

PROSPECTUS SUPPLEMENT  
(To Prospectus Dated December 19, 2024)**15,625,000 Shares****Shares of Common Stock**

We are offering 15,625,000 shares of our common stock, par value \$0.0001 per share, or common stock.

Our common stock is traded on the Nasdaq Global Market under the symbol "LXEO." The last sale price of our common stock as reported on the Nasdaq Global Market on October 16, 2025 was \$8.77 per share.

We are an emerging growth company and smaller reporting company as that term is used in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and a smaller reporting company as defined under Rule 12b-2 promulgated under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and, as such, are subject to certain reduced public company reporting requirements. See "Prospectus Supplement Summary—Implications of being an emerging growth company and a smaller reporting company."

Investing in our securities involves a high degree of risk. Before buying any securities, you should carefully read the discussion of the risks and uncertainties of investing in our securities described in the section titled "[Risk Factors](#)" beginning on page S-10 of this prospectus supplement, page 6 of the accompanying prospectus and "Item 1A—Risk Factors" of our most recent report on Form 10-K or 10-Q that is incorporated by reference in this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

	PER SHARE	TOTAL
Offering price	\$ 8.00	\$ 125,000,000
Underwriting discounts and commissions <sup>(1)</sup>	\$ 0.48	\$ 7,500,000
Proceeds to Lexeo Therapeutics, Inc., before expenses <sup>(2)</sup>	\$ 7.52	\$ 117,500,000

(1) See "Underwriting" beginning on page S-25 of this prospectus supplement for a description of the compensation payable to the underwriters.

(2) Total gross proceeds from this offering and the concurrent private placement are \$135.0 million. Such proceeds less underwriting discounts and commissions, placement agent fees and estimated offering and private placement expenses are approximately \$126.2 million.

On October 16, 2025, we entered into a securities purchase agreement with Balyasny Asset Management, to issue and sell pre-funded warrants to purchase 1,250,015 shares of our common stock, or the private placement warrants, for aggregate gross proceeds of approximately \$10.0 million in a private offering, or the concurrent private placement, at a price per private placement warrant of \$7.9999. Neither this offering nor the concurrent private placement is conditioned upon the completion of the other offering. The concurrent private placement is exempt from registration under the Securities Act of 1933, as amended, or the Securities Act. Nothing contained herein shall constitute an offer to sell or the solicitation of an offer to buy any private placement warrants. The private placement warrants are being offered pursuant to an exemption from the registration requirements of the Securities Act provided in Section 4(a)(2) of the Securities Act.

We have granted the underwriters an option for a period of up to 30 days from the date of this prospectus supplement to purchase up to an additional 2,343,750 shares of our common stock at the public offering price, less the underwriting discounts and commissions.

Delivery of the securities is expected to be made on or about October 20, 2025.

**Joint Book-running Managers****Leerink Partners****Cantor****Stifel****Oppenheimer & Co.****Lead Manager****Baird****The date of this prospectus supplement is October 16, 2025**

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## ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement relates to the offering of our common stock. Before buying any of the common stock that we are offering, we urge you to carefully read this prospectus supplement, the accompanying prospectus, any free writing prospectus that we have authorized for use in connection with this offering, and the information incorporated by reference as described in the sections titled “*Where You Can Find More Information*” and “*Incorporation by Reference*” in this prospectus supplement. These documents contain important information that you should consider when making your investment decision. Generally, when we refer to this “prospectus,” we are referring to the prospectus supplement and the accompanying prospectus combined.

This prospectus supplement describes the terms of this offering of common stock as well as the concurrent private placement and also adds to and updates information contained in the documents incorporated by reference in this prospectus supplement. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in any document incorporated by reference that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus supplement—the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Neither we nor the underwriters have authorized anyone to provide you with information different than or inconsistent with the information contained in or incorporated by reference in this prospectus supplement, in the accompanying prospectus or in any free writing prospectus that we have authorized for use in connection with this offering. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement and the documents incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectus that we have authorized for use in connection with this offering, is accurate only as of the date of those respective documents, regardless of the time of delivery of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the offering of our common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement must inform themselves about, and observe any restrictions relating to, the offering of our common stock and the distribution of this prospectus supplement outside the United States. This prospectus supplement does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Solely for convenience, any trademarks, service marks, logos and trade names referred to in this prospectus are without the ® and ™ symbols, but such references are not intended to indicate, in any way, that we will not

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assert, to the fullest extent under applicable law, our rights. This prospectus may contain additional trademarks, service marks and trade names of others, which are the property of their respective owners. All trademarks, service marks and trade names appearing in this prospectus are, to our knowledge, the property of their respective owners. We do not intend our use or display of other companies' trademarks, service marks, copyrights or trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

## PROSPECTUS SUPPLEMENT SUMMARY

*The following summary of our business highlights certain of the information contained elsewhere in, or incorporated by reference into, this prospectus supplement and the accompanying prospectus. This summary does not contain all of the information that may be important to you. You should carefully read this entire prospectus supplement and the accompanying prospectus, including any information incorporated by reference, which are described in the sections titled “Where You Can Find More Information” and “Incorporation by Reference” herein and therein. In particular, you should carefully consider the risks and uncertainties described in the section titled “Risk Factors” in this prospectus supplement and in the accompanying prospectus and under “Risk Factors” and the financial statements and related notes and other information that we incorporate by reference herein, including in our Annual Report on Form 10-K for the year ended December 31, 2024, or the Annual Report, and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2025, or the Quarterly Report, as well as those contained in the other documents incorporated by reference and any related free writing prospectus. As used in this prospectus supplement, unless the context otherwise requires, references to “we,” “us,” “our,” “our company,” and “Lexeo” refer to Lexeo Therapeutics, Inc., a Delaware corporation.*

### Overview

We are a clinical stage genetic medicine company dedicated to reshaping heart health by applying pioneering science to fundamentally change how cardiovascular diseases are treated. We are advancing a portfolio of therapeutic candidates that take aim at the underlying genetic causes of conditions, including LX2006 for the treatment of Friedreich ataxia, or FA, cardiomyopathy, LX2020 for the treatment of plakophilin-2, or PKP2, arrhythmogenic cardiomyopathy, and others for devastating diseases with high unmet need.

Our most advanced cardiovascular product candidate, LX2006 for the treatment of FA cardiomyopathy, is currently being evaluated in SUNRISE-FA, our ongoing Phase 1/2 clinical trial and in a Cornell investigator-initiated trial. In July 2024, we provided an interim clinical update, which included baseline characteristics from the 11 treated participants across the two studies and data from the eight participants who had reached at least six months of follow-up as of that time. These data showed improvements in key cardiac biomarkers including left ventricular mass index, lateral wall thickness, and high-sensitivity troponin I. Additionally, in November 2024 we reported that we observed an increase in frataxin protein expression in the hearts of four patients that had undergone cardiac biopsies (cohort 1 (n=1), cohort 2 (n=3)) as measured by liquid chromatography-mass spectrometry, or LCMS, and immunohistochemistry. LX2006 has been generally well-tolerated across both trials to date, with no clinically significant complement activation. One year after dosing, one participant with multiple comorbidities and a history of flu-like symptoms presented with Grade 2 asymptomatic myocarditis. Six weeks later, a biopsy was negative for myocarditis and the participant remains asymptomatic. In November 2024 we announced alignment with the U.S. Food and Drug Administration, or the FDA, on key elements of a registrational development plan for LX2006, including an accelerated approval pathway with left ventricular mass index and frataxin protein expression as co-primary registrational endpoints. In February 2025, we reached further alignment with the FDA that the frataxin protein expression co-primary endpoint would be evaluated for any increase from baseline in frataxin positive area as measured by immunohistochemistry as opposed to any specific numerical threshold.

In April 2025, we provided an interim clinical update, which included baseline characteristics from the 16 treated participants across the two studies, frataxin protein expression from four additional patients that had undergone cardiac biopsies (cohort 3 (n=4)), and data from the 12 participants who had reached at least six months of follow-up as of that time. These data showed an increase in frataxin expression versus baseline at three months in all patients that had undergone cardiac biopsies (cohort 1 (n=1), cohort 2 (n=3), cohort 3 (n=4)) as measured by LCMS, upon which we reached further alignment with the FDA to measure protein expression. These data also showed dose responsive increases in frataxin expression relative to dose cohorts, improvements in key cardiac biomarkers including left ventricular mass index, lateral wall thickness, and high-sensitivity

troponin I, as well as improvements in functional measures including the Modified Friedreich's Ataxia Rating Scale, or mFARS, and Kansas City Cardiomyopathy Questionnaire, or KCCQ-12.

Our second most advanced cardiovascular product candidate, LX2020 for the treatment of arrhythmogenic cardiomyopathy, or ACM, caused by mutations in the PKP2 gene, referred to as PKP2-ACM, is currently being evaluated in HEROIC-PKP2, an ongoing Phase 1/2 clinical trial. To date, nine participants have been enrolled in this trial: three in the low dose cohort 1 and six in high dose cohorts 2 and 3. In March 2025, we shared cardiac biopsy data from two participants in cohort 1; the third cohort 1 participant elected to not undergo the post-treatment biopsy procedure. In these two participants with post-treatment samples, we observed an increase in PKP2 protein expression in the heart, quantified using western blot assay, showing a 71% and 115% increase respectively in PKP2 protein expression versus pre-treatment baseline. In addition, the first participant to reach six months post-treatment experienced a 67% reduction in premature ventricular contractions, or PVCs, from baseline, and normalization of QRS duration.

Each of our gene therapy candidates utilizes the vector construct, dose and route of administration that we believe will result in the most favorable biodistribution and safety profile for our product candidate for each disease. Our most advanced programs use the AAVrh10 vector due to its high transduction efficiency in myocardial cells, potential for lower toxicity given the opportunity to utilize lower doses compared to other well-established AAV serotypes, and low pre-existing immunity.

## **Recent developments**

### *Clinical Update – LX2006*

In October 2025, we announced progress in regulatory interactions with the FDA on the LX2006 program. In response to questions from us regarding the possibility of a faster path to a Biologics License Application, or BLA, the FDA has indicated openness to a BLA submission for accelerated approval that includes clinical data from our ongoing Phase I/II studies of LX2006 pooled with new clinical data to be generated in the planned pivotal study. To enable pooling of these data to support licensure, we will submit enhanced manufacturing comparability data and meet an additional nonclinical requirement prior to the initiation of our planned pivotal study, given our intention to leverage our optimized, high-yield Sf9-baculovirus manufacturing platform for future clinical and commercial drug supply, compared to the adherent HEK293 process used for our Phase I/II clinical supply. The FDA also previously agreed to evaluate the co-primary endpoint of left ventricular mass index at a time point earlier than 12 months. We continue to engage with the FDA on the planned pivotal study protocol and comparability. In discussions to date, there have been no changes to the previously disclosed alignment with the FDA on key parameters related to the LX2006 planned pivotal study.

We have also shared Chemistry, Manufacturing and Controls, or CMC, data related to the LX2006 program, which were generated to support analytical comparability between the HEK293 manufacturing process used for Phase I/II clinical supply and the optimized, high-yield Sf9-baculovirus manufacturing platform that we intend to use for future clinical and commercial supply. These data demonstrate similar frataxin expression *in vitro* between the two processes as measured by a quantitative relative potency assay in cardiomyocytes. Across three Sf9 lots, including one produced at 200 liter manufacturing scale, the relative potency was 100.5% - 129% relative to the HEK reference lot. Analytical comparability was also evaluated using next generation sequencing, or NGS, to characterize the genomic DNA profile of LX2006 generated using the two manufacturing processes. The NGS results demonstrate a lower percentage of contaminating DNA in the Sf9 process relative to HEK, with approximately 99% of the sequenced Sf9 200 liter lot representing the targeted LX2006 transgene.

These data were generated under a formal comparability protocol discussed in advance with the FDA, and have been submitted to the FDA to support the transition to Sf9 process in the future. We continue to engage with the FDA on enhanced manufacturing comparability related to the LX2006 planned pivotal study.

We also provided an interim clinical update, which included baseline characteristics and safety data from the 17 treated participants across the two studies, and clinical efficacy data from the 16 participants who had reached at least six months of follow-up as of that time. These data showed sustained or deepening improvements in the majority of participants across both cardiac and neurologic measures of FA, exceeding the thresholds previously agreed with FDA for co-primary endpoints LVMI and frataxin expression.

#### *Clinical Update – LX2020*

As of October 16, 2025, nine participants have been dosed in the HEROIC-PKP2 Phase I/II clinical trial, including three participants in Cohort 1 at the low dose ( $2 \times 10^{13}$  vg/kg), and six participants in Cohorts 2 and 3 at the high dose ( $6 \times 10^{13}$  vg/kg). Cohort 3 is still enrolling and up to one additional participant may be dosed in this group. LX2020 continues to be generally well tolerated, with no observed clinically significant complement activation to date. One Grade 3 serious adverse event, which was assessed as possibly treatment related, of sustained ventricular tachycardia, or SVT, was observed three months after dosing in a single participant in the high dose cohort. The participant was successfully treated with anti-arrhythmic medication and was discharged with no additional intervention required. This patient had a documented history of prior SVTs and had an implantable cardioverter defibrillator in place.

For the three participants in low-dose Cohort 1 (n=2 at 12 months; n=1 at 9 months), multiple cardiac parameters have been assessed at latest visit relative to baseline:

- Arrhythmia burden: Premature ventricular contractions were reduced in 1 of 3 participants and non-sustained ventricular tachycardia was reduced or stable in 2 of 3 participants.
- Electrical activity: QRS duration was normalized or stable in 2 of 3 participants and T-wave inversions were reduced in 2 of 3 participants.
- Cardiac function: Left ventricular ejection fraction and right ventricular ejection fraction were stable in 3 of 3 participants.

