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LATHAM & WATKINS LLP

September 6, 2018

VIA EDGAR AND HAND DELIVERY

File No. 054663-0010

United States Securities and Exchange Commission
Division of Corporation Finance
Office of Healthcare & Insurance
100 F Street, N.E.
Washington, D.C. 20549

Attention: Mary Beth Breslin
Ada D. Sarmento
Jim B. Rosenberg
Rolf Sundwall

Re: Gritstone Oncology, Inc.
Registration Statement on Form S-1
Filed August 23, 2018
File No. 333-226976

Ladies and Gentlemen:

On behalf of our client, Gritstone Oncology, Inc. (the "***Company***"), we are hereby submitting this letter in response to the comment letter from the staff (the "***Staff***") of the Securities and Exchange Commission (the "***Commission***") received on August 30, 2018. We are submitting this letter in advance of the filing of Amendment No. 1 to the Registration Statement on Form S-1 ("***Amendment No. 1***"). The Company previously filed its Registration Statement on Form S-1 with the Commission on August 23, 2018 (the "***Registration Statement***").

For ease of review, we have set forth below each of the numbered comments of your letter in bold type followed by the Company's responses thereto.

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Registration Statement on Form S-1

Strategic Collaboration with bluebird bio, page 121

1. **We note your disclosure that the collaboration term ends on a country-by-country basis and product candidate-by-product candidate basis based on completion of all payments owed to you by bluebird. Please revise your description of this agreement to clarify when all payments owed to you by bluebird will be completed. Please also file this agreement as an exhibit or tell us why you believe that you are not required to do so pursuant to Item 601(b)(10) of Regulation S-K.**

Response:

The Company respectfully acknowledges the Staff's comment and desires to provide the Staff with additional information in advance of the filing of Amendment No. 1 in regards to its research collaboration and license agreement (the "***Agreement***") with bluebird bio, Inc. ("***bluebird***").

In regards to the Staff's request to disclose the cessation of the collaboration term, the Company advises the Staff that it cannot, at this time, reasonably estimate when all payments owed to it by bluebird will be completed. In particular, the Agreement contains both regulatory and commercial milestones on a product by product basis, as well as royalties on net sales of commercialized products stemming from the collaboration that could extend to the expiration of the claim on a patent covering the commercialized product generating such royalties. In light of the significant time required to develop a drug product candidate, it may be years before a product candidate stemming from the collaboration is developed, and an even greater period of time before a product candidate completes clinical development or is approved for commercialization, if ever. As such, the Company does not believe it is reasonably possible to estimate a date on which all payments owed to the Company by bluebird will be complete.

In regards to the Staff's comment with respect to the filing of the Agreement as a material agreement pursuant to Item 601(b)(10) of Regulation S-K, the Company respectfully advises the Staff that, at this time, it does not believe that the Agreement meets the definition of a material agreement under the applicable provisions of Regulation S-K. First, the Agreement does not contain any material financial or other commitments by the Company that are outside the course of its normal operating business. In particular, the identification of the ten targets utilizing the Company's EDGE platform, and the related construction of the target specific T cell receptors, is consistent with the Company's currently ongoing research discovery efforts. As part of the Company's anticipated growth plans, it will increase its research and development headcount and utilize its current and planned headcount to support the collaboration.

Second, the Agreement does not involve a license to, or an encumbrance on, the Company's intellectual property supporting its planned product development efforts. The field of the license in the collaboration is limited to certain types of cell therapy based products that the Company does not have any intention of developing. Further, the Agreement is limited to a relatively small number of targets in that field. As such, the Agreement does not reduce the potential for the Company to develop its personalized or off-the-shelf immunotherapy programs (GRANITE and SLATE).

Finally, while the regulatory and commercial milestones have the potential to be significant to the Company, it will be a number of years before any of these milestones may be reasonably achieved, if ever. Further, there is significant development risk in drug development, particularly in emerging areas like cell therapy. The Company will from time to time evaluate the materiality of the Agreement with regard to the size and likelihood of achievement of potential milestone payments, or royalties, in light of the Company's financial and operating condition at such time. However, at this time, given the significant time before a product candidate stemming from the collaboration could be developed and clinically evaluated, as well as the substantial development risk associated with the field, the likelihood of achievement of any milestone or royalty payment is too remote to be viewed as material.

For the foregoing reasons, the Company does not believe that the Agreement represents a material commitment nor, at this time, is the Company substantially dependent on it. As such, the Company respectfully submits that the Agreement does not meet the definition of a material agreement under the applicable provisions of Regulation S-K and therefore is not required to be filed at this time.

Intellectual Property, page 124

2. We note your disclosure that you have agreements with Sanquin Reagents B.V. and other third parties under which you have rights to certain intellectual property such as patents or patent applications. Please revise your disclosure to specify the products, product groups or technologies to which such patents or patent applications relate, the type of patent protection, the patent expiration dates and the applicable jurisdictions.

Response: The Company respectfully acknowledges the Staff's comment and will revise the Registration Statement in Amendment No. 1 in response to the Staff's comment.

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We hope the foregoing answers are responsive to your comments. Please do not hesitate to contact me by telephone at (650) 463-3014 or by fax at (650) 463-2600 with any questions or comments regarding this correspondence.

Very truly yours,

/s/ Brian J. Cuneo
Brian J. Cuneo
of LATHAM & WATKINS LLP

cc: Andrew Allen, M.D., Ph.D., Gritstone Oncology, Inc.
Jean Marc Bellemin, Gritstone Oncology, Inc.
Alan C. Mendelson, Latham & Watkins LLP
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