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November 1, 2023

U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, DC 20549
Attn: Tim Buchmiller
Jason Drory
Eric Atallah
Lynn Dicker

**Re: Lexeo Therapeutics, Inc.
Amendment No. 1 to Registration Statement on Form S-1
Filed October 30, 2023
File No. 333-274777**

Ladies and Gentlemen:

On behalf of Lexeo Therapeutics, Inc. (the "**Company**"), we are providing this letter in response to the comments received from the staff (the "**Staff**") of the U.S. Securities and Exchange Commission (the "**Commission**") Division of Corporation Finance contained in its letter, dated November 1, 2023 (the "**Comment Letter**"), relating to the Company's Amendment No. 1 to the Company's Registration Statement on Form S-1, as filed on October 30, 2023 (the "**Registration Statement**"). The Company is concurrently filing Amendment No. 2 to the Registration Statement on Form S-1 (the "**Amendment No. 2**"), which reflects changes made in response to the comments contained in the Comment Letter.

The numbering of the paragraphs below corresponds to the numbering of the comments contained in the Comment Letter, which for your convenience we have incorporated into this response letter in italics. Page references in the text of this response letter correspond to the page numbers of Amendment No. 2. Capitalized terms used but not otherwise defined in this letter shall have the meanings set forth in Amendment No. 2.

Prospectus Summary

Risks associated with our business, page 8

1. *Please revise the summary risk factor that states you "are currently, and may in the future be, subject to claims...." to identify the complaint filed by your competitor, Rocket Pharmaceuticals Inc. and disclose the nature of the consequences of an adverse resolution consistent with your disclosure on page 60. In addition, please consider including a cross-reference to your more detailed "Legal proceedings" disclosure on page 183.*

Response: The Company respectfully acknowledges the Staff's comment and has revised pages 9 and 60 of Amendment No. 2.

Capitalization, page 96

2. *Please revise to provide a calculation of the 486,987 additional shares of common stock issuable upon conversion of your Series B convertible preferred stock due to anti-dilution adjustments.*

Response: The Company respectfully acknowledges the Staff's comment and has revised page 97 of Amendment No. 2.

Legal proceedings, page 193

3. *Please revise to provide the information required by Item 103 of Regulation S-K for your ongoing litigation with Rocket Pharmaceuticals, Inc. Please include disclosure identifying the name of the court in which the proceedings are pending and the principal parties thereto.*

Response: The Company respectfully acknowledges the Staff's comment and has revised pages 193 and 194 of Amendment No. 2.

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Please direct any questions or further comments concerning Amendment No. 2 or this response letter to either the undersigned at (212) 479-6565 or Dayne Brown of Cooley LLP at (212) 479-6712.

Sincerely

/s/ Eric Blanchard

Eric Blanchard

cc: R. Nolan Townsend, Lexeo Therapeutics, Inc.
Jenny Robertson, Lexeo Therapeutics, Inc.
Dayne Brown, Cooley LLP
Peter Byrne, Cooley LLP
Divakar Gupta, Cooley LLP
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