loyalty to the corporation or its stockholders; or
- in the case of an officer, action by or in the right of the corporation.

Our amended and restated certificate of incorporation, as amended, includes such a provision with respect to our directors. Expenses incurred by any officer or director in defending any such action, suit or proceeding in advance of its final disposition will be paid by us upon delivery to us of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified by us.

Section 174 of the General Corporation Law of the State of Delaware provides, among other things, that a director who willfully or negligently approves of an unlawful payment of dividends or an unlawful stock purchase or redemption, may be held liable for such actions. A director who was either absent when the unlawful actions were approved or dissented at the time may avoid liability by causing his or her dissent to such actions to be entered in the books containing minutes of the meetings of the board of directors at the time such action occurred or immediately after such absent director receives notice of the unlawful acts.

As permitted by the General Corporation Law of the State of Delaware, we have entered, and continue to enter, into separate indemnity agreements with each of our directors and executive officers that require us to indemnify such persons against any and all costs and expenses (including attorneys', witness or other professional fees) actually and reasonably incurred by such persons in connection with any action, suit or proceeding (including derivative actions), whether actual or threatened, to which any such person may be made a party by reason of the fact that such person is or was a director or officer or is or was acting or serving as an officer, director, employee or agent of ours or any of our affiliated enterprises. Under these agreements, we are not required to provide indemnification for certain matters, including:

- indemnification beyond that permitted by the General Corporation Law of the State of Delaware;
- indemnification for any proceeding with respect to the unlawful payment of remuneration to the director or officer;
- indemnification for certain proceedings involving a final judgment that the director or officer is required to disgorge profits from the purchase or sale of our stock;
- indemnification for proceedings involving a final judgment that the director's or officer's conduct was in bad faith, knowingly fraudulent or deliberately dishonest or constituted willful misconduct or a breach of his or her duty of loyalty, but only to the extent of such specific determination;
- indemnification for proceedings or claims brought by an officer or director against us or any of our directors, officers, employees or agents, except for (1) claims to establish a right of indemnification or proceedings, (2) claims approved by our board of directors, (3) claims required by law, (4) when there has been a change of control as defined in the indemnification agreement with each director or officer, or (5) by us in our sole discretion pursuant to the powers vested to us under the General Corporation Law of the State of Delaware;
- indemnification for settlements the director or officer enters into without our consent; or
- indemnification in violation of any undertaking required by the Securities Act or in any registration statement we file.

The indemnification agreements also set forth certain procedures that will apply in the event of a claim for indemnification thereunder.

We have an insurance policy in place that covers our officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act or otherwise.

Pursuant to certain underwriting agreements we may enter, the underwriters are obligated, under some circumstances, to indemnify our directors, officers and controlling persons against specified liabilities, including liabilities under the Securities Act.

