

September 14, 2018

Andrew Allen, M.D., Ph.D.  
President and Chief Executive Officer  
Gritstone Oncology, Inc.  
5858 Horton Street, Suite 210  
Emeryville, CA 94608

Re: Gritstone Oncology, Inc.  
Registration Statement on Form S-1  
Response dated September 6, 2018  
File No. 333-226976

Dear Dr. Allen:

We have reviewed your September 6, 2018 response to our comment letter and have the following comment.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comment applies to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to this comment, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our August 30, 2018 letter.

Response dated September 6, 2018

Strategic Collaboration with bluebird bio, page 121

1. We note your response to our prior comment 1. Please revise the disclosure regarding this agreement on page 121 of your Registration Statement on Form S-1 to identify the royalty term.

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You may contact Rolf Sundwall at 202-551-3105 or Jim B. Rosenberg at 202-551-3679 if you have questions regarding comments on the financial statements and related matters. Please contact Ada D. Sarmiento at 202-551-3798 or Mary Beth Breslin at 202-551-3625 with any other questions.

Sincerely,

FirstName LastNameAndrew Allen, M.D., Ph.D.

Division of

Corporation Finance

Comapany NameGritstone Oncology, Inc.

Office of Healthcare &

Insurance

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cc: Brian J. Cuneo, Esq.

FirstName LastName