

August 6, 2018

U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549

Attn: Ms. Amanda Ravitz

Re: **Bionano Genomics, Inc.**
Registration Statement on Form S-1
File No. 333-225970

Acceleration Request

Requested Date: Tuesday, August 7, 2018
Requested Time: 4:30 P.M. Eastern Time

Ladies and Gentlemen:

In accordance with Rule 461 under the Securities Act of 1933, as amended, the undersigned registrant (the “**Registrant**”) hereby requests that the Securities and Exchange Commission (the “**Commission**”) take appropriate action to cause the above-referenced Registration Statement on Form S-1 (File No. 333-225970) (the “**Registration Statement**”) to become effective on August 7, 2018, at 4:30 P.M., Eastern Time, or as soon thereafter as is practicable, or at such later time as the Registrant or its counsel may orally request via telephone call to the staff. This request for acceleration is subject to your receiving a telephone call prior to such time from our legal counsel, Cooley LLP, confirming this request. The Registrant hereby authorizes James Pennington of Cooley LLP to make such request on its behalf. In addition, this request supersedes in its entirety the Registrant’s prior request for acceleration submitted to the Commission on August 1, 2018.

Once the Registration Statement has been declared effective, please orally confirm that event with James Pennington of Cooley LLP, counsel to the Registrant, at (858) 550-6029.

Very truly yours,

Bionano Genomics, Inc.

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

R. Erik Holmlin, Ph.D.

President and Chief Executive Officer

cc: Mike Ward, Bionano Genomics, Inc.
James Pennington, Cooley LLP
Angela Dowd, Loeb & Loeb LLP