We expect to provide additional safety and clinical efficacy data in January 2026 at the J.P. Morgan Healthcare Conference once most participants in the high-dose cohorts reach at least 6 months of follow up or more. This data update is expected to include:

- The majority of high-dose participants at >6 months of follow up;
- Three low-dose participants at >12 months of follow up; and
- Five cardiac biopsies from high-dose Cohorts 2 and 3, analyzed at baseline and 3 months after dosing.

#### *Preliminary Third Quarter Cash, Cash Equivalents and Investments*

Our financial statements for the quarter ended September 30, 2025, will not be available until after this offering is completed and consequently will not be available to you prior to investing in our common stock offered in this offering. Based upon preliminary financial information available to us as of the date of this prospectus supplement, we expect to report that we had \$122.8 million of cash, cash equivalents and investments as of September 30, 2025.

The preliminary financial information has been prepared by, and is the responsibility of, our management and has been prepared in good faith on a consistent basis with prior periods. Our independent registered public accounting firm, KPMG LLP, has not audited, reviewed, examined, compiled nor applied agreed-upon procedures with respect to this preliminary financial information. Accordingly, KPMG LLP does not express an opinion or any other form of assurance with respect thereto. We have not yet completed our quarter-end financial close process for the quarter ended September 30, 2025. This preliminary financial information is subject to change upon completion of our financial statement closing procedures. Additional information and disclosure

would be required for a more complete understanding of our financial position and results of operations as of September 30, 2025. This preliminary financial information should not be viewed as a substitute for full financial statements prepared in accordance with United States generally accepted accounting principles. Accordingly, you should not place undue reliance on this preliminary financial information.

#### *Concurrent Private Placement*

On October 16, 2025 we entered into a securities purchase agreement with Balyasny Asset Management, to issue and sell pre-funded warrants to purchase 1,250,015 shares of our common stock, for aggregate gross proceeds of approximately \$10.0 million in a private offering, at a price per private placement warrant of \$7.9999. Neither this offering nor the concurrent private placement is conditioned upon the completion of the other offering. The concurrent private placement is exempt from registration under the Securities Act. Nothing contained herein shall constitute an offer to sell or the solicitation of an offer to buy any private placement warrants. The private placement warrants are being offered pursuant to an exemption from the registration requirements of the Securities Act provided in Section 4(a)(2) of the Securities Act.

#### **Implications of being an emerging growth company and a smaller reporting company**

We are an “emerging growth company” as defined in the JOBS Act. For so long as we remain an emerging growth company, we may take advantage of relief from certain reporting requirements and other burdens that are otherwise applicable generally to public companies. These provisions include:

- reduced obligations with respect to financial data, including only being required to present two years of audited financial statements, in addition to any required unaudited interim financial statements with correspondingly reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure;
- an exception from compliance with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;
- reduced disclosure about our executive compensation arrangements in our periodic reports, proxy statements and registration statements;
- exemptions from the requirements of holding non-binding advisory votes on executive compensation or golden parachute arrangements; and
- an exemption from compliance with the requirements of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor’s report on financial statements.

We may take advantage of these provisions until we no longer qualify as an emerging growth company. We will cease to qualify as an emerging growth company on the date that is the earliest of: (i) December 31, 2028, (ii) the last day of the fiscal year in which we have more than \$1.235 billion in total annual gross revenues, (iii) the date on which we are deemed to be a “large accelerated filer” under the rules of the U.S. Securities and Exchange Commission, which means the market value of our Common Stock that is held by non-affiliates exceeds \$700.0 million as of the prior June 30, or (iv) the date on which we have issued more than \$1.0 billion of non-convertible debt over the prior three-year period. We may choose to take advantage of some but not all of these reduced reporting burdens.

We have taken advantage of certain reduced reporting requirements in this prospectus and in the reports filed by us with the SEC. Accordingly, the information contained or incorporated by reference herein may be different than you might obtain from other public companies in which you hold equity interests.

In addition, under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to take advantage of the extended transition period to comply with new or revised accounting standards and to adopt certain of the reduced disclosure requirements available to emerging growth companies. As a result of the accounting standards election, we will not be subject to the same implementation timing for new or revised accounting standards as other public companies that are not emerging growth companies, which may make comparison of our financials to those of other public companies more difficult. As a result of these elections, the information contained or incorporated by reference herein may be different than the information you may receive from other public companies in which you hold equity interests. In addition, it is possible that some investors will find our common stock less attractive as a result of these elections, which may result in a less active trading market for our common stock and higher volatility in our share price.

We are also a “smaller reporting company,” meaning that the market value of our shares held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering and the concurrent private placement is less than \$700.0 million and our annual revenue was less than \$100.0 million during the most recently completed fiscal year. We may continue to be a smaller reporting company if either (i) the market value of our shares held by non-affiliates is less than \$250.0 million measured on the last business day of the second fiscal quarter of the preceding fiscal year or (ii) our annual revenue was less than \$100.0 million during the most recently completed fiscal year and the market value of our shares held by non-affiliates is less than \$700.0 million measured on the last business day of the second fiscal quarter of the preceding fiscal year. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation. Accordingly, the information contained or incorporated by reference herein may be different than the information you receive from other public companies in which you hold stock.

### **Corporate information**

In February 2017, we were formed as a Delaware limited liability company under the name LEXEO Therapeutics, LLC. In November 2020, we converted into a Delaware corporation and were renamed Lexeo Therapeutics, Inc. Our principal executive offices are located at 345 Park Avenue South, Floor 6, New York, New York 10010, and our telephone number is (212) 547-9879. Our website address is [www.lexeotx.com](http://www.lexeotx.com). The information contained on, or accessible through, our website is not incorporated by reference in this prospectus. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, are filed with the SEC. Such reports and other information filed by us with the SEC are available free of charge on our website at [ir.lexeotx.com](http://ir.lexeotx.com) when such reports are available on the SEC’s website. The SEC maintains an internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at [www.sec.gov](http://www.sec.gov). The information contained on the websites referenced in this prospectus and in the documents that are incorporated by reference in this prospectus is not incorporated by reference in this filing. Further, our references to website URLs are intended to be inactive textual references only.

## THE OFFERING

Common Stock Offered by Us	15,625,000 shares of our common stock.
Underwriters' Option to Purchase Additional Shares	We have granted the underwriters an option for a period of 30 days to purchase up to an aggregate of 2,343,750 additional shares of our common stock.
Concurrent Private Placement	On October 16, 2025, we entered into a securities purchase agreement with Balyasny Asset Management, to issue and sell pre-funded warrants to purchase 1,250,015 shares of our common stock, for aggregate gross proceeds of approximately \$10.0 million in a private offering, at a price per private placement warrant of \$7.9999. Neither this offering nor the concurrent private placement is conditioned upon the completion of the other offering. The concurrent private placement is exempt from registration under the Securities Act. Nothing contained herein shall constitute an offer to sell or the solicitation of an offer to buy any private placement warrants. The private placement warrants are being offered pursuant to an exemption from the registration requirements of the Securities Act provided in Section 4(a)(2) of the Securities Act and/or Rule 506(b) of Regulation D promulgated thereunder.
Common Stock to be Outstanding Immediately After this Offering and the Concurrent Private Placement	69,626,214 shares of our common stock, or 71,969,964 shares if the underwriters exercise their option to purchase additional shares in full.
Use of Proceeds	<p>We estimate that the net proceeds to us from this offering and the concurrent private placement will be approximately \$126.2 million, or approximately \$143.8 million if the underwriters exercise their option to purchase additional shares in full, after deducting underwriting discounts and commissions, placement agent fees and estimated offering and private placement expenses payable by us. We intend to use the net proceeds from this offering and the concurrent private placement, together with our existing cash, cash equivalents and investments, primarily to advance the clinical development of LX2006, including funding of the registrational study and the CMC and commercial readiness activities, to fund the ongoing clinical development of LX2020, including completion of the ongoing Phase I/II clinical trial, to fund the continued development of our other programs and cardiac discovery efforts, and for other research and development opportunities, working capital and other general corporate purposes. See “<i>Use of Proceeds</i>” appearing elsewhere in this prospectus supplement for more information.</p> <p>See “<i>Use of Proceeds</i>” on page S-15 of this prospectus supplement.</p>
Risk Factors	Investing in our common stock involves significant risks. You should read the “ <i>Risk Factors</i> ” section of this prospectus supplement

beginning on page S-10 of this prospectus supplement and in the documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors to consider before deciding to purchase shares of our common stock.

Nasdaq Global Market Symbol

“LXEO.”

Unless otherwise noted, the number of our shares of our common stock outstanding is based on 54,001,214 shares of our common stock outstanding as of June 30, 2025, and excludes:

- 4,401,477 shares of our common stock issuable upon the exercise of outstanding options as of June 30, 2025, with a weighted-average exercise price of \$9.86 per share;
- 955,791 shares of our common stock issuable upon the vesting of restricted stock units, or RSUs, outstanding as of June 30, 2025 under our 2023 Equity Incentive Plan, or the 2023 Plan;
- 2,143,031 shares of our common stock reserved for future issuance under the 2023 Plan as of June 30, 2025, as well as any automatic increases in the number of shares of our common stock reserved for issuance under the 2023 Plan;
- 770,734 shares of our common stock reserved for future issuance under our 2023 Employee Stock Purchase Plan, or the 2023 ESPP, as of June 30, 2025, as well as any automatic increases in the number of shares of our common stock reserved for issuance under the 2023 ESPP;
- 13,876,838 shares of our common stock issuable upon the exercise of warrants issued in our May 2025 private placement, or the Private Placement, at an exercise price of \$2.82 per share; and
- 6,963,556 shares of our common stock issuable upon the exercise of pre-funded warrants issued in the Private Placement at an exercise price of \$0.0001 per share.

Up to \$75.0 million of shares of our common stock may be sold from time to time under our “at-the-market” program that we entered into on March 24, 2025 with Leerink Partners LLC, or the ATM Facility. As of the date of this prospectus supplement, we have not sold any shares of our common stock under the ATM Facility.

Unless otherwise noted, the information in this prospectus supplement assumes the following:

- No exercise of outstanding options or warrants, vesting of RSUs or issuance of shares under the ATM Facility subsequent to June 30, 2025;
- No exercise of the pre-funded warrants to be issued in the concurrent private placement; and
- No exercise by the underwriters of their option to purchase additional shares of common stock from us in this offering.

## RISK FACTORS

*Investing in our common stock involves a high degree of risk. Before making a decision to invest in our common stock, you should consider carefully the risks, uncertainties and assumptions described under the heading “Risk Factors” contained or incorporated by reference in this prospectus supplement and the accompanying prospectus, including the risk factors incorporated by reference herein from the Annual Report and the Quarterly Report, as updated by our subsequent filings under the Exchange Act, each of which is incorporated by reference in this prospectus supplement in their entirety, together with other information in this prospectus supplement, and the information and documents incorporated by reference in this prospectus supplement, and any free writing prospectus that we have authorized for use in connection with this offering before you make a decision to invest in our common stock. The risks described in these documents are not the only ones we face. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could harm our future results. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below titled “Special Note Regarding Forward-Looking Statements” and “Incorporation by Reference.”*

### **Risks Related to This Offering**

***We will have broad discretion in the use of the net proceeds from this offering and the concurrent private placement and may not use them effectively.***

Our management will have broad discretion in the application of the net proceeds from this offering and the concurrent private placement, including for any of the purposes described in the section of this prospectus supplement titled “Use of proceeds,” and you will be relying on the judgment of our management regarding the application of these proceeds. You will not have the opportunity, as part of your investment decision, to assess whether the net proceeds are being used appropriately. Our management might not apply the net proceeds in ways that ultimately increase or maintain the value of your investment. If we do not invest or apply the net proceeds from this offering and the concurrent private placement in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

***If you purchase securities in this offering, you will experience immediate and substantial dilution in the book value of your shares.***

If you purchase shares of our common stock in this offering, you will incur immediate and substantial dilution in the as adjusted net tangible book value of your common stock purchased in this offering because the price that you pay will be substantially greater than the net tangible book value per share of the shares you acquire. To the extent outstanding options are exercised, restricted stock units vest and settle or we raise additional capital, pursuant to the ATM Facility or otherwise, you may incur further dilution. For additional information on the dilution that you will experience immediately after this offering, see “Dilution.”

***You may experience future dilution as a result of future equity offerings.***

In order to raise additional capital, we expect to in the future offer additional shares of common stock or other securities convertible into or exchangeable for our shares of common stock. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of common stock or other securities convertible into or exchangeable for our shares of common stock in future transactions, including pursuant to the ATM Facility, may be higher or lower than the price per share in this offering.

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***Future sales or issuances of our common stock in the public markets, or the perception of such sales, could depress the trading price of our common stock.***

The sale of a substantial number of shares of our common stock or other equity-related securities in the public markets, or the perception that such sales could occur, could depress the market price of our common stock and impair our ability to raise capital through the sale of additional equity securities. We may sell large quantities of our common stock at any time pursuant to this prospectus supplement or in one or more separate offerings, including pursuant to the ATM Facility, under which, as of the date hereof, we may issue and sell up to \$75.0 million in additional shares of our common stock. We cannot predict the effect that future sales of common stock or other equity-related securities would have on the market price of our common stock.

***Our stock price is and may continue to be volatile and you may not be able to resell our securities at or above the price you paid.***

The market price for our common stock is volatile and may fluctuate significantly in response to a number of factors, most of which we cannot control, such as quarterly fluctuations in financial results, the timing and our ability to advance the development of our product candidates or changes in securities analysts' recommendations. Each of these factors, among others, could harm your investment in our common stock and could result in your being unable to resell the common stock that you purchase at a price equal to or above the price you paid.

