Issuer Free Writing Prospectus dated November 2, 2023 Filed Pursuant to Rule 433 Relating to Preliminary Prospectus dated November 1, 2023 Registration Statement No. 333-274777

Lexeo Therapeutics, Inc.

The following information updates and supersedes the information contained in the preliminary prospectus to the extent that such information is inconsistent therewith.

Issuer: Lexeo Therapeutics, Inc.

Common stock offered by us: 9,090,910 shares

Underwriters' option to purchase additional We have grante

shares:

CUSIP No:

We have granted the underwriters an option for a period of 30 days from the date of this prospectus

to purchase up to 1,363,636 additional shares of our common stock.

Use of Proceeds We estimate that the net proceeds from this offering will be approximately \$88.7 million (or

approximately \$102.7 million if the underwriters exercise in full their option to purchase up to 1,363,636 additional shares of common stock), after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Based on our current operational plans and assumptions, we expect our cash and cash equivalents as of September 30, 2023, together with the net proceeds from this offering, will be sufficient to fund our operations

into the fourth quarter of 2025.

Public offering price: \$11.00 per share

Trade date: November 3, 2023

Closing date: November 7, 2023

Joint Book-Running Managers: J.P. Morgan Securities LLC

Leerink Partners LLC

52886X 107

Stifel, Nicolaus & Company, Incorporated

RBC Capital Markets, LLC

Lead Manager: Chardan Capital Markets, LLC

We have filed a registration statement including a preliminary prospectus dated November 1, 2023 with the Securities and Exchange Commission (the "SEC") for the offering to which this communication relates. Before you invest, you should read the preliminary prospectus in that registration statement for more complete information about us and this offering. You may obtain these documents for free by visiting EDGAR on the SEC website at www.sec.gov. Alternatively, a copy of the preliminary prospectus may be obtained from: J.P. Morgan Securities

LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, New York 11717, by telephone at (866) 803-9204, or by emailing prospectus-eq_fi@jpmchase.com; Leerink Partners LLC, Syndicate Department, 53 State Street, 40th Floor, Boston, Massachusetts 02109, by telephone at (800) 808-7525 ext. 6105, or by emailing syndicate@leerink.com; Stifel, Nicolaus & Company, Incorporated, Attention: Prospectus Department, One Montgomery Street, Suite 3700, San Francisco, California 94104, by telephone at (415) 364-2720 or by emailing syndprospectus@stifel.com; or RBC Capital Markets, LLC, Attention: Equity Capital Markets, 200 Vesey Street, 8th Floor, New York, New York 10281, by telephone at (877) 822-4089, or by emailing equityprospectus@rbccm.com. You may also access the most recent preliminary prospectus dated November 1, 2023 included in Amendment No. 2 to the registration statement via the following link:

https://www.sec.gov/Archives/edgar/data/1907108/000119312523268301/d287237ds1a.htm.