Evelo Biosciences Announces Positive Phase 2 Clinical Data with EDP1815 in Psoriasis; Confirms Ability to Harness the Small Intestinal Axis, SINTAX™, to Treat Systemic Inflammatory Disease

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–Clinically and statistically significant improvement in PASI-50 score achieved–
–EDP1815 safety and tolerability data comparable to placebo in study–
–EDP1815 advancing towards registration studies in psoriasis–
–Management to host conference call at 8:00 a.m. ET–

CAMBRIDGE, Mass., Sept. 27, 2021 (GLOBE NEWSWIRE) -- Evelo Biosciences, Inc. (Nasdaq:EVLO), a clinical stage biotechnology company developing SINTAX medicines as a new modality of orally delivered treatments for inflammatory disease, today announced positive data from its Phase 2 study evaluating EDP1815 versus placebo for the treatment of mild and moderate psoriasis. A statistically significant reduction in the Psoriasis Area and Severity Index (PASI) score, as measured by the proportion of patients achieving at least 50% improvement in PASI from baseline at the week 16 timepoint, was observed in the study. EDP1815 is an investigational oral biologic currently in development for the treatment of a broad range of inflammatory diseases, including clinical programs in psoriasis, atopic dermatitis, and COVID-19.

“These clinical results represent a significant advancement for those who live with inflammatory disease. This is the first Phase 2 study to demonstrate that we can harness the small intestinal axis to make a clinical impact on patients with an oral product candidate with safety and tolerability data comparable to placebo,” said Simba Gill, Chief Executive Officer of Evelo. “Based on these data, we intend to advance EDP1815 towards registration studies in psoriasis. We look forward to discussing our proposed next steps with health and regulatory authorities. This milestone brings us one step closer to realizing our vision of transforming healthcare by developing broadly acting oral, safe, effective, and affordable medicines to address the unmet needs of hundreds of millions of patients who live with inflammatory diseases.”

In the Phase 2 study, the PASI scores were assessed by both mean changes from baseline and responder rates. The primary endpoint was the mean percentage change in PASI between treatment and placebo and was prespecified as a Bayesian analysis. The Bayesian approach provides an estimate of the probability that EDP1815 is superior to placebo. The 16-week primary endpoint gave probabilities that EDP1815 is superior to placebo ranging from 80% to 90% across the prespecified analyses and cohorts.

The responder endpoint reports the proportion of patients who had a meaningful clinical response, which is defined as PASI-50 or greater. 25% to 32% of patients across the three cohorts who were treated with EDP1815 achieved a PASI-50 at week 16 compared to 12% on placebo. In cohorts 1 and 2 this difference in response rate was statistically significant ($p < 0.05$). Cohort 3 was directionally similar (25% vs. 12%). The pooled PASI-50 response across all three EDP1815 cohorts, an exploratory analysis, was 29% vs. 12% for placebo and was also statistically significant with a p-value of 0.027. An increase in the number of capsules of EDP1815 did not lead to a dose response.

Additionally, several patients on EDP1815 achieved a PASI-75 or better, which was sustained or improved post treatment. For individuals who had a PASI-50 response or better, consistent effects in secondary and exploratory endpoints, including improvements in patient reported outcomes such as Dermatology Life Quality Index (DLQI) and Psoriasis Symptom Inventory (PSI), were observed.

EDP1815 was observed to be well tolerated in the Phase 2 study. The safety data were comparable to placebo and consistent with what was previously reported in a Phase 1b study. Adverse events (AEs) classified as “gastrointestinal” were comparable between active and placebo groups, with no meaningful differences in rates of diarrhea, abdominal pain, nausea, or vomiting. There were no related serious adverse events.

“I am very encouraged to see this Phase 2 data of EDP1815 in psoriasis,” said Benjamin Ehst, M.D., Ph.D., Board-certified Dermatologist, Investigator and Clinical Associate Professor with the Oregon Medical Research Center, and Chief Investigator of EDP1815-201. “It advances our scientific understanding of how to treat systemic inflammatory diseases and offers the prospect of a truly novel modality of treatment for patients with psoriasis. A drug with the combination of efficacy and safety results as observed here will likely be well received by dermatologists and their patients with mild and moderate disease, who are often faced with limited treatment options.”