***We do not expect to pay any dividends for the foreseeable future. Investors in this offering may never obtain a return on their investment.***

You should not rely on an investment in our common stock to provide dividend income. We do not anticipate that we will pay any dividends to holders of our common stock in the foreseeable future. Instead, we plan to retain any earnings to maintain and expand our existing operations. In addition, any future credit facility may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any return on their investment. As a result, investors seeking cash dividends should not purchase our common stock.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompany prospectus, including the documents incorporated or deemed to be incorporated by reference in this prospectus supplement and the accompanying prospectus, contain forward-looking statements. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. All statements other than statements of historical facts contained and incorporated by reference in this prospectus supplement, including statements regarding our future results of operations and financial position, business strategy, development plans, planned preclinical studies and clinical trials, future results of clinical trials, expected research and development costs, regulatory strategy, timing and likelihood of success, as well as plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that are in some cases beyond our control and may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “would,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “estimate,” “believe,” “estimate,” “predict,” “potential” or “continue” or the negative of these terms or other similar expressions intended to identify statements about the future. Forward-looking statements contained and incorporated by reference in this prospectus supplement include, but are not limited to, statements about: the timing, progress and results of our preclinical studies and clinical trials of our product candidates, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available and our research and development programs;

- the timing of our planned investigational new drug submissions, initiation of planned clinical trials and timing of expected clinical results for LX2006 and LX2020, if applicable, and our other future product candidates;
- the timing for receipt and announcement of data from our preclinical studies and clinical trials;
- the timing of any submission of filings for regulatory approval of and our ability to obtain and maintain regulatory approvals for LX2006, LX2020 and any other product candidates;
- the impact of public health crises and other adverse global economic conditions on our operations and the potential disruption in the operations and business of third-party manufacturers, contract research organizations other service providers, and collaborators with whom we conduct business;
- our ability to identify patients with the diseases treated by our product candidates, and to enroll patients in trials;
- the beneficial characteristics, safety, efficacy and therapeutic effects of our product candidates;
- the ability of our preclinical studies and clinical trials to demonstrate safety and efficacy of our product candidates, and other positive results;
- our expectations regarding the size of the patient populations, market acceptance and opportunity for and clinical utility of our product candidates, if approved for commercial use;
- our manufacturing capabilities and strategy, including the scalability and commercial viability of our manufacturing methods and processes;
- our reliance on third-party manufacturing partners to comply with significant regulations with respect to manufacturing our products;
- our expectations regarding the scope of any approved indication for LX2006, LX2020 or any other product candidate;
- our ability to successfully commercialize our product candidates, if approved;

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- our ability to leverage our platform to identify and develop future product candidates;
- our estimates of our expenses, ongoing losses, future revenue, capital requirements and our need for or ability to obtain additional funding before we can expect to generate any revenue from product sales;
- our ability to establish or maintain collaborations or strategic relationships and any expected benefits related thereto;
- our ability to identify, recruit and retain key personnel;
- our reliance upon intellectual property licensed from third parties and our ability to obtain such licenses on commercially reasonable terms or at all;
- our ability to protect and enforce our intellectual property position for our product candidates, and the scope of such protection;
- our financial performance;
- our competitive position and the development of and projections relating to our competitors or our industry;
- our estimates regarding future revenue, expenses and needs for additional financing;
- our anticipated use of our cash, cash equivalents, and investments balances and any proceeds from the ATM Facility;
- the impact of current and future laws and regulations;
- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act; and
- our anticipated use of proceeds from this offering and the concurrent private placement.

We have based these forward-looking statements largely on our current expectations and projections about our business, the industry in which we operate and financial trends that we believe may affect our business, financial condition, results of operations and prospects, and these forward-looking statements are not guarantees of future performance or development. These forward-looking statements contained and incorporated by reference in this prospectus speak only as of the applicable date of such document and are subject to a number of risks, uncertainties and assumptions described in the section titled “*Risk Factors*” and elsewhere in this prospectus supplement and in the documents incorporated by reference herein. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus supplement and the documents incorporated by reference herein, the events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events or otherwise.

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein contain industry, statistical and market data derived from our own internal estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. All of the market data used in this prospectus supplement and the accompanying prospectus involve a number of assumptions and limitations, and we cannot guarantee the accuracy or completeness of such information. While we are not aware of any misstatements regarding the third-party information and we believe that each of these surveys, studies and publications is reliable, the industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of important factors. These and other factors could cause results to differ materially from those expressed in the estimates made by third parties and by us.

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In addition, statements in this prospectus supplement and in the documents incorporated by reference herein that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of the document containing such statement, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to unduly rely upon these statements.

You should read this prospectus supplement, the accompanying prospectus, the documents we have filed with the SEC that are incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

## USE OF PROCEEDS

We estimate the net proceeds to us from the sale of 15,625,000 shares of common stock in this offering and pre-funded warrants to purchase 1,250,015 shares of common stock in the concurrent private placement will be approximately \$126.2 million, or approximately \$143.8 million if the underwriters exercise their option to purchase additional shares in full, after deducting underwriting discounts and commissions, placement agent fees and estimated offering and private placement expenses payable by us.

The principal purpose of this offering is to obtain additional capital to support our operations. We currently anticipate that we will use the net proceeds from this offering and the concurrent private placement, together with our existing cash and cash equivalents, as follows:

- primarily to fund our ongoing and planned clinical development of LX2006 for the treatment of FA cardiomyopathy, including funding of our registrational study and the CMC and commercial readiness activities;
- to fund our ongoing clinical development of LX2020 for the treatment of PKP2-ACM, including completion of our ongoing Phase I/II clinical trial;
- to fund the continued development of our other programs and cardiac discovery efforts; and
- the remaining proceeds, if any, for other research and development opportunities, working capital and general corporate purposes.

Based on our current operational plans and assumptions, we expect our cash as of June 30, 2025, together with the net proceeds from this offering and the concurrent private placement, will be sufficient to fund our operations into 2028. However, we do not expect that these funds will be sufficient to commercialize any of our product candidates or programs. We have based these estimates on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we expect.

We believe opportunities may exist from time to time to expand our current business through license or acquisitions of, or investments in, complementary businesses, products or technologies. While we have no current agreements, commitments or understandings for any specific licenses, acquisitions or investments at this time, we may use a portion of the net proceeds for these purposes. Pending the specific use of net proceeds as described in this prospectus supplement, we intend to invest any net proceeds in short- and intermediate-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government.

Our management will have broad discretion over the use of the net proceeds from this offering and the concurrent private placement. The anticipated uses of our existing cash and net proceeds from this offering described above represent our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, the status of and results from clinical trials, the timing and outcome of any regulatory submissions, collaborations that we may enter into with third parties for our drug candidates and any unforeseen cash needs. As a result, our management will have broad discretion in the application of the net proceeds from this offering and investors will be relying on the judgment of our management regarding the application of those net proceeds.

## **DIVIDEND POLICY**

We have not declared or paid any cash dividends on our capital stock since our inception. We intend to retain future earnings, if any, to finance the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. Payment of future cash dividends, if any, will be at the discretion of our board of directors after taking into account various factors, including our financial condition, operating results, current and anticipated cash needs, the requirements and contractual restrictions of then-existing debt instruments, and other factors that our board of directors deems relevant.

## DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the price per share of our common stock you pay in this offering and the as adjusted net tangible book value per share of our common stock immediately after this offering.

Our net tangible book value as of June 30, 2025 was approximately \$138.2 million, or \$2.56 per share. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of June 30, 2025. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the as adjusted net tangible book value per share of our common stock immediately after giving effect to this offering.

After giving effect to the sale by us of 15,625,000 shares of our common stock in this offering at the offering price of \$8.00 per share and pre-funded warrants to purchase 1,250,015 shares of common stock in the concurrent private placement at the purchase price of \$7.9999 per pre-funded warrant (which equals the offering price of the common stock at which shares of our common stock are being sold to the public in this offering less the \$0.0001 per share exercise price of each such pre-funded warrant) (excluding shares of common stock issuable upon exercise of the pre-funded warrants, any proceeds which may be received upon the exercise of the pre-funded warrants or any resulting accounting associated with the exercise of the pre-funded warrants), and after deducting underwriting discounts and commissions, placement agent fees and estimated offering and private placement expenses payable by us, our as adjusted net tangible book value as of June 30, 2025 would have been approximately \$264.5 million, or \$3.80 per share. This represents an immediate increase in as adjusted net tangible book value of \$1.24 per share to existing stockholders and immediate dilution in as adjusted net tangible book value of \$4.20 per share to investors purchasing our common stock in this offering.

The following table illustrates this calculation on a per share basis.

Offering price per share		\$8.00
Net tangible book value per share as of June 30, 2025	\$ 2.56	
Increase in net tangible book value per share attributable to investors purchasing shares in this offering	<u>1.24</u>	
As adjusted net tangible book value per share as of June 30, 2025 after giving effect to this offering		<u>3.80</u>
Dilution per share to investors purchasing shares in this offering and the concurrent private placement		<u>\$4.20</u>

If the underwriters exercise their option to purchase 2,343,750 additional shares of common stock in this offering in full at the offering price of \$8.00 per share and assuming the number of shares offered by us, as set forth on the cover page of this prospectus supplement, remains the same, and after deducting underwriting discounts and commissions, placement agent fees and estimated offering expenses payable by us, the as adjusted net tangible book value per share after this offering would be \$3.92 per share, and the dilution in as adjusted net tangible book value per share to investors purchasing common stock in this offering would be \$4.08 per share.

The foregoing table and calculations are based on 54,001,214 of our common stock outstanding as of June 30, 2025, and excludes:

- 4,401,477 shares of our common stock issuable upon the exercise of outstanding options as of June 30, 2025, with a weighted-average exercise price of \$9.86 per share;

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- 955,791 shares of our common stock issuable upon the vesting of RSUs outstanding as of June 30, 2025 under our 2023 Equity Incentive Plan, or the 2023 Plan;
- 2,143,031 shares of our common stock reserved for future issuance under the 2023 Plan as of June 30, 2025, as well as any automatic increases in the number of shares of our common stock reserved for issuance under the 2023 Plan;
- 770,734 shares of our common stock reserved for future issuance under our 2023 Employee Stock Purchase Plan, or the 2023 ESPP, as of June 30, 2025, as well as any automatic increases in the number of shares of our common stock reserved for issuance under the 2023 ESPP;
- 13,876,838 shares of our common stock issuable upon the exercise of warrants issued in the Private Placement at an exercise price of \$2.82 per share; and
- 6,963,556 shares of our common stock issuable upon the exercise of pre-funded warrants issued in the Private Placement at an exercise price of \$0.0001 per share.

To the extent that outstanding options are exercised, investors purchasing our common stock in this offering will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans, including under the ATM Facility. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

## **MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF OUR COMMON STOCK**

The following is a summary of the material U.S. federal income tax consequences of the ownership and disposition of our common stock acquired in this offering, but does not purport to be a complete analysis of all the potential tax considerations relating thereto. This summary is based upon the provisions of the United States Internal Revenue Code of 1986, as amended, or the Code, Treasury regulations promulgated thereunder, administrative rulings and judicial decisions, all as of the date hereof. These authorities may be changed, possibly retroactively, so as to result in U.S. federal income tax consequences different from those set forth below. We have not sought, and do not intend to seek, any ruling from the Internal Revenue Service, or IRS, with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS or a court will agree with such statements and conclusions.

This summary also does not address the tax considerations arising under the laws of any non-U.S. or U.S. state or local jurisdiction or under U.S. federal gift and estate tax rules nor does it address any aspects of the alternative minimum tax, the special tax accounting rules under Section 451(b) of the Code, or the Medicare tax on net investment income. In addition, this discussion does not address tax considerations applicable to an investor's particular circumstances or to investors that may be subject to special tax rules, including, without limitation:

- banks, insurance companies, regulated investment companies, real estate investment trusts or other financial institutions;
- tax-exempt organizations or governmental organizations;
- pension plans and tax-qualified retirement plans;
- controlled foreign corporations, foreign controlled foreign corporations, passive foreign investment companies and corporations that accumulate earnings to avoid U.S. federal income tax;
- brokers or dealers in securities or currencies;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- persons that own, or are deemed to own, more than five percent of our capital stock (except to the extent specifically set forth below);
- certain former citizens or long-term residents of the United States;
- persons who acquired our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- persons who hold our common stock as a position in a hedging transaction, "straddle," "conversion transaction" or other risk reduction transaction;
- persons who do not hold our common stock as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment); or
- persons deemed to sell our common stock under the constructive sale provisions of the Code.

In addition, if a partnership (including an entity or arrangement classified as a partnership or flow-through entity for U.S. federal income tax purposes) holds our common stock, the tax treatment of a partner or an owner in such partnership or other entity generally will depend on the status of the partner or the owner and upon the activities of the partnership or other entity. A partner or an owner in a partnership or other such entity that will hold our common stock should consult his, her or its own tax advisor regarding the tax consequences of the ownership and disposition of our common stock through a partnership or other such entity, as applicable.

**You are urged to consult your tax advisor with respect to the application of the U.S. federal income tax laws to your particular situation, as well as any tax consequences of the purchase, ownership and disposition of our common stock arising under the U.S. federal gift or estate tax rules or under the laws of any U.S. state or local, non-U.S. or other taxing jurisdiction or under any applicable tax treaty.**

#### **U.S. Holder and Non-U.S. Holder Defined**

For purposes of this discussion, you are a “U.S. holder” if you are a beneficial owner (other than a partnership or other entity or arrangement classified as a partnership for U.S. federal income tax purposes) of our common stock that, for U.S. federal income tax purposes, is:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity taxable as a corporation, created or organized in the United States or under the laws of the United States or any political subdivision thereof, or otherwise treated as such for U.S. federal income tax purposes;
- an estate whose income is subject to U.S. federal income tax regardless of its source; or
- a trust (1) whose administration is subject to the primary supervision of a U.S. court and that has one or more U.S. persons (within the meaning of the Code) who have the authority to control all substantial decisions of the trust or (2) that has made a valid election under applicable Treasury regulations to be treated as a U.S. person.

