

October 10, 2023

Donna Cochener, Esq.
Interim Chief Executive Officer, General Counsel
Neoleukin Therapeutics, Inc.
188 East Blaine Street, Suite 450
Seattle, Washington 98102

Re: Neoleukin

Therapeutics, Inc.

Amendment No. 1 to

Registration Statement on Form S-4

Filed September 28,

2023

File No. 333-274095

Dear Donna Cochener:

We have reviewed your amended registration statement and have the following comments.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe a 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 letter, we may have additional comments. Unless we note otherwise, any references to prior comments are to comments in our September 18, 2023 letter.

Amendment No. 1 to Registration Statement on Form S-4

Prospectus Summary, page 12

1. We note your response to prior comment 19. Please include disclosure here and in the "Neurogene's Business" section of the substantive portion of your response that after the phase 1/2 trials, Neurogene may pursue, and the FDA may allow, adaption to integrate a pivotal trial design within a single study as opposed to a separate classic phase 3 trial but caution, however, that regulatory authorities may recommend changes to the study designs for NGN-401 or NGN-101, including the number and size of registrational clinical trials required to be conducted in such programs.

The Merger
Background of the Merger, page 107

2. We note your response to our prior comment 9. As requested by our prior comment, Donna Cochener, Esq. Neoleukin Therapeutics, Inc. October 10, 2023 Page 2

please also include a short description of the criteria used to identify the initial 59 pharmaceutical companies.
Unaudited Pro Forma Condensed Combined Financial Information
Notes to the Unaudited Pro Forma Condensed Combined Financial Information
5. Transaction Accounting Adjustments, page 338

3. In your response you noted that the fair value of Neoleukin's shares, as a publicly traded company, is more reliably determinable than the fair value of the assets acquired from Neoleukin and that the fair value of net assets acquired would involve a

third party valuation using Level 3 fair value inputs. As the assets acquired primarily consists of cash and short-term investments, which use level 1 fair value inputs, it remains unclear to us how you determined that the fair value of the consideration given was more clearly evident and reliably measurable than the fair value of the net assets acquired. In this regard, we note your disclosure on page 333 that "on a pro forma basis, assuming the merger was consummated on June 30, 2023, the fair value of the net assets acquired, including aggregate cash and cash equivalents, short-term investments, and other immaterial monetary assets, totaling approximately \$83.4 million." In contrast, the fair value of the consideration transferred was \$46.7 million (prior to consideration of contingent CVRs). Please advise and explain to what you attribute the perceived discount on this reverse asset purchase.

4. As a related matter, you noted in your response that you used interpretative guidance under Subtopic 323-10 which may require the recognition of the contingent consideration if it relates to the acquisition of an investment that is accounted for under the equity method. As the CVR does not appear to give the investors the ability to exercise significant influence over operating and financial policies of an investee (Neoleukin), it is not clear to us why this interpretive guidance was used. In this regard, as noted in your response, accounting for the CVR under Topic 450 was one of the examples provided in EIFT Issue 09-2. Please tell us your consideration of this guidance in your accounting analysis.

Please contact Sasha Parikh at 202-551-3627 or Angela Connell at 202-551-3426 if you have questions regarding comments on the financial statements and related matters. Please contact Doris Stacey Gama at 202-551-3188 or Tim Buchmiller at 202-551-3635 with any other questions.

Sincerely,

FirstName LastNameDonna Cochener, Esq.

Division of

Corporation Finance
Comapany NameNeoleukin Therapeutics, Inc.

Office of Life

Sciences

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cc: Robert A. Freedman, Esq.

FirstName LastName