## Item 16. Exhibits.

Exhibit Number	Description
1.1*	Form of Underwriting Agreement.
1.2+	<a href="#">Sales Agreement, dated March 23, 2021, by and between the Company and Cowen and Company, LLC (incorporated by reference to Exhibit 1.1 of the Registrant's Current Report on Form 8-K, filed with the SEC on March 24, 2021).</a>
1.3+	<a href="#">Amendment No. 1 to Sales Agreement, dated March 9, 2023, by and between the Company and Cowen and Company, LLC (incorporated by reference to Exhibit 1.3 of the Registrant's Registration Statement on Form S-3 (File No. 333-270459), filed March 10, 2023).</a>
3.1+	<a href="#">Amended and Restated Certificate of Incorporation, as amended (incorporated by reference to Exhibit 3.1 of the Registrant's Annual Report on Form 10-K, filed with the SEC on March 23, 2021).</a>
3.2	<a href="#">Certificate of Designation of Preferences, Rights and Limitations of Series A Preferred Stock (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K, filed with the SEC on April 14, 2023).</a>
3.3+	<a href="#">Amended and Restated Bylaws. (incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K, filed with the SEC on August 24, 2018).</a>
3.4	<a href="#">Amendment to Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K, filed with the SEC on April 14, 2023).</a>
4.1	Reference is made to Exhibits <a href="#">3.1</a> , <a href="#">3.2</a> , <a href="#">3.3</a> and <a href="#">3.4</a> .
4.2+	<a href="#">Form of Common Stock Certificate (incorporated by reference to Exhibit 4.1 of the Registrant's Registration Statement on Form S-1 (File No. 333-225970), as amended).</a>
4.3+	<a href="#">Form of Warrant to Purchase Series D-1 Preferred Stock issued to Midcap Financial Trust (incorporated by reference to Exhibit 4.8 of the Registrant's Registration Statement on Form S-1 (File No. 333-225970), as amended).</a>
4.4+	<a href="#">Form of Warrant to Purchase Common Stock Issued to Underwriters (attached to Underwriting Agreement) (incorporated by reference to Exhibit 4.9 of the Registrant's Registration Statement on Form S-1 (File No. 333-225970), as amended).</a>
4.5+	<a href="#">Form of Warrant Certificate (included in Exhibit 4.6 below) (incorporated by reference to Exhibit 4.11 of the Registrant's Registration Statement on Form S-1 (File No. 333-225970), as amended).</a>
4.6+	<a href="#">Form of Warrant Agent Agreement by and between the Registrant and American Stock Transfer &amp; Trust Company LLC, as warrant agent (incorporated by reference to Exhibit 4.11 of the Registrant's Registration Statement on Form S-1 (File No. 333-225970), as amended).</a>
4.7+	<a href="#">Form of Warrant to Purchase Common Stock for Service Providers (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K, filed with the SEC on November 21, 2018).</a>
4.8+	<a href="#">Registration Rights Agreement, dated March 14, 2019, by and among the Company and the Innovatus Investors (incorporated by reference to Exhibit 4.3 of the Registrant's Current Report on Form 8-K, filed with the SEC on March 14, 2019).</a>
4.9+	<a href="#">Form of Warrant to Purchase Common Stock issued to Investors in October 2019 Public Offering (incorporated by reference to Exhibit 4.13 of the Registrant's Registration Statement on Form S-1 (File No. 333-233828), as amended).</a>
4.10+	<a href="#">Form of Warrant to Purchase Common Stock issued to Investors in April 2020 Public Offering (incorporated by reference to Exhibit 4.16 of the Registrant's Registration Statement on Form S-1 (File No. 333-237074), as amended).</a>
4.11*	Specimen Preferred Stock Certificate and Form of Certificate of Designation of Preferred Stock.
4.12+	<a href="#">Form of Debt Indenture.</a>
4.13*	Form of Debt Securities.
4.14+	<a href="#">Form of Common Stock Warrant Agreement and Warrant Certificate.</a>
4.15+	<a href="#">Form of Preferred Stock Warrant Agreement and Warrant Certificate.</a>
4.16+	<a href="#">Form of Debt Securities Warrant Agreement and Warrant Certificate.</a>
5.1+	<a href="#">Opinion of Cooley LLP.</a>
23.1	<a href="#">Consent of BDO USA LLP, independent registered public accounting firm.</a>
23.2+	<a href="#">Consent of Cooley LLP (included in Exhibit 5.1).</a>
24.1+	<a href="#">Power of Attorney (reference is made to the signature page of the Registration Statement on Form S-3 filed by the Registrant on March 10, 2023).</a>
25.1**	Statement of Eligibility of Trustee under the Debt Indenture.
107+	<a href="#">Filing Fee Table.</a>

\* To be filed by amendment or as an exhibit to a Current Report on Form 8-K and incorporated herein by reference, if applicable.

\*\* To be filed in accordance with the requirements of Section 305(b)(2) of the Trust Indenture Act of 1939, as amended, and the applicable rules thereunder.

+ Previously filed with the Registrant's Registration Statement on Form S-3 (File No. 333-270459), filed March 10, 2023.

**Item 17. Undertakings.**

The undersigned 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 post-effective 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 SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(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 the undertakings set forth in paragraphs (1)(i), (1)(ii) and (1)(iii) of this section do not apply if the registration statement is on Form S-3 or Form F-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this registration statement or are contained in a form of prospectus filed pursuant to Rule 424(b) that is part of this 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.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided, however,* that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser: (i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424; (ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant; (iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and (iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(6) 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 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.

(7) That, for purposes of determining any liability under the Securities Act, (i) the information omitted from the form of prospectus filed as part of the registration statement in reliance upon Rule 430A and contained in the form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be a part of the registration statement as of the time it was declared effective; and (ii) each post-effective amendment that contains a form of prospectus 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.

(8) To file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the SEC under Section 305(b)(2) of the Trust Indenture Act.



## 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-3 and has duly caused this Amendment No. 1 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on the 8th day of May, 2023.

### BIONANO GENOMICS, INC.

By: /s/ R. Erik Holmlin, Ph.D.  
R. Erik Holmlin, Ph.D.  
*President and Chief Executive Officer*

Pursuant to the requirements of the Securities Act of 1933, as amended, this Amendment No. 1 to the 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.	President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	May 8, 2023
<u>/s/ Christopher Stewart</u> Christopher Stewart	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	May 8, 2023
<u>*</u> David L. Barker, Ph.D.	Director	May 8, 2023
<u>*</u> Yvonne Linney, Ph.D.	Director	May 8, 2023
<u>*</u> Albert A. Luderer, Ph.D.	Director	May 8, 2023
<u>*</u> Hannah Mamuszka	Director	May 8, 2023
<u>*</u> Aleksandar Rajkovic, M.D., Ph.D.	Director	May 8, 2023
<u>*</u> Christopher Twomey	Director	May 8, 2023
<u>*</u> Kristiina Vuori, M.D., Ph.D.	Director	May 8, 2023
<u>*</u> Vincent Wong, J.D., M.B.A.	Director	May 8, 2023

\*By: /s/ R. Erik Holmlin, Ph.D.  
R. Erik Holmlin, Ph.D.  
Attorney-in-fact

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated March 9, 2023, relating to the consolidated financial statements of Bionano Genomics, Inc.'s (the "Company"), appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2022. Our report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, LLP

San Diego, California  
May 8, 2023

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