Lyra Therapeutics Announces Positive Outcome of End-of-Phase 2 Meeting with the FDA for LYR-210 for the Treatment of Chronic Rhinosinusitis

June 8, 2021

Single primary endpoint defined as three cardinal symptoms at 24 weeks

Company to host conference call at 5:00 PM ET today

WATERTOWN, Mass.--(BUSINESS WIRE)--Jun. 8, 2021-- Lyra Therapeutics, Inc. (Nasdaq: LYRA), a clinical-stage therapeutics company leveraging its proprietary XTreo™ platform to enable precise, sustained, and local delivery of medications to the ear, nose and throat (ENT) passages and other diseased tissues, today announced the successful outcome of an End-of-Phase 2 (EOP2) meeting with the U.S. Food and Drug Administration (FDA) for LYR-210, its lead candidate for the treatment of chronic rhinosinusitis (CRS).

Lyra and the FDA established key elements of the Phase 3 program to support a 505(b)(2) new drug application for LYR-210 for the treatment of CRS. The single primary endpoint will evaluate improvement at week 24 using a composite score of three cardinal symptoms (3CS) of CRS: nasal blockage, nasal discharge, and facial pain. Based on the Agency's suggestion, Lyra intends to enroll a total of approximately 350 subjects split into two replicate, largely concurrent Phase 3 clinical trials, each powered to >95% to detect statistical significance. Both studies will evaluate a 7500µg dose of LYR-210, and additional key clinical aspects of the studies will also be the same.

This Phase 3 program provides the opportunity for an earlier read-out in one study, and the flexibility to potentially include patients from recently-licensed territory in Asia in the second study, without materially increasing the estimated cost or duration of the pivotal program overall. Additional outcomes from the EOP2 meeting include that Lyra's pharmacokinetic data and previously conducted non-clinical studies support a 505(b)(2) pathway, and that the Company's CMC specifications and stability plans are sufficient to move forward.

"We are extremely pleased with this single primary endpoint given that in the Phase 2 LANTERN study, LYR-210 showed a highly statistically significant improvement in the three cardinal symptoms versus control at 24 weeks," said Robert Kern, M.D., Chief Medical Officer of Lyra Therapeutics. "LYR-210, our novel, integrated drug and delivery solution has the potential to disrupt the treatment paradigm for the millions of patients with chronic rhinosinusitis who fail medical management and currently have no alternative to surgery."

"Following our successful End of Phase 2 meeting with the FDA, we believe that we have a clear path forward to advance LYR-210's clinical development for the treatment of CRS. The design of our U.S. Phase 3 program, with two largely replicate concurrent studies, provides an opportunity to incorporate Chinese sites, which could support approval in the Asian territories," said Maria Palasis, Ph.D., President and Chief Executive Officer of Lyra Therapeutics. "We thank the FDA for a productive meeting to advance LYR-210's pivotal development for the treatment of CRS and we look forward to initiating our Phase 3 program at the end of this year."

Conference Call Information

Lyra will host a conference call and live webcast today, Tuesday, June 8, 2021, at 5:00 p.m. ET. Participants interested in listening to the conference call may do so by dialing (833)-519-1249 (domestic) or (914) 800-3822 (international) and referencing conference ID: 1364558. Participants may access the live webcast on Lyra's Investor Relations website , where it will be archived for 30 days.

About LYR-210

LYR-210 is an investigational product candidate that utilizes Lyra's proprietary XTreo ^{TM} platform to enable six months of local, intra-nasal, anti-inflammatory therapy from a single treatment for chronic rhinosinusitis (CRS). LYR-210 is designed as a non-invasive alternative to sinus surgery for the millions of CRS patients who have failed medical management. It is a bioresorbable polymeric matrix designed to be administered in a brief, non-invasive, in-office procedure and is intended to deliver up to six months of continuous mometasone furoate drug therapy to the sinonasal passages. In the LANTERN Phase 2 study, LYR-210 (7500mcg) demonstrated rapid, clinically meaningful and durable symptom improvement in CRS three cardinal symptoms (3CS) over six months. There are approximately 14 million patients with CRS in the US, approximately 4 million of whom fail current standard of care medical management.

About Lyra Therapeutics

Lyra Therapeutics, Inc. is a clinical-stage therapeutics company leveraging its proprietary XTreo™ platform to enable precise, sustained, local delivery of medications to diseased tissues not accessible with conventional therapeutic approaches. Lyra's XTreo™ platform is comprised of a biocompatible mesh scaffold, an engineered elastomeric matrix and a versatile polymer-drug complex. The company's current pipeline of therapeutics target tissues deep in the ear, nose and throat passages and are designed to deliver continuous drug therapy for months following a single non-invasive, in-office administration. Lyra's lead product candidate, LYR-210, is in late-stage clinical development for the treatment of chronic rhinosinusitis and is designed to deliver up to six months of continuous anti-inflammatory drug therapy to the sinonasal passages. For more information, please visit www.lyratherapeutics.com and follow us on LinkedIn and Twitter.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this press release that do not relate to matters of historical fact should be considered forward-looking statements, including statements regarding the company's clinical advancement of LYR-210 for the treatment of CRS. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause the company's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including, but not limited to, the following: the fact that the company has incurred significant losses since inception and expects to incur losses for the

foreseeable future; the company's need for additional funding, which may not be available; the company's limited operating history; the fact that the company has no approved products; the fact that the company's product candidates are in various stages of development; the fact that the company may not be successful in its efforts to identify and successfully commercialize its product candidates; the fact that clinical trials required for the company's product candidates are expensive and time-consuming, and their outcome is uncertain; the fact that the FDA may not conclude that certain of the company's product candidates satisfy the requirements for the Section 505(b)(2) regulatory approval pathway; the company's inability to obtain required regulatory approvals; effects of recently enacted and future legislation; the possibility of system failures or security breaches; effects of significant competition; the fact that the successful commercialization of the company's product candidates will depend in part on the extent to which governmental authorities and health insurers establish coverage, adequate reimbursement levels and pricing policies; failure to achieve market acceptance; product liability lawsuits; the fact that the company relies on third parties for the manufacture of materials for its research programs, pre-clinical studies and clinical trials; the company's reliance on third parties to conduct its preclinical studies and clinical trials; the company's inability to succeed in establishing and maintaining collaborative relationships; the company's reliance on certain suppliers critical to its production; failure to obtain and maintain or adequately protect the company's intellectual property rights; failure to retain key personnel or to recruit qualified personnel; difficulties in managing the company's growth; effects of natural disasters; the fact that the global pandemic caused by COVID-19 could adversely impact the company's business and operations, including the company's clinical trials; the fact that the price of the company's common stock may be volatile and fluctuate substantially; significant costs and required management time as a result of operating as a public company and any securities class action litigation. These and other important factors discussed under the caption "Risk Factors" in the company's Quarterly Report on Form 10-Q filed with the SEC on May 11, 2021 and its other filings with the SEC could cause actual results to differ materially from those indicated by the forward-looking statements made in this press release. Any such forward-looking statements represent management's estimates as of the date of this press release. While the company may elect to update such forward-looking statements at some point in the future, it disclaims any obligation to do so, even if subsequent events cause its views to change.

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