Eloxx Pharmaceuticals Reports Positive Topline Results from Monotherapy Arms of Phase 2 Clinical Trial of ELX-02 in Class 1 Cystic Fibrosis Patients

November 17, 2021

ELX-02 monotherapy dosed at 1.5mg/kg/day demonstrated a statistically significant 5.4mmol/L mean sweat chloride reduction, an established surrogate for restoration of CFTR biological activity

ELX-02 monotherapy results support advancement of ELX-02 into Phase 3 clinical development

First patient dosed in Phase 2 ELX-02 expansion treatment arms evaluating combination with ivacaftor; topline data expected by the end of the first half of 2022

Company to host conference call and webcast Wednesday, November 17, 2021 at 8:30 am ET

WATERTOWN, Mass., Nov. 17, 2021 (GLOBE NEWSWIRE) -- Eloxx Pharmaceuticals, Inc. (NASDAQ: ELOX), a leader in ribosomal RNA-targeted genetic therapies for rare diseases, today announced positive topline results from the monotherapy arms of its Phase 2 clinical trial of ELX-02 in Class 1 cystic fibrosis (CF) patients with at least one G542X nonsense allele mutation. ELX-02 was well tolerated and achieved a statistically significant 5.4mmol/L reduction in sweat chloride in patients at the1.5mg/kg/day dose.

The intra-patient dose escalation stage of the trial has successfully identified 1.5 mg/kg/day as the dose for further development. Based on the statistically significant monotherapy results observed at the 1.5mg/kg/day dose, planning for the advancement of ELX-02 into Phase 3 clinical development has started. The U.S. Food and Drug Administration (FDA) has granted Fast Track designation for ELX-02. In addition, ELX-02 has also been granted Orphan Drug Designation for the treatment of CF patients with nonsense mutations by the FDA and orphan medicinal product designation by the European Medicines Agency.

“We are highly encouraged with the topline results from the monotherapy arms of our Phase 2 trial, and believe that ELX-02, if approved, has potential to transform the lives of Class 1 CF patients with nonsense mutations, who do not have any available therapies,” said Sumit Aggarwal, President and Chief Executive Officer of Eloxx.

Topline Results of ELX-02 Phase 2 Monotherapy Trial in Class 1 Nonsense CF Patients

The Phase 2 clinical trial of ELX-02 was designed to evaluate safety and assess biological activity in G542X nonsense mutation Class 1 CF patients as monotherapy and in combination with ivacaftor. Topline results for the intra-patient dose escalation monotherapy arms are summarized below:

- ELX-02 was generally well tolerated in the trial, with no treatment-related serious adverse events noted.
- The study met a key secondary endpoint by showing a statistically significant reduction in mean sweat chloride **of 5.4 mmol/L (p value=0.0218, n=12 patients) after one week of therapy** for ELX-02 dosed at 1.5mg/kg/day.
    - Short term reductions in sweat chloride have been shown to correlate with biologic activity of the CFTR protein and translate to lung function improvement over the long term.
    - A potential dose response trend was also seen in mean sweat chloride reduction, with a stronger dose response trend in the subset of patients (post-hoc) that completed the 1.5mg/kg/day dosing.
    - The reduction in mean sweat chloride in Class 1 CF patients with nonsense mutations who received 1.5mg/kg/day in the trial is similar to the activity in Class 1 CF patient organoids treated with ELX-02 in preclinical experiments.
    - As expected, no change was observed in forced expiratory volume (FEV1) due to short treatment duration.
- While the trial was not designed as a longer-term efficacy study and did not compare ELX-02 to any other agent, results from prior Phase 2 trials with FDA-approved agents for CF can serve as a contextual reference for the level of sweat chloride reduction observed and its potential clinical relevance.
    - Results of a Phase 2 study with lumacaftor and lumacaftor/ivacaftor combination (Orkambi), an FDA-approved combination CF agent, demonstrated 4.1mmol/L to 5.1 mmol/L reductions in sweat chloride over two- and three-week study durations in Class 2 CF patients with HomF50del mutations.
    - Results of a phase 2 study with tezacoftor/ivacaftor combination (Symdeko), an FDA-approved combination CF

agent, demonstrated a 1.8mmol/L to 5.2 mmol/L reduction in sweat chloride over 28 days in Class 2 CF patients with HomF50del mutations.

- Treatment with both these agents resulted in improved lung function as measured by forced expiratory volume FEV1 with longer treatment duration in subsequent Phase 3 trials with Orkambi and Symdeko.

“These significant results for sweat chloride, a surrogate for CFTR protein function in patients, are very exciting. I look forward to working with Eloxx on future development of ELX-02,” said Prof. Eitan Kerem, Head of The Division of Pediatrics Hadassah Medical Center.