For purposes of this discussion, you are a “non-U.S. holder” if you are a beneficial owner of our common stock that is not a U.S. holder or a partnership (or other entity or arrangement classified as a partnership for U.S. federal income tax purposes).

#### **Tax Consequences Applicable to U.S. Holders**

##### ***Distributions***

We have never declared or paid cash dividends on our common stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. We do not intend to pay cash dividends to holders of our common stock in the foreseeable future. However, if we do make distributions on our common stock, those payments will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent those distributions exceed both our current and our accumulated earnings and profits, the excess will constitute a return of capital and will first reduce your basis in our common stock, but not below zero, and then will be treated as gain from the sale of stock as described below under “Tax Consequences Applicable to U.S. Holders—Gain on Disposition of Common Stock.” If you are a non-corporate U.S. holder, and certain requirements are met, a preferential U.S. federal income tax rate will apply to any dividends paid to you if you meet certain holding period requirements.

If you are a corporate shareholder, distributions constituting dividends for U.S. federal income tax purposes will generally be eligible for the dividends received deduction, or DRD. No assurance can be given that we will have sufficient earnings and profits (as determined under U.S. federal income tax principles) to cause any distributions to be as a dividend, and therefore eligible for a DRD. In addition, a DRD is available only if certain holding periods and other taxable income requirements are satisfied.

##### ***Gain on Disposition of Common Stock***

Upon a sale or other taxable disposition of common stock, you generally will recognize capital gain or loss in an amount equal to the difference between the amount realized and your adjusted tax basis in the common

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stock. Capital gain or loss will constitute long-term capital gain or loss if your holding period for the common stock exceeds one year. The deductibility of capital losses is subject to certain limitations. U.S. holders who recognize losses with respect to a disposition of our common stock should consult their own tax advisors regarding the tax treatment of such losses.

### ***Backup Withholding and Information Reporting***

Information reporting requirements generally will apply to payments of dividends (including constructive dividends) on the common stock and to the proceeds of a sale or other disposition of common stock paid to you unless you are an exempt recipient, such as certain corporations. Backup withholding at the then-current rate (24% as of the date of this prospectus supplement) will apply to those payments if you fail to provide your taxpayer identification number (generally in the form of a properly completed and executed IRS Form W-9), or certification of exempt status, or if you otherwise fail to comply with applicable requirements to establish an exemption.

Backup withholding is not an additional tax; rather, the U.S. federal income tax liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund or credit may generally be obtained from the IRS, provided that the required information is furnished to the IRS in a timely manner.

### **Tax Consequences Applicable to Non-U.S. Holders**

#### ***Distributions***

We have never declared or paid cash dividends on our common stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. We do not intend to pay cash dividends to holders of our common stock in the foreseeable future. However, if we do make distributions on our common stock, those payments generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent those distributions exceed both our current and our accumulated earnings and profits, the excess will constitute a return of capital and will first reduce your basis in our common stock, but not below zero, and then will be treated as gain from the sale of stock, treated as described below in “Tax Consequences Applicable to Non-U.S. Holders—Gain on Disposition of Common Stock.”

Subject to the discussions below on effectively connected income and Foreign Account Tax Compliance Act, or FATCA, any dividend paid (including constructive dividends deemed to be paid) to you generally will be subject to U.S. federal withholding tax either at a rate of 30% of the gross amount of the dividend or such lower rate as may be specified by an applicable income tax treaty between the United States and your country of residence. In order to receive a reduced treaty rate, you must provide the applicable withholding agent with an IRS Form W-8BEN or W-8BEN-E or other appropriate version of IRS Form W-8 certifying qualification for the reduced rate. A non-U.S. holder of shares of our common stock eligible for a reduced rate of U.S. federal withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. If the non-U.S. holder holds our common stock through a financial institution or other agent acting on the non-U.S. holder’s behalf, the non-U.S. holder will be required to provide appropriate documentation to the agent, which then will be required to provide certification to the applicable withholding agent, either directly or through other intermediaries. Under applicable Treasury Regulations, we may withhold up to 30% of the gross amount of the entire distribution even if the amount constituting a dividend, as described above, is less than the gross amount.

Dividends received (or any constructive dividends deemed to be received) by you that are treated as effectively connected with your conduct of a U.S. trade or business (and, if required by an applicable income tax treaty, such dividends are attributable to a permanent establishment or fixed base maintained by you in the

United States) are generally exempt from the 30% U.S. federal withholding tax, subject to the discussion below on backup withholding and FATCA. In order to obtain this exemption, you must provide the applicable withholding agent with a properly executed IRS Form W-8ECI or other applicable IRS Form W-8 properly certifying such exemption. Such effectively connected dividends, although not subject to U.S. federal withholding tax, are taxed at the same rates applicable to U.S. persons, net of certain deductions and credits, subject to an applicable income tax treaty providing otherwise. In addition, if you are a corporate non-U.S. holder, dividends you receive that are effectively connected with your conduct of a U.S. trade or business may also be subject to a branch profits tax at a rate of 30% or such lower rate as may be specified by an applicable income tax treaty between the United States and your country of residence. You should consult your tax advisor regarding the tax consequences of the ownership and disposition of our common stock, including any applicable tax treaties that may provide for different rules.

### ***Gain on Disposition of Common Stock***

Subject to the discussion below regarding backup withholding and FATCA, you generally will not be required to pay U.S. federal income tax on any gain realized upon the sale or other disposition of our common stock unless:

- the gain is effectively connected with your conduct of a U.S. trade or business (and, if an applicable income tax treaty so provides, the gain is attributable to a permanent establishment or fixed base maintained by you in the United States);
- you are an individual who is present in the United States for a period or periods aggregating 183 days or more during the calendar year in which the sale or disposition occurs and certain other conditions are met; or
- our common stock constitutes a United States real property interest by reason of our status as a “United States real property holding corporation,” or USRPHC, for U.S. federal income tax purposes at any time within the shorter of the five-year period preceding your disposition of, or your holding period for, our common stock.

We believe that we are not currently and will not become a USRPHC for U.S. federal income tax purposes, and the remainder of this discussion so assumes. However, because the determination of whether we are a USRPHC depends on the fair market value of our U.S. real property interests relative to the fair market value of our U.S. and worldwide real property interests plus our other business assets, there can be no assurance that we will not become a USRPHC in the future. Even if we become a USRPHC, however, as long as our common stock is regularly traded on an established securities market, your common stock will be treated as a U.S. real property interest only if you actually (directly or indirectly) or constructively hold more than five percent of such regularly traded common stock at any time during the shorter of the five-year period preceding your disposition of, or your holding period for, our common stock.

If you are a non-U.S. holder described in the first bullet above, you generally will be required to pay tax on the gain derived from the sale (net of certain deductions and credits) under regular U.S. federal income tax rates applicable to U.S. persons, and a corporate non-U.S. holder described in the first bullet above also may be subject to the branch profits tax at a 30% rate, or such lower rate as may be specified by an applicable income tax treaty. If you are an individual non-U.S. holder described in the second bullet above, you will be subject to tax at 30% (or such lower rate specified by an applicable income tax treaty) on the gain derived from the sale, which gain may be offset by U.S. source capital losses for the year, provided you have timely filed U.S. federal income tax returns with respect to such losses. You should consult your tax advisor regarding any applicable income tax treaties or other agreements that may provide for different rules.

### ***Backup Withholding and Information Reporting***

Generally, we or the applicable paying agent must report annually to the IRS the amount of distributions (including constructive distributions) paid to you, your name and address, and the amount of tax withheld, if any. A similar report will be sent to you. Pursuant to applicable income tax treaties or other agreements, the IRS may make these reports available to tax authorities in your country of residence.

Payments of distributions (including constructive distributions) on or of proceeds from the disposition of our common stock made to you will generally be subject to information reporting and backup withholding at the then-current rate (24% as of the date of this prospectus supplement) unless you establish an exemption, for example, by properly certifying your non-U.S. status on a properly completed IRS Form W-8BEN or W-8BEN-E, or W-8ECI or another appropriate version of IRS Form W-8 or you otherwise meet the documentary evidence requirements for establishing that you are not a U.S. person or otherwise establish an exemption. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above under the heading “Tax Consequences Applicable to Non-U.S. Holders—Distributions,” will generally be exempt from U.S. backup withholding. Notwithstanding the foregoing, backup withholding and information reporting may apply if the applicable withholding agent has actual knowledge, or reason to know, that you are a U.S. person.

Backup withholding is not an additional tax; rather, the U.S. federal income tax liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund or credit may generally be obtained from the IRS, provided that the required information is furnished to the IRS in a timely manner.

### ***Foreign Account Tax Compliance Act***

Provisions of the Code commonly referred to as FATCA, Treasury regulations issued thereunder and official IRS guidance generally impose a U.S. federal withholding tax of 30% on dividends (including constructive dividends) on, and, subject to the discussion of certain proposed Treasury regulations below, the gross proceeds from a sale or other disposition of our common stock, paid to a “foreign financial institution” (as specially defined under these rules), unless such institution enters into an agreement with the U.S. government to, among other things, withhold on certain payments and to collect and provide to the U.S. tax authorities substantial information regarding the U.S. account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with U.S. owners) or otherwise establishes an exemption from FATCA withholding. FATCA also generally imposes a U.S. federal withholding tax of 30% on dividends on, and, subject to the discussion of certain proposed Treasury regulations below, the gross proceeds from, a sale or other disposition of our common stock paid to a “non-financial foreign entity” (as specially defined under these rules), unless such entity provides the withholding agent with a certification identifying the substantial direct and indirect U.S. owners of the entity, certifies that it does not have any substantial U.S. owners, or otherwise establishes an exemption.

The withholding obligations under FATCA generally apply to dividends on our common stock and subject to the proposed Treasury regulations described in the next sentence, will apply to the payment of gross proceeds of a sale or other disposition of our common stock. The Treasury Department has released proposed Treasury regulations (the preamble to which specifies that taxpayers are permitted to rely on them pending finalization) that, if finalized in their present form, would eliminate the federal withholding tax of 30% applicable to the gross proceeds of a disposition of our common stock. The withholding tax on dividends will apply regardless of whether the payment otherwise would be exempt from U.S. non-resident and backup withholding tax, including under the exemptions described above. Under certain circumstances, a non-U.S. holder might be eligible for refunds or credits of such taxes. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this section. Prospective investors are encouraged to consult with their own tax advisors regarding the application of FATCA withholding to their investment in, and ownership and disposition of, our common stock.

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The preceding discussion of U.S. federal tax considerations is for general information only. It is not tax advice to investors in their particular circumstances. Each prospective investor should consult its own tax advisor regarding the particular U.S. federal, state and local and non-U.S. tax consequences of purchasing, holding and disposing of our common stock, including the consequences of any proposed change in applicable laws.

## UNDERWRITING

Leerink Partners LLC is acting as representative of each of the underwriters named below for this offering. Subject to the terms and conditions set forth in the underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of securities set forth opposite its name below.

<u>Name</u>	<u>Number of Shares</u>
Leerink Partners LLC	6,406,250
Cantor Fitzgerald & Co.	3,125,000
Stifel, Nicolaus & Company, Incorporated	3,125,000
Oppenheimer & Co. Inc.	1,562,500
Robert W. Baird & Co. Incorporated	1,406,250
Total	<u>15,625,000</u>

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares of common stock sold under the underwriting agreement if any of the shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and subject to other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officers' certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

On October 16, 2025, we entered into a securities purchase agreement with Balyasny Asset Management, to issue and sell pre-funded warrants to purchase 1,250,015 shares of our common stock, for aggregate gross proceeds of approximately \$10.0 million in a private offering, at a price per private placement warrant of \$7.9999. Neither this offering nor the concurrent private placement is conditioned upon the completion of the other offering. The concurrent private placement is exempt from registration under the Securities Act. Nothing contained herein shall constitute an offer to sell or the solicitation of an offer to buy any private placement warrants. The private placement warrants are being offered pursuant to an exemption from the registration requirements of the Securities Act provided in Section 4(a)(2) of the Securities Act.

### Discounts and Commissions

The representative has advised us that the underwriters propose initially to offer the shares to the public at the initial public offering price set forth on the cover page of this prospectus supplement and to dealers at that price less a concession not in excess of \$0.288 per share. After the initial offering, the public offering price, concession or any other term of this offering may be changed by the representative.

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The following table shows the initial public offering price, underwriting discounts and commissions and proceeds, before expenses, to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares of our common stock.

	Per Share	Total	
		Without Option	With Option
Initial public offering price	\$ 8.00	\$ 125,000,000	\$ 143,750,000
Underwriting discounts and commissions	\$ 0.48	\$ 7,500,000	\$ 8,625,000
Proceeds, before expenses, to us	\$ 7.52	\$ 117,500,000	\$ 135,125,000

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately \$820,000. We also have agreed to reimburse the underwriters for up to \$40,000 for their FINRA counsel fee. In accordance with FINRA Rule 5110, this reimbursed fee is deemed underwriting compensation for this offering.