EDP1815-201 is a double-blind, placebo-controlled, dose-ranging Phase 2 study designed to evaluate three doses of an enteric capsule formulation of EDP1815 versus placebo in 249 patients with mild and moderate psoriasis over a 16-week treatment period. In the study, the PASI scores were assessed by both mean changes from baseline and responder rates. The primary endpoint is mean percentage reduction in PASI score at 16 weeks. Secondary endpoints include the proportion of study participants who achieve a PASI-50 response or greater and other clinical measures of disease such as Physicians Global Assessment (PGA), Body Surface Area (BSA), PGA x BSA, PSI, and DLQI. Today’s results report out on the initial treatment phase of the study, which is now complete, and includes the 16-week treatment period with a 4-week follow-up. A six-month follow-up phase of the study is ongoing.

Conference Call
Evelo will host a conference call and webcast at 8:00 a.m. ET today. To access the call please dial (866) 795-3242 (domestic) or (409) 937-8909 (international) and refer to conference ID 5177247. A live webcast of the event will also be available under “News and Events” in the Investors section of Evelo's website at http://ir.evelobio.com. The archived webcast will be available on Evelo's website approximately two hours after the completion of the event and will be available for 30 days following the call.

About Psoriasis
Psoriasis is a common chronic immune-mediated inflammatory skin disease, affecting up to 3% of the population worldwide. The disease is driven by Th17-inflammation, which results in the formation of thick red plaques with scaling. Psoriatic lesions can appear anywhere on the body but are most often seen on the knees, elbows, scalp, and lumbar area. In addition to the skin lesions, there are systemic manifestations including arthritis and fatigue, and a strong association with depression and metabolic syndrome.

Patients with mild and moderate psoriasis are underserved by current treatments. Topical therapies do not control systemic inflammation, have low rates of compliance, and in the case of topical steroids are not recommended for long-term use. The majority of novel therapies, including injectable high-cost biologics, are only approved for patients with moderate and severe disease. Even in the severe patient population, the majority of eligible patients do not receive biologics, instead opting for topical therapies or oral systemic therapies, which are associated with tolerability issues and/or

with monitoring requirements tied to safety concerns.

About Evelo Biosciences
Evelo Biosciences is a clinical stage biotechnology company developing orally delivered medicines that are designed to act on the small intestinal axis, SINTAX™, with systemic therapeutic effects. SINTAX plays a central role in governing the immune, metabolic, and neurological systems. Evelo's first product candidates are pharmaceutical preparations of single strains of microbes selected for their potential to offer defined pharmacological properties. Evelo's therapies have the potential to be effective, safe, and affordable medicines to improve the lives of people with inflammatory diseases and cancer.

Evelo currently has four product candidates in development: EDP1815, EDP1867, and EDP2939 for the treatment of inflammatory diseases and EDP1908 for the treatment of cancer. Evelo is advancing additional product candidates in other disease areas.

For more information, please visit www.evelobio.com and engage with Evelo on LinkedIn.

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 concerning the development of EDP1815, the promise and potential impact of EDP1815, the timing of and plans for clinical studies, and the timing and results of clinical study readouts.

These forward-looking statements are based on management's current expectations. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that 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, including, but not limited to, the following: the impact of the COVID-19 pandemic on our operations, including our preclinical studies and clinical studies, and the continuity of our business; that we have incurred significant losses, are not currently profitable and may never become profitable; our need for additional funding; our limited operating history; our unproven approach to therapeutic intervention; the lengthy, expensive, and uncertain process of clinical drug development, including potential delays in regulatory approval; our reliance on third parties and collaborators to expand our microbial library, conduct our clinical studies, manufacture our product candidates, and develop and commercialize our product candidates, if approved; our lack of experience in manufacturing, selling, marketing, and distributing our product candidates; failure to compete successfully against other drug companies; issues with the protection of our proprietary technology and the confidentiality of our trade secrets; potential lawsuits for, or claims of, infringement of third-party intellectual property or challenges to the ownership of our intellectual property; our patents being found invalid or unenforceable; risks associated with international operations; our ability to retain key personnel and to manage our growth; the potential volatility of our common stock; our management's and principal stockholders ability to control or significantly influence our business; costs and resources of operating as a public company; unfavorable or no analyst research or reports; and securities class action litigation against us.

These and other important factors discussed under the caption "Risk Factors" in our Quarterly Report on Form 10-Q for the three months ended June 30, 2021, and our other reports filed 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 we may elect to update such forward-looking statements at some point in the future, except as required by law, we disclaim any obligation to do so, even if subsequent events cause our views to change. These forward-looking statements should not be relied upon as representing our views as of any date subsequent to the date of this press release.

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