Lexeo Therapeutics Granted FDA Fast Track Designation and Orphan Drug Designation for LX2020, an AAV-Based Gene Therapy Candidate for PKP2 Arrhythmogenic Cardiomyopathy (ACM)

NEW YORK – December 18, 2023 (GLOBE NEWSWIRE) – Lexeo Therapeutics, Inc. (Nasdaq: LXEO), a clinical stage genetic medicine company dedicated to pioneering treatments for genetically defined cardiovascular diseases and APOE4-associated Alzheimer's disease, today announced the U.S. Food and Drug Administration (FDA) has granted Fast Track designation and Orphan Drug designation to LX2020, the company's AAVrh10-based gene therapy candidate designed to intravenously deliver a functional PKP2 gene to cardiac muscle for the treatment of arrhythmogenic cardiomyopathy (ACM) caused by mutations in the PKP2 gene (PKP2-ACM).

"Receiving both Orphan Drug and Fast Track designations from the FDA for LX2020 further validates the importance of progressing a potential one-time treatment option for patients suffering from PKP2-ACM," commented R. Nolan Townsend, Chief Executive Officer of Lexeo Therapeutics. "PKP2-ACM is one of the most prevalent diseases in the genetic cardiovascular space and with no approved therapeutic options, we look forward to the possibility of delivering a first and best in class treatment option for patients."

The planned Phase 1/2 trial, HEROIC-PKP2, is a first in human, 52-week open-label, dose-escalating, multicenter trial to determine the safety and tolerability of LX2020 in adult patients with PKP2-ACM. Preliminary efficacy measures will evaluate myocardial protein expression, biomarkers measuring cardiac structure and function, and arrhythmia burden. LX2020 will be administered as a one-time intravenous infusion to patients in two ascending-dose cohorts, evaluating the $2.0x10^{13}$ vg/kg and $6.0x10^{13}$ vg/kg dose levels with three patients in each cohort, and the potential for cohort expansion. Long-term safety and efficacy will be evaluated for an additional four years following completion of the initial trial.

The FDA grants Orphan Drug designation status to support the development of medicines for rare disorders that affect fewer than 200,000 people in the U.S. Orphan Drug designation provides certain benefits, such as market exclusivity upon regulatory approval, exemption of FDA application fees, as well as tax credits for qualified clinical trials. Fast Track designation allows more frequent FDA interactions to facilitate development and expedite the review process for novel drug candidates that treat serious or life-threatening diseases and address unmet medical needs.

About LX2020
LX2020 is an AAVrh10-based gene therapy candidate designed to intravenously deliver a functional PKP2 gene to cardiac muscle for the treatment of PKP2-ACM. PKP2 mutations are associated with approximately 75% of all genetic cases of ACM, estimated to affect approximately 60,000 patients in the United States. PKP2 mutations can cause fibro-fatty replacement of heart muscle and severe abnormal heart rhythms, or arrhythmias, that cause cardiac dysfunction and can result in sudden cardiac death. Currently there are no approved treatments to slow, prevent or reverse disease progression in patients with PKP2-ACM. LX2020 is designed to increase desmosomal PKP2 protein levels, reassemble desmosomes and restore myocardial cell function.

About Lexeo Therapeutics
Lexeo Therapeutics is a New York City-based, clinical stage genetic medicine company dedicated to transforming healthcare by applying pioneering science to fundamentally change how genetically defined cardiovascular diseases and APOE4-associated Alzheimer's disease are treated. Using a stepwise development approach, Lexeo is leveraging early proof-of-concept functional and biomarker data to advance a pipeline of cardiovascular and APOE4-associated Alzheimer's disease programs.

Forward looking Statements
Certain statements in this press release may constitute "forward-looking statements" within the meaning of the federal securities laws, including, but not limited to, our expectations and plans regarding our current product candidates and programs, including the anticipated timing of the initiation of and results from our clinical trials, expectations regarding the time period over which our capital resources will be sufficient to fund our anticipated operations and estimates regarding Lexeo's financial condition. Words such as "may," "might," "will," "objective," "intend," "should," "could," "can," "would," "expect," "believe," "design," "estimate," "predict," "potential," "develop," "plan" or the negative of these terms, and similar expressions, or statements regarding intent, belief, or current expectations, are forward-looking statements. While Lexeo believes these forward-looking statements are reasonable, undue reliance should not be placed on any such forward-looking statements. These forward-looking statements are based upon current information available to the company as well as certain estimates and assumptions and are subject to various risks and uncertainties (including, without limitation, those set forth in Lexeo's filings with the U.S. Securities and Exchange Commission (the SEC)), many of which are beyond the company's control and subject to change. Actual results could be materially different from those indicated by such

forward looking statements as a result of many factors, including but not limited to: risks and uncertainties related to global macroeconomic conditions and related volatility; expectations regarding the initiation, progress, and expected results of our preclinical studies, clinical trials and research and development programs; the unpredictable relationship between preclinical study results and clinical study results; delays in submission of regulatory filings or failure to receive regulatory approval; liquidity and capital resources; and other risks and uncertainties identified in our Quarterly Report of 10-Q for the quarterly period ended September 30, 2023, filed with the SEC and subsequent future filings we may make with the SEC. New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. Lexeo claims the protection of the Safe Harbor contained in the Private Securities Litigation Reform Act of 1995 for forward-looking statements. Lexeo expressly disclaims any obligation to update or alter any statements whether as a result of new information, future events or otherwise, except as required by law.

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