Planned Next Steps for ELX-02 CF Program

ELX-02 in combination with other CF therapies.

First patient dosing has occurred in the expansion arm of the Phase 2 trial, which includes a combination of ELX-02 and Kalydeco (ivacaftor), a CFTR protein potentiator. In preclinical studies, Class 1 CF patient organoids had a 2- to 3-fold higher swelling response with a combination of ELX-02 and Kalydeco than with ELX-02 as a monotherapy. Topline results are expected by the end of the first half of 2022.

“With dosing of the first patient, we have now advanced ELX-02 into the Phase 2 combination study and have begun preparations for Phase 3 clinical development,” said Vijay Modur MD, PhD, Head of Research & Development of Eloxx.

Inhaled delivery of ELX-02

Eloxx has also begun evaluation of inhaled (nebulizer-based) delivery of the current subcutaneous formulation of ELX-02. Eloxx believes that inhaled delivery has the potential to further improve the activity of ELX-02 as a single agent and in combination with other drugs given potential for increased drug exposure in the lung versus plasma. Prior animal studies have shown a 19-fold increase in ELX-02 exposure at a similar dose when administered as an inhalation agent versus subcutaneously. We expect to submit an Investigational New Drug application the second half of 2022.

About Class 1 CF

CF patients with a Class 1 nonsense mutation remain highly underserved with no approved disease modifying therapies. An estimated 10-12% of CF patients are Class 1 patients with one or both alleles harboring nonsense mutations, leading to less than full length CFTR proteins on the cell membrane in these patients.

Conference Call and Webcast

Eloxx’s management will host a conference call and webcast today at 8:30 a.m. ET. A live webcast of the conference call can be accessed through the “Investors” tab on the Eloxx website, and a replay will be available online after the call. For those planning to ask a question, the dial-in number for the conference call is (866) 913-8546 for domestic participants and (210) 874-7715 for international participants, with Conference ID # 2393967. Please dial in at least 15 minutes in advance to ensure a timely connection to the call.

About Eloxx Pharmaceuticals

Eloxx Pharmaceuticals, Inc. is engaged in the science of ribosome modulation, leveraging its innovative TURBO-ZM ™ chemistry technology platform in an effort to develop novel Ribosome Modulating Agents (RMAs) and its library of Eukaryotic Ribosome Selective Glycosides (ERSGs). Eloxx’s lead investigational product candidate, ELX-02, is a small molecule drug candidate designed to restore production of full-length functional proteins. ELX-02 is in clinical development, focusing on cystic fibrosis (US Trial NCT04135495, EU/IL Trial NCT04126473). Eloxx also has preclinical programs focused on select rare diseases, including inherited diseases, cancer caused by nonsense mutations, kidney diseases, including autosomal dominant polycystic kidney disease, as well as rare ocular genetic disorders.

For more information, please visit www.eloxxpharma.com.

Forward-looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements other than statements of present and historical facts contained in this press release, including without limitation, statements regarding our expected cash burn and future financial results, the expected timing of trials and results from clinical studies of our product candidates and the potential of our product candidate to treat nonsense mutations are forward-looking statements. Forward-looking statements can be identified by the words “aim,” “may,” “will,” “would,” “should,” “expect,” “explore,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential,” “seeks,” or “continue” or the negative of these terms similar expressions, although not all forward-looking statements contain these words.

Forward-looking statements are based on management's current plans, estimates, assumptions and projections based on information currently available to us. Forward-looking statements are subject to known and unknown risks, uncertainties and assumptions, and actual results or outcomes may differ materially from those expressed or implied in the forward-looking statements due to various important factors, including, but not limited to: our ability to progress any product candidates in preclinical or clinical trials; the uncertainty of clinical trial results and the fact that positive results from preclinical studies are not always indicative of positive clinical results; the scope, rate and progress of our preclinical studies and clinical trials and other research and development activities; the competition for patient enrollment from drug candidates in development; the impact of the global COVID-19 pandemic on our clinical trials, operations, vendors, suppliers, and employees; our ability to obtain the capital necessary to fund our operations; the cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights; our ability to obtain financial in the future through product licensing, public or private equity or debt financing or otherwise; general business conditions, regulatory environment, competition and market for our products; and business ability and judgment of personnel, and the availability of qualified personnel and other important factors discussed under the caption “Risk Factors” in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2021, as any such factors may be updated from time to time in our other filings with the SEC, accessible on the SEC’s website at www.sec.gov and the “Financials & Filings” page of our website at https://investors.eloxxpharma.com/financial-information/sec-filings.

All forward-looking statements speak only as of the date of this press release and, except as required by applicable law, we have no obligation to update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances

or otherwise.

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