### **Option to Purchase Additional Shares**

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus supplement, to purchase up to 2,343,750 additional shares at the initial public offering price, less underwriting discounts and commissions. If the underwriters exercise this option, each underwriter will be obligated, subject to the conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

### **No Sales of Similar Securities**

We, our executive officers and directors have agreed not to sell or transfer any common stock or securities convertible into or exchangeable or exercisable for common stock, for 60 days after the date of this prospectus supplement without first obtaining the written consent of Leerink Partners LLC on behalf of the underwriters. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock (including without limitation, common stock or such other securities which may be deemed to be beneficially owned by the undersigned in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant) (collectively with the Common Stock, "Lock-Up Securities");
- enter into any hedging, swap or other agreement or transaction that transfers, in whole or in part, any of the economic consequences of ownership of the Lock-Up Securities, whether any such transaction is to be settled by delivery of Lock-Up Securities, in cash or otherwise;
- make any demand for or exercise any right with respect to the registration of any Lock-Up Securities; or
- publicly disclose the intention to do any of the foregoing. Such persons or entities have further acknowledged that these undertakings preclude them from engaging in any hedging or other transactions or arrangements (including, without limitation, any short sale or the purchase or sale of, or entry into, any put or call option, or combination thereof, forward, swap or any other derivative transaction or instrument, however described or defined) designed or intended, or which could reasonably be expected to lead to or result in, a sale or disposition or transfer of any economic consequences of ownership, in whole or in part, directly or indirectly, of any Lock-Up Securities,

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whether any such transaction or arrangement (or instrument provided for thereunder) would be settled by delivery of Lock-Up Securities, in cash or otherwise.

The restrictions described above and contained in the lock-up agreements between the underwriters and the lock-up parties do not apply, subject in certain cases to various conditions, to certain transactions, including (a) transfers of lock-up securities: (i) as a bona fide gift or gifts, or for bona fide estate planning purposes, (ii) by will or intestacy, (iii) to any trust for the direct or indirect benefit of the lock-up party or any immediate family member, or if the lock-up party is a trust, to a trustor, trustee (or co-trustee) or beneficiary of the trust or to the estate of a beneficiary of such trust, (iv) to a partnership, limited liability company or other entity of which the lock-up party and its immediate family members are the legal and beneficial owner of all of the outstanding equity securities or similar interests, (v) to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under clauses (i) through (iv), (vi) by operation of law, such as pursuant to a qualified domestic order, divorce settlement, divorce decree or separation agreement, (vii) to us from an employee upon death, disability or termination of employment of such employee, (viii) as part of a sale of lock-up securities acquired in this offering or in open market transactions after the completion of this offering, (ix) to us in connection with the vesting, settlement or exercise of restricted stock units, options, warrants or other rights to purchase shares of our common stock (including, in each case, by way of “net” or “cashless” exercise), including for the payment of exercise price and tax and remittance payments due as a result of the vesting, settlement, or exercise of such restricted stock units, options, warrants or rights, provided that any such shares of our common stock received upon such exercise, vesting or settlement shall be subject to the restrictions in the immediately preceding paragraph, and provided further that any such restricted stock units, options, warrants or rights are held by the lock-up party pursuant to an agreement or equity awards granted under a stock incentive plan or other equity award plan, each such agreement or plan which is described in this prospectus supplement, (x) pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction approved by our board of directors and made to all shareholders involving a change in control, provided that if such transaction is not completed, all such lock-up securities would remain subject to the restrictions in the immediately preceding paragraph, (xi) to an immediate family member of such lock-up party, or (xii) in transactions pursuant to any trading plan pursuant to Rule 10b5-1 under the Exchange Act, entered into prior to the date hereof; (b) exercise outstanding options, settle RSUs or other equity awards, or the exercise of warrants granted pursuant to plans described in this prospectus supplement, provided that any lock-up securities received upon such exercise, vesting or settlement would be subject to restrictions similar to those in the immediately preceding paragraph; (c) the issuance and sale of the securities in the concurrent private placement and (d) the establishment by lock-up parties of any new trading plans under Rule 10b5-1 under the Exchange Act for the transfer of shares of lock-up securities following the date of such lock-up agreement, provided that (1) such plan does not provide for the transfer of lock-up securities during the restricted period and (2) any required public disclosure of such plan includes the restrictions set forth in the immediately preceding paragraph.

The lock-up provisions also apply to Lock-up Securities owned now or acquired later by the person executing the lock-up agreement or for which the person executing the lock-up agreement later acquires the power of disposition.

### **Nasdaq Global Select Market Listing**

Our common stock is listed on the Nasdaq Global Market under the symbol “LXEO.”

### **Price Stabilization, Short Positions and Penalty Bids**

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the representative may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

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In connection with this offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in this offering. "Covered" short sales are sales made in an amount not greater than the underwriters' option to purchase additional shares described above. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares granted to them under the underwriting agreement described above. "Naked" short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in this offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the closing of this offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representative has repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters' purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on the Nasdaq Global Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representative will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

### **Electronic Distribution**

In connection with this offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

### **Other Relationships**

The underwriters and certain of their affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. Some of the underwriters and certain of their affiliates may in the future engage in investment banking and other commercial dealings in the ordinary course of business with us and our affiliates, for which they may in the future receive customary fees, commissions and expenses. For example, Leerink Partners LLC is our sales agent under our at-the-market offering program.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

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Leerink Partners LLC is acting as placement agent in connection with the concurrent private placement and will receive 4% of the aggregate gross proceeds from the sale of the pre-funded warrants in the concurrent private placement.

### **Selling Restrictions**

#### ***Notice to Prospective Investors in the European Economic Area***

In relation to each Member State of the European Economic Area, or, each, a Relevant State, no securities have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the securities which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that securities may be offered to the public in that Relevant State at any time:

- A. to any legal entity which is a qualified investor as defined under Article 2 of the Prospectus Regulation;
- B. to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or
- C. in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

*provided* that no such offer of securities shall require us or any of the representatives to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an “offer to the public” in relation to any securities in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any securities to be offered so as to enable an investor to decide to purchase or subscribe for any securities, and the expression “Prospectus Regulation” means Regulation (EU) 2017/1129, as amended.

#### ***Notice to Prospective Investors in the United Kingdom***

No securities have been offered or will be offered pursuant to the offering to the public in the United Kingdom prior to the publication of a prospectus in relation to the securities which has been approved by the Financial Conduct Authority, except that the securities may be offered to the public in the United Kingdom at any time:

Authority, except that the shares may be offered to the public in the United Kingdom at any time:

- A. to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;
- B. to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or
- C. in any other circumstances falling within Section 86 of the Financial Services and Markets Act 2000 (the “FMSA”),

*provided* that no such offer of the securities shall require us or any representative to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation. For the purposes of this provision, the expression an “offer to the public” in relation to the securities in the United Kingdom means the communication in any form and by any means of sufficient information on the terms of the offer and any securities to be offered so as to enable an investor to decide to purchase or subscribe

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for any securities and the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018.

### ***Notice to Prospective Investors in Canada***

The securities may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus supplement (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser’s province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser’s province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

**LEGAL MATTERS**

The validity of the issuance of our common stock offered by this prospectus supplement will be passed upon for us by Wilson Sonsini Goodrich & Rosati, Professional Corporation, New York, New York. Paul Hastings LLP, New York, New York is acting as counsel for the underwriters.

**EXPERTS**

The financial statements of Lexeo Therapeutics, Inc. as of December 31, 2024 and 2023, and for the years then ended have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, upon the authority of said firm as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an Internet website at [www.sec.gov](http://www.sec.gov) that contains reports, proxy and information statements and other information about issuers, like us, that file electronically with the SEC. We also maintain a website at [www.lexeotx.com](http://www.lexeotx.com). We make available, free of charge, on our investor relations website at [ir.lexeotx.com](http://ir.lexeotx.com), our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to these reports as soon as reasonably practicable after electronically filing or furnishing those reports to the SEC. Information contained on our website is not a part of or incorporated by reference in this prospectus supplement and the inclusion of our website and investor relations website addresses in this prospectus supplement is an inactive textual reference only.

This prospectus supplement and the accompany prospectus are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. You should review the information and exhibits in the registration statement for further information on us and the securities that we are offering. Forms of other documents establishing the terms of the offered securities are filed as exhibits to the registration statement of which this prospectus supplement forms a part under cover of a Current Report on Form 8-K incorporated in this prospectus supplement by reference. Statements in this prospectus supplement and the accompanying prospectus are summaries and each statement is qualified in all respects by reference to the documents to which it refers. You should read the actual documents for a more complete description of the relevant matters.

## INCORPORATION BY REFERENCE

The SEC allows us to “incorporate by reference” information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference in this prospectus supplement and the accompanying prospectus is considered to be part of this prospectus supplement and the accompanying prospectus. We incorporate by reference into this prospectus supplement and the accompanying prospectus the information or documents listed below that we have filed with the SEC (File No. 001-41855):

- The Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2024, filed with the SEC on March 24, 2025;
- our [definitive Proxy Statement](#) on Schedule 14A, filed with the SEC on April 28, 2025, as supplemented by the additional [definitive proxy soliciting materials](#) filed with the SEC on June 5, 2025 (excluding those portions that are not incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended December 31, 2024);
- our Quarterly Reports on Form 10-Q for the quarter ended [March 31, 2025](#), filed with the SEC on May 12, 2025, as amended by our Quarterly Report on [Form 10-Q/A](#), filed with the SEC on May 15, 2025, and for the quarter ended [June 30, 2025](#), filed with the SEC on August 14, 2025;
- our Current Reports on Form 8-K filed with the SEC on [January 13, 2025](#), [April 7, 2025](#), [May 27, 2025](#), [June 30, 2025](#), [August 14, 2025](#) and [October 7, 2025](#) (in each case to the extent the information included in such reports is filed and not furnished); and
- the description of our Common Stock contained in the Registration Statement on [Form 8-A](#) relating thereto, filed with the SEC on November 1, 2023, including any amendment or report filed for the purpose of updating such description, including [Exhibit 4.3](#) of our Annual Report on [Form 10-K](#) for the year ended December 31, 2023.

We also incorporate by reference into this prospectus supplement and the accompanying prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus supplement but prior to the termination of the offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

Notwithstanding the statements in the preceding paragraphs, no document, report or exhibit (or portion of any of the foregoing) or any other information that we have “furnished” to the SEC pursuant to the Exchange Act shall be incorporated by reference in this prospectus.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, including exhibits to these documents. You should direct any requests for documents to Lexeo Therapeutics, Inc., Attn: Corporate Secretary, 345 Park Avenue South, Floor 6, New York, New York 10010.

You also may access these filings on our website at [ir.lexeotx.com](http://ir.lexeotx.com). We do not incorporate the information on our website into this prospectus supplement or the accompanying prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus supplement or the accompanying prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus). The inclusion of our website address is an inactive textual reference only.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus supplement and the accompanying prospectus will be deemed modified, superseded or replaced for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in this prospectus supplement or the accompanying prospectus modifies, supersedes or replaces such statement.



# Lexeo Therapeutics, Inc.

**\$300,000,000**

**Common Stock**

**Preferred Stock**

**Debt Securities**

**Warrants**

**Subscription Rights**

**Purchase Contracts**

**Units**

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The securities covered by this prospectus may be sold by Lexeo Therapeutics, Inc. from time to time. This prospectus provides you with a general description of these securities.

We may issue securities from time to time in one or more offerings, in amounts, at prices and on terms determined at the time of offering, of up to \$300,000,000 in the aggregate. This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. We will provide the specific terms of these securities in supplements to this prospectus, which will also describe the specific manner in which these securities will be offered and may also supplement, update or amend information contained in this prospectus. You should read this prospectus and any applicable prospectus supplement before you invest.

The securities may be sold directly to you, through agents or through underwriters and dealers. If agents, underwriters or dealers are used to sell the securities, we will name them and describe their compensation in a prospectus supplement. The price to the public of those securities and the net proceeds we expect to receive from that sale will also be set forth in a prospectus supplement.

Our common stock is listed on the Nasdaq Global Market, or Nasdaq, under the symbol "LXEO." On December 12, 2024, the last quoted sale price of our common stock as reported on Nasdaq was \$7.13 per share. Each prospectus supplement will indicate whether the securities offered thereby will be listed on any securities exchange.

We are an "emerging growth company" and a "smaller reporting company" as defined under the federal securities laws, and, as such, may elect to comply with certain reduced public company reporting requirements for this and future filings. We will provide information in any applicable prospectus supplement regarding any listing of securities other than shares of our common stock on any securities exchange.

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**Investing in our securities involves a high degree of risk. Before buying any securities, you should carefully read the discussion of the risks and uncertainties of investing in our securities described in the section titled "[Risk Factors](#)" beginning on page 6 of this prospectus, and under similar headings in any amendments or supplements to this prospectus as well as the documents incorporated by reference in this prospectus.**

**You should rely only on the information contained in this prospectus or any prospectus supplement or amendment hereto. We have not authorized anyone to provide you with different information.**

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Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

Prospectus dated December 19, 2024.

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, under the Securities Act of 1933, as amended, or the Securities Act, using a “shelf” registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings as described in this prospectus for an aggregate offering amount of up to \$300,000,000. Each time that we offer and sell securities pursuant to this prospectus, we will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering and, to the extent appropriate, any updates to the information about us contained in this prospectus. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement and any related free writing prospectus, you should rely on the applicable prospectus supplement and any related free writing prospectus. Before purchasing any securities, you should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, together with the additional information described under the sections titled “*Where You Can Find More Information*” and “*Incorporation by Reference*.”

We have not authorized anyone to provide you with information or to make any representations other than those contained or incorporated by reference in this prospectus, the applicable prospectus supplement or in any related free writing prospectus prepared by or on behalf of us to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. You should assume that the information appearing in this prospectus, the applicable prospectus supplement to this prospectus and any related free writing prospectus is accurate as of the date on its respective cover or as otherwise specified therein and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed materially since those dates. This prospectus and the applicable prospectus supplement or any related free writing prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in the applicable prospectus supplement or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful.

