

June 18, 2025

R. Nolan Townsend
Chief Executive Officer
Lexeo Therapeutics, Inc.
345 Park Avenue South, Floor 6
New York, NY 10010

Re: Lexeo Therapeutics, Inc.
Registration Statement on Form S-3
Filed June 13, 2025
File No. 333-288025

Dear R. Nolan Townsend:

We have conducted a limited review of your registration statement and have the following comment.

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.

Registration Statement on Form S-3
General

1. In relation to the 20,840,394 shares of common stock underlying the Warrant Shares issued in the Private Placement on May 28, 2025, please tell us your basis for registering the offering of these shares on a primary basis. In this regard, we note your disclosure on page 4 that the Warrant Shares were issued pursuant to Section 4(a)(2) of the Securities Act, that each Selling Shareholder represented that they were an "accredited investor" as defined in Regulation D of the Securities Act, and that "[t]he Warrants are exercisable at any time," such that the Warrants are exercisable within one year. Please consider the rationale set out in Securities Act Sections C&DI Questions 103.04, 139.08 and 239.15.

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We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Please contact Daniel Crawford at 202-551-7767 or Tim Buchmiller at 202-551-3635 with any other questions.

Sincerely,

Division of

Corporation Finance

Office of Life

Sciences

cc: Megan J. Baier, Esq.