



DIVISION OF  
CORPORATION FINANCE

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

June 22, 2021

Josh Lehrer  
Chief Executive Officer  
Graphite Bio, Inc.  
279 East Grand Avenue, Suite 430  
South San Francisco, CA 94080

**Re: Graphite Bio, Inc.**  
**Amendment No. 2 to Registration Statement on Form S-1**  
**Filed June 21, 2021**  
**File No. 333-256838**

Dear Dr. Lehrer:

We have reviewed your amended 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 amending your registration statement and providing the requested information. If you do not believe our comments apply 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 these comments, we may have additional comments.

Amendment No. 2 to Form S-1 filed June 21, 2021

Intellectual Property, page 143

1. We refer to your disclosure on page 144 regarding the various patent and patent applications in-licensed from IDT. Please restore your disclosure with respect to the applicable jurisdictions of the in-licensed patent and patent applications and also clarify the type of patent protection for the patent and patent applications referenced.
2. We refer to your disclosure on page 147 relating to your license agreement with IDT. Please provide the current expiration date for the last-to-expire patent licensed under the IDT License Agreement, as well as the aggregate amounts paid to date under this agreement, as applicable.

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You may contact Kristin Lochhead at 202-551-3664 or Daniel Gordon at 202-551-3486 if you have questions regarding comments on the financial statements and related matters. Please contact Jane Park at 202-551-7439 or Jeffrey Gabor at 202-551-2544 with any other questions.

Sincerely,

Division of Corporation Finance  
Office of Life Sciences

cc: Maggie Wong, Esq.