## PROSPECTUS SUMMARY

*This summary highlights selected information that is presented in greater detail elsewhere, or incorporated by reference, in this prospectus. It does not contain all of the information that may be important to you and your investment decision. Before investing in our securities, you should carefully read this entire prospectus, including the matters set forth in the section of this prospectus titled “Risk Factors” and the financial statements and related notes and other information that we incorporate by reference herein, including our Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q. Unless the context indicates otherwise, references in this prospectus to “Lexeo,” “we,” “our” and “us” refer, collectively, to Lexeo Therapeutics, Inc., a Delaware corporation.*

### Company Overview

We are a clinical stage genetic medicine company dedicated to transforming healthcare by applying pioneering science to fundamentally change how disease is treated. By taking aim at the underlying genetic cause of the devastating diseases we target, we seek to create substantial positive impact and reduce the overwhelming burdens placed on people receiving treatment, their caregivers, and healthcare systems. Our current pipeline consists of candidates targeting patient populations that place significant burden on society and are most amenable to our genetic medicine approach.

Our most advanced cardiovascular product candidate, LX2006 for the treatment of patients with Friedreich ataxia, or FA, cardiomyopathy, is currently being evaluated in SUNRISE-FA, an ongoing Phase 1/2 clinical trial. We have observed an increase in frataxin protein expression in the hearts of four patients that have undergone cardiac biopsies across cohort 1 (n=1) and cohort 2 (n=3). In July 2024, we announced interim clinical data of LX2006 from the ongoing Lexeo-sponsored SUNRISE-FA trial and Cornell investigator-initiated trial, providing baseline characteristics from 11 participants that had been treated and follow-up data from 8 participants that had reached at least 6-months of follow-up, showing improvements in key cardiac biomarkers including left ventricular mass index, lateral wall thickness, and high-sensitivity troponin I. LX2006 has been generally well-tolerated across both SUNRISE-FA and Weill Cornell investigator-initiated trials to date. One possibly treatment-related Grade 2 event of asymptomatic myocarditis was observed one year after dosing; participant with multiple comorbidities and history of flu-like symptoms prior to diagnosis which may have been a contributing factor. A biopsy was performed six weeks after diagnosis and results were negative for myocarditis and participant remains asymptomatic. In November 2024, we announced that we reached alignment with the U.S. Food and Drug Administration, or FDA, on key elements of a registrational development plan for LX2006, including accelerated approval pathway with left ventricular mass index and frataxin protein expression as co-primary registrational endpoints. LX2006 has received Rare Pediatric Disease designation, Orphan Drug designation, Fast Track designation and Regenerative Medicine Advanced Therapy, or RMAT, designation from the FDA, and Orphan Medicinal Product designation from the European Commission. Our second most advanced cardiovascular product candidate, LX2020 for the treatment of arrhythmogenic cardiomyopathy, or ACM, caused by mutations in the PKP2 gene, referred to as PKP2-ACM, is currently being evaluated in HEROIC-PKP2, an ongoing Phase 1/2 clinical trial. We have completed enrollment of cohort 1 and expect to provide an interim data readout from that cohort in the later part of the first quarter or early part of the second quarter of 2025. LX2020 received Fast Track and Orphan Drug designations from the FDA in December 2023.

Our lead Alzheimer’s disease product candidate, LX1001, for the treatment of APOE4 homozygous patients with Alzheimer’s disease, is in an ongoing Phase 1/2 trial. In October 2024, we reported interim data across all four dose cohorts at the Clinical Trials on Alzheimer’s Disease conference in Madrid, Spain. LX1001 was generally well-tolerated across all dose cohorts with no reports of amyloid-related imaging abnormalities. Four serious adverse events were reported, with three deemed unrelated to treatment and one event of mild-moderate sensorineural hearing loss assessed as possibly related to treatment with repeat audiometry pending. A dose and

time-dependent increase in neuroprotective APOE2 expression was observed in all participants with ongoing durability at 12 months, and reductions in cerebrospinal fluid tau biomarkers and tau positron emission tomography were seen in a majority of patients.

We are targeting diseases that have seen limited penetration of precision medicine, which we define as medications that treat the underlying molecular mechanism of a disease, and where we believe there is significant opportunity for gene therapy to play a role as a key therapeutic option. We believe the specific indications we are initially targeting, FA cardiomyopathy, PKP2-ACM and APOE4-associated Alzheimer's disease, are highly amenable to gene therapy, where administration of a single dose has the potential to either restore loss-of-function or minimize gain-of-function mutations by treating the underlying genetic cause of the disease. Although few precision medicines are currently approved for the treatment of cardiovascular conditions or Alzheimer's disease, recent approvals by the FDA suggest a willingness to approve new precision medicines based on biomarkers and functional endpoints. Together with improved diagnostics and increased testing, these developments may offer one of the most substantial opportunities for the uptake of precision medicines in the global pharmaceutical marketplace.

Each of our gene therapy candidates utilizes the vector construct, dose and route of administration that we believe will result in the most favorable biodistribution and safety profile for our product candidate for each disease. Our most advanced cardiovascular and APOE4-associated Alzheimer's disease programs use the AAVrh10 vector due to its high transduction efficiency in both myocardial cells and neurons, potential for lower toxicity given the opportunity to utilize lower doses compared to other well-established AAV serotypes, and low pre-existing immunity.

By specifically tailoring our technological approach to each targeted disease, we believe we can optimize our programs to achieve the highest likelihood of having therapeutic impact. We target genetically defined indications in specific sub-groups of patients that offer the potential to demonstrate therapeutic impact through improvement in functional endpoints or biomarkers, have high unmet need and large market opportunities, have established proof-of-concept in relevant preclinical models, and have organized patient advocacy groups and identifiable patient populations. In addition to targeting cardiovascular diseases and APOE4-associated Alzheimer's disease that we believe can be addressed by our current approach utilizing AAVrh10, we have ongoing discovery efforts to identify next-generation vector technologies with the best potential therapeutic profile. Finally, we continuously seek to bolster our pipeline through relationships with academic institutions, providing us access to cutting edge genetic medicines research which will include not only AAV gene therapy but also other potential therapeutic payload types and non-viral delivery systems. In August 2023, we announced a strategic investment from Sarepta Therapeutics, Inc. to explore collaboration opportunities within our preclinical cardiovascular pipeline.

### **Corporate History and Information**

In February 2017, we were formed as a Delaware limited liability company under the name LEXEO Therapeutics, LLC. In November 2020, we converted into a Delaware corporation and were renamed Lexeo Therapeutics, Inc. Our principal executive offices are located at 345 Park Avenue South, Floor 6, New York, New York 10010, and our telephone number is (212) 547-9879. Our website address is [www.lexeotx.com](http://www.lexeotx.com). The information contained on, or accessible through, our website is not incorporated by reference in this prospectus. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, are filed with the SEC. Such reports and other information filed by us with the SEC are available free of charge on our website at [ir.lexeotx.com](http://ir.lexeotx.com) when such reports are available on the SEC's website. The SEC maintains an internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at [www.sec.gov](http://www.sec.gov). The information contained on

the websites referenced in this prospectus and in the documents that are incorporated by reference in this prospectus is not incorporated by reference in this filing. Further, our references to website URLs are intended to be inactive textual references only.

### **IPO and PIPE Financing**

On November 7, 2023, we completed our initial public offering, or IPO, pursuant to which we issued and sold 9,090,910 shares of our common stock. Subsequently, we issued and sold 1,048,746 additional shares in connection with the partial exercise by the underwriters of their 30-day option to purchase additional shares of Common Stock at a public offering price of \$11.00 per share. The total gross proceeds from the IPO and the subsequent partial exercise of the underwriters' 30-day option to purchase additional shares of Common Stock were approximately \$111.5 million and the total net proceeds were approximately \$100.3 million, after deducting underwriting discounts and commissions and other offering expenses.

In addition, on March 13, 2024, we issued and sold 6,278,905 shares of our common stock in a private placement, or the Private Placement, at a price per share of \$15.13. The gross proceeds from the Private Placement were approximately \$95.0 million, and the total net proceeds were approximately \$88.8 million, after deducting commissions and offering expenses.

### **The Securities That May Be Offered**

We may offer or sell common stock, preferred stock, debt securities, warrants, subscription rights, purchase contracts and units in one or more offerings and in any combination for an aggregate offering amount of up to \$300,000,000. Each time securities are offered with this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and terms of the securities being offered and the net proceeds we expect to receive from that sale.

The securities may be sold to or through underwriters, dealers or agents or directly to purchasers or as otherwise set forth in the section of this prospectus titled "*Plan of Distribution*." Each prospectus supplement will set forth the names of any underwriters, dealers, agents or other entities involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them.

### ***Common Stock***

We may offer shares of our common stock, par value \$0.0001 per share, either alone or underlying other registered securities convertible into our common stock. Holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of funds legally available for the payment of dividends, subject to rights, if any, of preferred stockholders. We have not paid dividends in the past and have no current plans to pay dividends. Each holder of common stock is entitled to one vote per share. The holders of common stock have no preemptive rights.

### ***Preferred Stock***

Our board of directors has the authority, subject to limitations prescribed by Delaware law, to issue preferred stock in one or more series, to establish from time to time the number of shares to be included in each series, and to fix the designation, powers, preferences and rights of the shares of each series and any of its qualifications, limitations or restrictions, in each case without further vote or action by our stockholders. Each series of preferred stock offered by us will be more fully described in the particular prospectus supplement that will accompany this prospectus, including redemption provisions, rights in the event of our liquidation, dissolution or winding up, voting rights and rights to convert into common stock.

### ***Debt Securities***

We may offer secured or unsecured obligations in the form of one or more series of senior or subordinated debt. The senior debt securities and the subordinated debt securities are together referred to in this prospectus as the “debt securities.” The subordinated debt securities generally will be entitled to payment only after payment of our senior debt. Senior debt generally includes all debt for money borrowed by us, except debt that is stated in the instrument governing the terms of that debt to be not senior to, or to have the same rank in right of payment as, or to be expressly junior to, any subordinated debt. We may issue debt securities that are convertible into shares of our common stock or other securities.

The debt securities will be issued under an indenture between us and a trustee to be identified in an accompanying prospectus supplement. We have summarized the general features of the debt securities to be governed by the indenture in this prospectus and the form of indenture has been filed as an exhibit to the registration statement of which this prospectus forms a part. We encourage you to read the indenture.

### ***Warrants***

We may offer warrants for the purchase of common stock, preferred stock or debt securities. We may offer warrants independently or together with other securities.

### ***Subscription Rights***

We may offer subscription rights to purchase our common stock, preferred stock, debt securities, warrants or units consisting of some or all of these securities. These subscription rights may be offered independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the subscription rights in such offering.

### ***Purchase Contracts***

We may offer purchase contracts, including contracts obligating holders or us to purchase from the other a specific or variable number of securities at a future date or dates.

### ***Units***

We may offer units comprised of one or more of the other classes of securities described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit.

### **Implications of being an emerging growth company and a smaller reporting company**

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For so long as we remain an emerging growth company, we may take advantage of relief from certain reporting requirements and other burdens that are otherwise applicable generally to public companies. These provisions include:

- reduced obligations with respect to financial data, including only being required to present two years of audited financial statements, in addition to any required unaudited interim financial statements with correspondingly reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure;
- an exception from compliance with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;

- reduced disclosure about our executive compensation arrangements in our periodic reports, proxy statements and registration statements;
- exemptions from the requirements of holding non-binding advisory votes on executive compensation or golden parachute arrangements; and
- an exemption from compliance with the requirements of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor’s report on financial statements.

We may take advantage of these provisions until we no longer qualify as an emerging growth company. We will cease to qualify as an emerging growth company on the date that is the earliest of: (i) December 31, 2028, (ii) the last day of the fiscal year in which we have more than \$1.235 billion in total annual gross revenues, (iii) the date on which we are deemed to be a “large accelerated filer” under the rules of the U.S. Securities and Exchange Commission, which means the market value of our Common Stock that is held by non-affiliates exceeds \$700.0 million as of the prior June 30, or (iv) the date on which we have issued more than \$1.0 billion of non-convertible debt over the prior three-year period. We may choose to take advantage of some but not all of these reduced reporting burdens.

We have taken advantage of certain reduced reporting requirements in the documents incorporated by reference into this prospectus. Accordingly, the information contained herein may be different than you might obtain from other public companies in which you hold equity interests.

In addition, under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to take advantage of the extended transition period to comply with new or revised accounting standards and to adopt certain of the reduced disclosure requirements available to emerging growth companies. As a result of the accounting standards election, we will not be subject to the same implementation timing for new or revised accounting standards as other public companies that are not emerging growth companies, which may make comparison of our financials to those of other public companies more difficult. As a result of these elections, the information that we provide in this prospectus may be different than the information you may receive from other public companies in which you hold equity interests. In addition, it is possible that some investors will find our Common Stock less attractive as a result of these elections, which may result in a less active trading market for our Common Stock and higher volatility in our share price.

We are also a “smaller reporting company,” meaning that the market value of our shares held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than \$700.0 million and our annual revenue was less than \$100.0 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our shares held by non-affiliates is less than \$250.0 million or (ii) our annual revenue was less than \$100.0 million during the most recently completed fiscal year and the market value of our shares held by non-affiliates is less than \$700.0 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

## RISK FACTORS

Investing in our securities involves a high degree of risk. The prospectus supplement applicable to each offering of our securities will contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the section in the applicable prospectus supplement titled “Risk Factors,” together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under “*Part I—Item 1A—Risk Factors*” of our most recent Annual Report on Form 10-K and in “*Part II—Item 1A—Risk Factors*” in our most recent Quarterly Report on Form 10-Q filed subsequent to such Form 10-K or Current Reports on Form 8-K we file after the date of this prospectus, that are incorporated herein by reference, as may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. Please also carefully read the sections titled “*Cautionary Note Regarding Forward-Looking Statements*” and “*Incorporation by Reference*.”

