

October 18, 2021

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By Electronic Submission

Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, DC 20549
Attention: Ada Sarmento

Re: Xilio Therapeutics, Inc.
Registration Statement on Form S-1
Filed October 1, 2021
File No. 333-259973

Ladies and Gentlemen:

On behalf of Xilio Therapeutics, Inc. (the "Company"), we are responding to the comment contained in a letter, dated October 13, 2021 (the "Letter") from the Staff (the "Staff") of the Office of Life Sciences of the Division of Corporation Finance of the Securities and Exchange Commission (the "Commission") to René Russo, Pharm.D., the Company's President and Chief Executive Officer, relating to the above referenced Registration Statement on Form S-1.

The Company also is filing Amendment No. 1 to the Registration Statement on Form S-1 (the "Registration Statement"), relating to the registration under the Securities Act of 1933, as amended (the "Securities Act"), of common stock of the Company.

Set forth below is the Company's response to the Staff's comment. The response is based upon information provided to Wilmer Cutler Pickering Hale and Dorr LLP by the Company. The response is keyed to the numbering of the comment and the heading used in the Letter. Where appropriate, the Company has responded to the Staff's comment by making changes to the disclosure in the Registration Statement. Page numbers referred to in the response reference the applicable page numbers in the Registration Statement.

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Registration Statement on Form S-1

Our History and Team, page 8

1. We note your revisions in response to prior comment 2 but your response and revised disclosure do not appear to address all of the concerns raised in our prior comment. As such, we continue to believe the identification of the pre-IPO investors is inappropriate in the prospectus summary. Please provide us with a more detailed response addressing the concerns raised in our prior comment or revise your disclosure as appropriate.

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 8 and 113 of the Registration Statement.

If you have any further questions or comments, or if you require any additional information, please contact the undersigned by telephone at (617) 526-6393 or e-mail at cynthia.mazareas@wilmerhale.com. Thank you for your assistance.

Very truly yours,

/s/ Cynthia T. Mazareas

Cynthia T. Mazareas

cc: René Russo, Pharm.D., *Xilio Therapeutics, Inc.*
Salvatore Giovine, *Xilio Therapeutics, Inc.*
Chris Frankenfield, *Xilio Therapeutics, Inc.*
Molly W. Fox, *Wilmer Cutler Pickering Hale and Dorr LLP*
Divakar Gupta, *Cooley LLP*
Richard C. Segal, *Cooley LLP*
