



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

June 5, 2018

Via E-mail

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

**Re: Bionano Genomics, Inc.
Draft Registration Statement on Form S-1
Submitted May 14, 2018
CIK No. 0001411690**

Dear Dr. Holmlin:

We have reviewed your draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing any requested information and by publicly filing your registration statement and non-public draft submission on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe revisions in response to these comments are appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your filed registration statement, we may have additional comments.

Cover Page

1. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.
2. We note your disclosure that the closing of the offering is contingent on Nasdaq listing of your common stock. This contingency appears to create an offering that is other than a firm commitment. It is unclear whether the underwriters will be collecting funds prior to the contingency being satisfied. If so, please tell us whether the underwriters will comply with Rule 15c2-4.

Overview, page 1

3. Please provide the basis for your beliefs regarding your product, including but not limited to your belief that your product is cost-effective. Also, given your extensive disclosure regarding the attributes and functionality of your product relative to competing products, please explain the reasons for your current level of sales and share of the market in which you compete.
4. Please tell us the criteria you used to determine that the customers you highlight are objectively representative of your business. Include in your response whether any unnamed customers also satisfy those criteria.
5. Please revise to disclose clearly and prominently the research use only designation of your system and consumables. Also revise to disclose how this designation impacts your addressable market.

Market Opportunity, page 2

6. Please tell us your basis for the addressable market calculations, given its research use only designation, and provide a more detailed discussion of underlying assumptions used in your calculations. Please also provide your basis for the 15% figure on page 67.

Our Focus Areas, page 4

7. Please revise to clarify how you are addressing these focus areas, including that you are providing a system for research use only rather than the diagnosis or treatment of any of the diseases you mention.

Risk Factors, page 11

8. Please add risk factor disclosure for the exclusive forum provision disclosed on page 113. Include as a separate risk factor a discussion of the risks associated with the provision designating the U.S. federal district courts as the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

Provisions of our secured term loan facility..., page 14

9. Please expand your risk factor to include a brief description of the financial covenants contained in your loan agreement. Also, if the potential risk you discuss has actually occurred, please revise to state so directly. For example, please revise to address your default and subsequent forbearance agreement from Western Alliance Bank for failing to raise additional capital as of December 31, 2017 as described on page 58.

Use of Proceeds, page 46

10. Please disclose the amount of proceeds that you currently intend to use for each of the purposes mentioned in the penultimate paragraph of this section. Also, provide more detail regarding your plan to expand your commercial capabilities and what research and development activities you intend to fund.

Capitalization, page 48

11. Please explain to us how you calculated total capitalization in the table.

Comparison of the Years Ended December 31, 2016 and 2017, page 56

12. Please quantify the amount of the increase in revenues attributable to changes in price and increases in volume. Also, provide the relative growth rate in revenue from sales of instruments versus consumables.
13. Please clarify your disclosure that you incurred higher manufacturing costs of your instruments due to “the purchase quantities at lower volumes on a per-batch basis” given you sold more instruments in the year ended December 31, 2017 compared to 2016.

Loan facility, page 58

14. Please disclose the financing milestone that must be achieved in order to extend the interest-only payments.

Note purchase agreement, page 58

15. Please file the note purchase agreement as an exhibit to your registration statement or advise.

Business, page 65

Overview, page 65

16. Refer to the fourth paragraph. Please revise to clarify your disclosure that your product is being adopted as a “complement” to sequencers. For example, do sequencers detect variations that your product cannot detect? Does your product function effectively only when used with sequencers?

The Saphyr System’s Industry-Leading Sensitivity and Specificity, page 76

17. Please tell us whether you commissioned any of the publications or studies cited in your prospectus.

Certain Relationships and Related Party Transactions, page 105

18. Please disclose the conversion or net exercise rate for the securities identified in this section, such as the February 2018 notes discussed on page F-26 and the number of securities to be received upon conversion in connection with this transaction.

Principal Stockholders, page 108

19. Please revise your disclosure to identify the natural person or persons who share voting and investment control of the shares held by Praise Alliance International Limited and Full Succeed International Limited. Also, identify the natural person or persons with whom Mr. Wang shares voting or investment control of the shares held by LC Fund VI, L.P. or advise.

Shares Eligible for Future Sale, page 114

20. We note you are not registering the shares issuable upon exercise of the underwriters' warrants. Please revise the disclosure in the second paragraph of this section regarding the shares underlying the underwriters' warrants accordingly or advise.

Financial Statements, page F-1

Note 2. Summary of Significant Accounting Policies, page F-8

Revenue Recognition, page F-10

21. We note your discussion that the timing of revenue recognition on instrument sales is based upon when delivery has occurred, the price is fixed or determinable, and collectability is reasonably assured. Please revise to disclose your accounting for installation in direct sales with customers.
22. We note your disclosure on page 79 that you designed the Saphyr system to accommodate performance upgrades without the need for replacement of the entire instrument and that performance enhancements will be delivered on a regular basis through software and hardware upgrades. Please revise to disclose your accounting for these upgrades.

Note 8. Convertible Preferred Stock and Stockholders' Deficit, page F-18

Common Stock, page F-21

23. We note the issuances of convertible preferred stock at prices significantly higher than the exercise price of stock options granted. Please explain to us how you considered the

R. Erik Holmlin, Ph.D.
Bionano Genomics, Inc.
June 5, 2018
Page 5

convertible preferred stock issuances in the valuation of stock options granted in fiscal 2017.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

We also remind you that your registration statement must be on file no later than 48 hours prior to the requested effective date and time. Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Julie Sherman at (202) 551-3640 or Brian Cascio, Accounting Branch Chief, at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Heather Percival at (202) 551-3498 or Geoff Kruczek, Senior Attorney, at (202) 551-3641 with any other questions.

Sincerely,

/s/ Geoff Kruczek for

Amanda Ravitz
Assistant Director
Office of Electronics and Machinery

cc: James C. Pennington, Esq.
Cooley LLP