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, each prospectus supplement and the information incorporated by reference in this prospectus and each prospectus supplement contain certain statements that constitute “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. The words “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “expect,” “could,” “would,” “project,” “plan,” “potentially,” “likely,” and similar expressions and variations thereof are intended to identify forward-looking statements, but are not the exclusive means of identifying such statements. Those statements appear in this prospectus, any accompanying prospectus supplement and the documents incorporated herein and therein by reference, particularly in the sections titled “*Risk Factors*” and “*Management’s Discussion and Analysis of Financial Condition and Results of Operations*” and include statements regarding the intent, belief or current expectations of our management that are subject to known and unknown risks, uncertainties and assumptions. You are cautioned that any such forward-looking statements are not guarantees of future performance and involve risks and uncertainties, and that actual results may differ materially from those projected in the forward-looking statements as a result of various factors.

Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely upon forward-looking statements as predictions of future events. The events and circumstances reflected in the forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, including the securities laws of the United States and the rules and regulations of the SEC, we do not plan to publicly update or revise any forward-looking statements contained herein after we distribute this prospectus, whether as a result of any new information, future events or otherwise.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and although we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted a thorough inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

This prospectus and the documents incorporated by reference in this prospectus may contain market data that we obtain from industry sources. These sources do not guarantee the accuracy or completeness of the information. Although we believe that our industry sources are reliable, we do not independently verify the information. The market data may include projections that are based on a number of other projections. While we believe these assumptions to be reasonable and sound as of the date of this prospectus, actual results may differ from the projections.

## **USE OF PROCEEDS**

We will set forth in the applicable prospectus supplement our intended use for the net proceeds received from the sale of any securities. We will retain broad discretion over the use of the net proceeds to us from the sale of our securities under this prospectus. Pending our use of the net proceeds from the sale of our securities, we intend to invest the net proceeds in bank deposits, money market funds, treasury obligations, and investment-grade securities.

**DESCRIPTION OF CAPITAL STOCK**

The description of our securities is incorporated by reference to Exhibit 4.3 to our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on March 11, 2024.

## DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplement, summarizes certain general terms and provisions of the debt securities that we may offer under this prospectus. When we offer to sell a particular series of debt securities, we will describe the specific terms of the series in a supplement to this prospectus. We will also indicate in the supplement to what extent the general terms and provisions described in this prospectus apply to a particular series of debt securities.

We may issue debt securities either separately, or together with, or upon the conversion or exercise of or in exchange for, other securities described in this prospectus. Debt securities may be our senior, senior subordinated or subordinated obligations and, unless otherwise specified in a supplement to this prospectus, the debt securities will be our direct, unsecured obligations and may be issued in one or more series.

The debt securities will be issued under an indenture between us and a trustee to be identified in an accompanying prospectus supplement. We have summarized material provisions of the debt securities and select portions of the indenture below. The indenture will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. The summary is not complete. The form of the indenture has been filed as an exhibit to the registration statement of which this prospectus forms a part and you should read the indenture for provisions that may be important to you. Supplemental indentures, if applicable, and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC, as applicable. Capitalized terms used in the summary and not defined herein have the meanings specified in the indenture. Unless the context requires otherwise, whenever we refer to an indenture, we are also referring to any supplemental indentures or forms of debt securities that specify the terms of a particular series of debt securities.

### General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in a resolution of our board of directors, in an officer's certificate or by a supplemental indenture. The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series (including any pricing supplement or term sheet).

We can issue an unlimited amount of debt securities under the indenture that may be in one or more series with the same or various maturities, at par, at a premium, or at a discount. We will set forth in a prospectus supplement (including any pricing supplement or term sheet) relating to any series of debt securities being offered the aggregate principal amount and the terms of the debt securities, including, if applicable:

- the title and ranking of the debt securities (including the terms of any subordination provisions);
- the price or prices (expressed as a percentage of the principal amount) at which we will sell the debt securities, which may be sold at a discount below their stated principal amount;
- any limit upon the aggregate principal amount of the debt securities;
- the date or dates on which the principal of the securities of the series is payable;
- the rate or rates (which may be fixed or variable) per annum or the method used to determine the rate or rates (including any commodity, commodity index, stock exchange index or financial index) at which the debt securities will bear interest, the date or dates from which interest will accrue, the date or dates on which interest will commence and be payable and any regular record date for the interest payable on any interest payment date;
- the right, if any, to defer payment of interest and the maximum length of any such deferral period;
- the place or places where principal of, and interest, if any, on the debt securities will be payable (and the method of such payment), where the securities of such series may be surrendered for registration of transfer or exchange, and where notices and demands to us in respect of the debt securities may be delivered;

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- the period or periods within which, the price or prices at which and the terms and conditions upon which we may redeem the debt securities;
- any obligation we have to repurchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities and the period or periods within which, the price or prices at which and the terms and conditions upon which securities of the series shall be repurchased, in whole or in part, pursuant to such obligation;
- the provisions relating to conversion or exchange of any debt securities of the series into our common stock or other securities and the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at our option or the holders' option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange;
- the denominations in which the debt securities will be issued, if other than denominations of \$1,000 and any integral multiple thereof;
- whether the debt securities will be issued in the form of certificated debt securities or global debt securities;
- the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;
- the currency of denomination of the debt securities, which may be United States dollars or any foreign currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;
- the designation of the currency, currencies or currency units in which payment of principal of, premium and interest on the debt securities will be made and, if other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;
- the manner in which the amounts of payment of principal or premium or interest, if any, on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;
- any provisions relating to any security provided for the debt securities;
- any addition to, deletion of or change in the covenants or Events of Default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;
- any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to the debt securities;
- if there is more than one trustee or a different trustee, the identity of the trustee and, if not the trustee, the identity of each security registrar, paying agent or authenticating agent with respect to such debt securities;
- any other terms of the debt securities, which may supplement, modify or delete any provision of the indenture as it applies to that series, including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of the securities; and
- whether any of our direct or indirect subsidiaries will guarantee the debt securities of that series, including the terms of subordination, if any, of such guarantees.

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We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of and any premium and interest on any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms and other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

### **Transfer and Exchange**

Each debt security will be represented by either one or more global securities registered in the name of a clearing agency registered under the Exchange Act, which we refer to as the depository, or a nominee of the depository (we will refer to any debt security represented by a global debt security as a “book-entry debt security”), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificated security as a “certificated debt security”) as set forth in the applicable prospectus supplement. Except as set forth in the section titled “—*Global Debt Securities and Book-Entry System*,” below, book-entry debt securities will not be issuable in certificated form.

### ***Certificated Debt Securities***

You may transfer or exchange certificated debt securities at any office we maintain for this purpose in accordance with the terms of the indenture. No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange.

You may effect the transfer of certificated debt securities and the right to receive the principal of, premium and interest on certificated debt securities only by surrendering the certificate representing those certificated debt securities and either reissuance by us or the trustee of the certificate to the new holder or the issuance by us or the trustee of a new certificate to the new holder.

### ***Global Debt Securities and Book-Entry System***

Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the depository, and registered in the name of the depository or a nominee of the depository.

### **Covenants**

We will set forth in the applicable prospectus supplement any restrictive covenants applicable to any issue or series of debt securities.

### **No Protection in the Event of a Change of Control**

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions which may provide holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control) which could adversely affect holders of debt securities.

### **Consolidation, Merger and Sale of Assets**

We may not consolidate with or merge with or into, or convey, transfer or lease all or substantially all of our properties and assets to any person, which we refer to as a successor person, unless:

- we are the surviving corporation or the successor person (if other than us) is a corporation organized and validly existing under the laws of any U.S. domestic jurisdiction and expressly assumes our obligations on the debt securities and under the indenture; and
- immediately after giving effect to the transaction, no Default or Event of Default (as defined below), shall have occurred and be continuing.

Notwithstanding the above, any of our subsidiaries may consolidate with, merge into or transfer all or part of its properties to us.

### **Events of Default**

“Event of Default” means with respect to any series of debt securities, any of the following:

- default in the payment of any interest upon any debt security of that series when it becomes due and payable, and continuance of such default for a period of 30 days (unless the entire amount of the payment is deposited by us with the trustee or with a paying agent prior to the expiration of the 30-day period);
- default in the payment of principal of any security of that series at its maturity;
- default in the performance or breach of any other covenant or warranty by us in the indenture (other than a covenant or warranty that has been included in the indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of 60 days after we receive written notice from the trustee or we and the trustee receive written notice from the holders of not less than 25% in principal amount of the outstanding debt securities of that series as provided in the indenture;
- certain voluntary or involuntary events of bankruptcy, insolvency or reorganization of us; and
- any other Event of Default provided with respect to debt securities of that series that is described in the applicable prospectus supplement.

No Event of Default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an Event of Default with respect to any other series of debt securities. The occurrence of certain Events of Default or an acceleration under the indenture may constitute an event of default under certain indebtedness of ours or our subsidiaries outstanding from time to time.

We will provide the trustee written notice of any Default or Event of Default within 30 days of becoming aware of the occurrence of such Default or Event of Default, which notice will describe in reasonable detail the status of such Default or Event of Default and what action we are taking or propose to take in respect thereof.

If an Event of Default with respect to debt securities of any series at the time outstanding occurs and is continuing (except an Event of Default resulting from certain events of bankruptcy, insolvency, or reorganization as described below), then the trustee or the holders of not less than 25% in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal of (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an Event of Default resulting from certain events of bankruptcy, insolvency or reorganization, the principal (or such specified amount) of and accrued and

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unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, but before a judgment or decree for payment of the money due has been obtained by the trustee, the holders of a majority in principal amount of the outstanding debt securities of that series may rescind and annul the acceleration if all Events of Default, other than the non-payment of accelerated principal and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the indenture. We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an Event of Default.

The indenture will provide that the trustee may refuse to perform any duty or exercise any of its rights or powers under the indenture unless the trustee receives indemnity satisfactory to it against any cost, liability or expense which might be incurred by it in performing such duty or exercising such right or power. Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series.

No holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

- that holder has previously given to the trustee written notice of a continuing Event of Default with respect to debt securities of that series; and
- the holders of not less than 25% in principal amount of the outstanding debt securities of that series have made written request, and offered indemnity or security satisfactory to the trustee, to the trustee to institute the proceeding as trustee, and the trustee has not received from the holders of not less than a majority in principal amount of the outstanding debt securities of that series a direction inconsistent with that request and has failed to institute the proceeding within 60 days.

Notwithstanding any other provision in the indenture, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, premium and any interest on that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of payment.

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture. If a Default or Event of Default occurs and is continuing with respect to the securities of any series and if it is known to a responsible officer of the trustee, the trustee shall send to each securityholder of the securities of that series notice of a Default or Event of Default within 90 days after it occurs or, if later, after a responsible officer of the trustee has knowledge of such Default or Event of Default. The indenture will provide that the trustee may withhold notice to the holders of debt securities of any series of any Default or Event of Default (except in payment on any debt securities of that series) with respect to debt securities of that series if the trustee determines in good faith that withholding notice is in the interest of the holders of those debt securities.

### **Modification and Waiver**

We and the trustee may modify, amend or supplement the indenture or the debt securities of any series without the consent of any holder of any debt security:

- to cure any ambiguity, defect or inconsistency;
- to comply with covenants in the indenture described above under the heading “*Consolidation, Merger and Sale of Assets*”;

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- to provide for uncertificated securities in addition to or in place of certificated securities;
- to add guarantees with respect to debt securities of any series or secure debt securities of any series;
- to surrender any of our rights or powers under the indenture;
- to add covenants or events of default for the benefit of the holders of debt securities of any series;
- to comply with the applicable procedures of the applicable depositary;
- to make any change that does not adversely affect the rights of any holder of debt securities;
- to provide for the issuance of, and establish the form and terms and conditions of debt securities of, any series as permitted by the indenture;
- to effect the appointment of a successor trustee with respect to the debt securities of any series and to add to or change any of the provisions of the indenture to provide for or facilitate administration by more than one trustee; or
- to comply with requirements of the SEC in order to effect or maintain the qualification of the indenture under the Trust Indenture Act.

We may also modify and amend the indenture with the consent of the holders of at least a majority in principal amount of the outstanding debt securities of each series affected by the modifications or amendments. We may not make any modification or amendment without the consent of the holders of each affected debt security then outstanding if that amendment will:

- reduce the amount of debt securities whose holders must consent to an amendment, supplement or waiver;
- reduce the rate of or extend the time for payment of interest (including default interest) on any debt security;
- reduce the principal of, or premium on, or change the fixed maturity of any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to any series of debt securities;
- reduce the principal amount of discount securities payable upon acceleration of maturity;
- waive a default in the payment of the principal of, premium or interest on any debt security (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from such acceleration);
- make the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security;
- make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, premium and interest on those debt securities and to institute suit for the enforcement of any such payment and to waivers or amendments; or
- waive a redemption payment with respect to any debt security.

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series may, on behalf of the holders of all debt securities of that series, waive our compliance with provisions of the indenture. The holders of a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all the debt securities of such series waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series; provided, however, that the holders of a

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majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration.

### **Defeasance of Debt Securities and Certain Covenants in Certain Circumstances**

#### ***Legal Defeasance***

The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, we may be discharged from any and all obligations in respect of the debt securities of any series (subject to certain exceptions). We will be so discharged upon the irrevocable deposit with the trustee, in trust, of money and/or United States government obligations or, in the case of debt securities denominated in a single currency other than United States dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money or United States government obligations in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities.

This discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel stating that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit, defeasance and discharge and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit, defeasance and discharge had not occurred.

### **Defeasance of Certain Covenants**

The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, upon compliance with certain conditions:

- we may omit to comply with the covenant described under the heading “*Consolidation, Merger and Sale of Assets*” and certain other covenants set forth in the indenture, as well as any additional covenants which may be set forth in the applicable prospectus supplement; and
- any omission to comply with those covenants will not constitute a Default or an Event of Default with respect to the debt securities of that series.

We refer to this as covenant defeasance. The conditions include:

- depositing with the trustee money and/or United States government obligations or, in the case of debt securities denominated in a single currency other than United States dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities;
- such deposit will not result in a breach or violation of, or constitute a default under the indenture or any other agreement to which we are a party;

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- no Default or Event of Default with respect to the applicable series of debt securities shall have occurred or is continuing on the date of such deposit; and
- delivering to the trustee an opinion of counsel to the effect that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred.

### **No Personal Liability of Directors, Officers, Employees or Stockholders**

None of our past, present or future directors, officers, employees or stockholders, as such, will have any liability for any of our obligations under the debt securities or the indenture or for any claim based on, or in respect or by reason of, such obligations or their creation. By accepting a debt security, each holder waives and releases all such liability. This waiver and release is part of the consideration for the issue of the debt securities. However, this waiver and release may not be effective to waive liabilities under U.S. federal securities laws, and it is the view of the SEC that such a waiver is against public policy.

### **Governing Law**

The indenture and the debt securities, including any claim or controversy arising out of or relating to the indenture or the securities, will be governed by the laws of the State of New York.

The indenture will provide that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably waive, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to the indenture, the debt securities or the transactions contemplated thereby.

The indenture will provide that any legal suit, action or proceeding arising out of or based upon the indenture or the transactions contemplated thereby may be instituted in the federal courts of the United States of America located in the City of New York or the courts of the State of New York in each case located in the City of New York, and we, the trustee and the holder of the debt securities (by their acceptance of the debt securities) irrevocably submit to the non-exclusive jurisdiction of such courts in any such suit, action or proceeding. The indenture will further provide that service of any process, summons, notice or document by mail (to the extent allowed under any applicable statute or rule of court) to such party's address set forth in the indenture will be effective service of process for any suit, action or other proceeding brought in any such court. The indenture will further provide that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the courts specified above and irrevocably and unconditionally waive and agree not to plead or claim any such suit, action or other proceeding has been brought in an inconvenient forum.

## DESCRIPTION OF WARRANTS

We may offer warrants to purchase debt securities, preferred stock or common stock. We may offer warrants separately or together with one or more additional warrants, debt securities, preferred stock or common stock, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. If we issue warrants as part of a unit, the applicable prospectus supplement will specify whether those warrants may be separated from the other securities in the unit prior to the expiration date of the warrants. The applicable prospectus supplement will also describe the following terms of any warrants:

- the specific designation and aggregate number of, and the offering price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;
- whether the warrants are to be sold separately or with other securities as parts of units;
- whether the warrants will be issued in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- the designation and terms of any equity securities purchasable upon exercise of the warrants;
- the designation, aggregate principal amount, currency and terms of any debt securities that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the debt securities, preferred stock or common stock with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which any warrants issued as part of a unit and the related debt securities, preferred stock or common stock will be separately transferable;
- the number of shares of preferred stock or the number of shares of common stock purchasable upon exercise of a warrant and the price at which those shares may be purchased;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the antidilution provisions, and other provisions for changes to or adjustment in the exercise price, of the warrants, if any;
- any redemption or call provisions; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange or exercise of the warrants.

## DESCRIPTION OF SUBSCRIPTION RIGHTS

We may offer subscription rights to purchase our common stock, preferred stock, debt securities, warrants or units consisting of some or all of these securities. These subscription rights may be offered independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

The prospectus supplement relating to any subscription rights we offer, if any, will, to the extent applicable, include specific terms relating to the offering, including some or all of the following:

- the price, if any, for the subscription rights;
- the exercise price payable for our common stock, preferred stock, debt securities, warrants or units consisting of some or all of these securities upon the exercise of the subscription rights;
- the number of subscription rights to be issued to each stockholder;
- the number and terms of our common stock, preferred stock, debt securities, warrants or units consisting of some or all of these securities which may be purchased per each subscription right;
- the extent to which the subscription rights are transferable;
- any other terms of the subscription rights, including the terms, procedures and limitations relating to the exchange and exercise of the subscription rights;
- the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;
- the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities or an over-allotment privilege to the extent the securities are fully subscribed; and
- if applicable, the material terms of any standby underwriting or purchase arrangement which may be entered into by us in connection with the offering of subscription rights.

The descriptions of the subscription rights in this prospectus and in any prospectus supplement are summaries of the material provisions of the applicable subscription right agreements. These descriptions do not restate those subscription right agreements in their entirety and may not contain all the information that you may find useful. We urge you to read the applicable subscription right agreements because they, and not the summaries, define your rights as holders of the subscription rights. For more information, please review the forms of the relevant subscription right agreements, which will be filed with the SEC promptly after the offering of subscription rights and will be available as described in the section of this prospectus titled “*Where You Can Find More Information.*”

## DESCRIPTION OF PURCHASE CONTRACTS

The following description summarizes the general features of the purchase contracts that we may offer under this prospectus. Although the features we have summarized below will generally apply to any future purchase contracts we may offer under this prospectus, we will describe the particular terms of any purchase contracts that we may offer in more detail in the applicable prospectus supplement. The specific terms of any purchase contracts may differ from the description provided below as a result of negotiations with third parties in connection with the issuance of those purchase contracts, as well as for other reasons. Because the terms of any purchase contracts we offer under a prospectus supplement may differ from the terms we describe below, you should rely solely on information in the applicable prospectus supplement if that summary is different from the summary in this prospectus.

We will incorporate by reference into the registration statement of which this prospectus is a part the form of any purchase contract that we may offer under this prospectus before the sale of the related purchase contract. We urge you to read any applicable prospectus supplement related to specific purchase contracts being offered, as well as the complete instruments that contain the terms of the securities that are subject to those purchase contracts. Certain of those instruments, or forms of those instruments, have been filed as exhibits to the registration statement of which this prospectus is a part, and supplements to those instruments or forms may be incorporated by reference into the registration statement of which this prospectus is a part from reports we file with the SEC.

We may offer purchase contracts, including contracts obligating holders to purchase from us, and for us to sell to holders, a specific or variable number of our securities at a future date or dates. Alternatively, the purchase contracts may obligate us to purchase from holders, and obligate holders to sell to us, a specific or varying number of our securities.

If we offer any purchase contracts, certain terms of that series of purchase contracts will be described in the applicable prospectus supplement, including, without limitation, the following:

- the price of the securities or other property subject to the purchase contracts (which may be determined by reference to a specific formula described in the purchase contracts);
- whether the purchase contracts are issued separately, or as a part of units each consisting of a purchase contract and one or more of our other securities, including U.S. Treasury securities, securing the holder's obligations under the purchase contract;
- any requirement for us to make periodic payments to holders or vice versa, and whether the payments are unsecured or pre-funded;
- any provisions relating to any security provided for the purchase contracts;
- whether the purchase contracts obligate the holder or us to purchase or sell, or both purchase and sell, the securities subject to purchase under the purchase contract, and the nature and amount of each of those securities, or the method of determining those amounts;
- whether the purchase contracts are to be prepaid or not;
- whether the purchase contracts are to be settled by delivery, or by reference or linkage to the value, performance or level of the securities subject to purchase under the purchase contract;
- any acceleration, cancellation, termination or other provisions relating to the settlement of the purchase contracts;
- a discussion of certain U.S. federal income tax considerations applicable to the purchase contracts;
- whether the purchase contracts will be issued in fully registered or global form; and
- any other terms of the purchase contracts and any securities subject to such purchase contracts.

## DESCRIPTION OF UNITS

We may offer units comprising two or more securities described in this prospectus in any combination. For example, we might issue units consisting of a combination of debt securities and warrants to purchase common stock. The following description sets forth certain general terms and provisions of the units that we may offer pursuant to this prospectus. The particular terms of the units and the extent, if any, to which the general terms and provisions may apply to the units so offered will be described in the applicable prospectus supplement.

Each unit will be issued so that the holder of the unit also is the holder of each security included in the unit. Thus, the unit will have the rights and obligations of a holder of each included security. Units will be issued pursuant to the terms of a unit agreement, which may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date. A copy of the forms of the unit agreement and the unit certificate relating to any particular issue of units will be filed with the SEC each time we issue units, and you should read those documents for provisions that may be important to you. For more information on how you can obtain copies of the forms of the unit agreement and the related unit certificate, see the section of this prospectus titled “*Where You Can Find More Information.*”

The prospectus supplement relating to any particular issuance of units will describe the terms of those units, including, to the extent applicable, the following:

- the designation and terms of the units and the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provision for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- whether the units will be issued in fully registered or global form.

## PLAN OF DISTRIBUTION

We may sell our securities from time to time in one or more transactions. We may sell securities to or through underwriters, dealers, agents, remarketing firms or other third parties to directly to one or more purchasers or through a combination of any of these methods. We may issue the securities as a dividend or distribution or in a subscription rights offering to our existing securityholders, if legally permitted. In some cases, we or dealers acting with us or on behalf of us may also purchase our securities and reoffer them to the public. We may also offer and sell, or agree to deliver, our securities pursuant to, or in connection with, any option agreement or other contractual arrangement.

We may directly solicit offers to purchase securities or agents may be designated to solicit such offers. We will, in the prospectus supplement relating to such offering, name any agent that could be viewed as an underwriter under the Securities Act and describe any commissions that we must pay. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) of the Securities Act.

The distribution of the securities may be effected from time to time in one or more transactions:

- at a fixed price or prices that may be changed from time to time;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name of the agent or any underwriters;
- the public offering or purchase price;
- any discounts and commissions to be allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or paid to dealers; and
- any exchanges on which the securities will be listed.

If any underwriters or agents are utilized in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

If a dealer is utilized in the sale of the securities in respect of which the prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

If we offer securities in a subscription rights offering to our existing securityholders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby

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underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

Agents, underwriters, dealers and other persons may be entitled under agreements that they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act.

If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery.

The underwriters and other persons acting as agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Certain agents, underwriters and dealers, and their associates and affiliates may be customers of, have borrowing relationships with, engage in other transactions with, and/or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may over-allot in connection with the offering, creating a short position for their own accounts. In addition, to cover over-allotments or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in one business day, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for your securities may be more than one scheduled business day after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

## LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by Wilson Sonsini Goodrich & Rosati, Professional Corporation, New York, New York. Additional legal matters may be passed on for us, or any underwriters, dealers or agents by counsel we will name in the applicable prospectus supplement.

## EXPERTS

The financial statements of Lexeo Therapeutics, Inc. as of December 31, 2023 and 2022, and for the years then ended have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, upon the authority of said firm as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an Internet website at [www.sec.gov](http://www.sec.gov) that contains reports, proxy and information statements and other information about issuers, like us, that file electronically with the SEC. We also maintain a website at [www.lexeotx.com](http://www.lexeotx.com). We make available, free of charge, on our investor relations website at [ir.lexeotx.com](http://ir.lexeotx.com), our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to these reports as soon as reasonably practicable after electronically filing or furnishing those reports to the SEC. Information contained on our website is not a part of or incorporated by reference in this prospectus and the inclusion of our website and investor relations website addresses in this prospectus is an inactive textual reference only.

This prospectus and any prospectus supplement is part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. You should review the information and exhibits in the registration statement for further information on us and the securities that we are offering. Forms of any indenture or other documents establishing the terms of the offered securities are filed as exhibits to the registration statement of which this prospectus forms a part or under cover of a Current Report on Form 8-K and incorporated in this prospectus by reference. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should read the actual documents for a more complete description of the relevant matters.

## INCORPORATION BY REFERENCE

The SEC allows us to “incorporate by reference” information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (File No. 001-41855):

- our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2023, filed with the SEC on March 11, 2024;
- our definitive Proxy Statement on [Schedule 14A](#), filed with the SEC on April 26, 2024 (excluding those portions that are not incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended December 31, 2023);
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2024, June 30, 2024 and September 30, 2024, filed with the SEC on [May 9, 2024](#), [August 12, 2024](#) and [November 13, 2024](#), respectively; and

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- our Current Reports on Form 8-K filed with the SEC on [March 11, 2024](#), [April 16, 2024](#), [April 22, 2024](#), [April 22, 2024](#), [June 28, 2024](#), [July 8, 2024](#), [July 15, 2024](#), [October 9, 2024](#), [October 30, 2024](#) and [November 13, 2024](#), in each case to the extent the information included in such reports is filed and not furnished.

We also incorporate by reference into this prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial registration statement of which this prospectus is a part and prior to the effectiveness of such registration statement and all documents that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus but prior to the termination of the offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

Notwithstanding the statements in the preceding paragraphs, no document, report or exhibit (or portion of any of the foregoing) or any other information that we have “furnished” to the SEC pursuant to the Exchange Act shall be incorporated by reference in this prospectus.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to Lexeo Therapeutics, Inc., Attn: Corporate Secretary, 345 Park Avenue South, Floor 6, New York, New York 10010.

You also may access these filings on our website at [ir.lexeotx.com](http://ir.lexeotx.com). We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

**15,625,000 Shares of Common Stock**



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**PROSPECTUS SUPPLEMENT**

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*Joint Book-running Managers*

**Leerink Partners**

**Cantor**

**Stifel**

**Oppenheimer & Co.**

*Lead Manager*

**Baird**

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**October 16, 2025**

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