Durable and Deepening Clinical Responses Observed in Post-Treatment Period of Evelo Bioscience's Phase 2 Clinical Trial of Oral EDP1815 in Psoriasis

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-18/30 patients maintained a PASI-50 or greater response at 24 weeks post-treatment-
-9/20 patients experienced a deepening of response from PASI-50 to at least PASI-75 during post-treatment period-
-No flare or rebound observed following discontinuation of treatment-
-Evelo to host KOL webcast to discuss these data, along with unmet need in psoriasis, on March 11, 2022 -

CAMBRIDGE, Mass., Feb. 28, 2022 (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 data from the post-treatment follow-up (Part B) of its Phase 2 trial of EDP1815 in mild and moderate psoriasis which included durable and deeper clinical responses. 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.

"The totality of data from the EDP1815 Phase 2 trial, which includes these Part B results, and the previously reported clinical and cytokine biomarker improvements observed over the 16 week dosing period, support the potential of EDP1815 to address systemic inflammation and deliver long-lasting and clinically meaningful benefit to patients with psoriasis," said Duncan McHale, M.B.B.S., Ph.D., Chief Medical Officer of Evelo. "These data are encouraging and support our view that SINTAX medicines work with the immune system to resolve inflammation - and that these effects can persist after the drug is stopped. With the clinical responses and safety and tolerability results comparable to placebo observed in trials involving over 450 patients to-date, we look forward to advancing EDP1815 towards Phase 3 clinical trials."

The EDP1815-201 Phase 2 trial was comprised of a Part A, when patients received either EDP1815 or placebo for 16 weeks, and a Part B, when patients were followed for up to 24 weeks after they had stopped receiving EDP1815 or placebo. There were 83 patients who had received EDP1815 in Part A who entered Part B. Thirty of these 83 patients had achieved a PASI-50 (50% reduction in Psoriasis Area and Severity Index score from baseline) or greater reduction at week 16 of Part A. Eighteen of the 30 patients remained at PASI-50 or greater at the end of Part B. Ten of the 30 patients had achieved a PASI-75 or greater at the end of Part A and 5 remained at PASI-75 or greater at the end of Part B. These durable results were achieved without any new psoriasis medication being used during this time. Nineteen of the 83 patients had achieved clear skin (PGA 0) or nearly clear skin (PGA 1) at the end of Part A and of these, 9 remained at PGA 0/1 at the end of Part B.

Of the 30 patients who had reached a PASI-50 at the end of Part A and entered Part B, 10 had already achieved a PASI-75 response at week 16 in Part A. Of the remaining 20 patients, 9 achieved a PASI-75 or greater response during the post-treatment period. These data, combined with the durability data, suggest that longer dosing could lead to further deepening of the responses in some patients.

The tolerability and safety data for EDP1815 in the trial was comparable to placebo, with the additional finding of no flare or rebound following discontinuation of therapy (which are often seen with other therapies for psoriasis).

"These data, combined with the consistent safety and tolerability data seen to-date with EDP1815, are very exciting," said Bruce Strober, MD, PhD, FAAD, and Clinical Professor of Dermatology at Yale University School of Medicine and Central Connecticut Dermatology Research. "EDP1815's novel mechanism of action has the potential to transform the treatment of inflammatory diseases. These promising Phase 2 results suggest that, subject to further study and FDA approval, EDP1815 could be used broadly to help address the significant unmet need for a safe, effective, and well-tolerated oral therapy for psoriasis patients. I look forward to investigating its potential in Phase 3 trials and beyond."

Upcoming KOL Event

Evelo will host a live KOL webcast at 8:00 a.m. ET on Friday, March 11, 2022. During the event, members of Evelo's leadership, Bruce Strober, M.D., Ph.D., FAAD, and Clinical Professor of Dermatology at Yale University School of Medicine and Central Connecticut Dermatology Research, and Daniel Roling, M.D., Associate Professor of Dermatology at University of Pennsylvania School of Medicine, will discuss the unmet need in the treatment of psoriasis and the potential for SINTAX medicines. A live webcast of the event will 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 completion of the event and will be available for 30 days following the event.

About EDP1815
EDP1815 is an investigational oral medicine being developed for the treatment of inflammatory diseases. It is a non-live pharmaceutical preparation of a strain of *Prevotella histicola*, selected for its potential to provide systemic pharmacological effects after oral administration with gut-restricted distribution. Being non-live, it has not been observed to colonize the gut or modify the microbiome. Preclinically, EDP1815 had anti-inflammatory effects in models that cover multiple pathways of inflammation, Th1, Th2, and Th17. Clinical results from multiple independent cohorts provide evidence supporting EDP1815's potential to address Th1, Th2 and Th17-mediated inflammation.

About EDP1815-201
EDP1815-201 was a multicenter, randomized, double-blind, placebo-controlled, parallel-cohort, dose-ranging trial in adult patients with mild and moderate psoriasis. The study included a Part A (treatment phase) and Part B (extended follow-up phase, off-treatment).

In Part A of the trial, 249 patients were randomized in a 1:1:1 ratio to one of three parallel cohorts: 1 capsule, 4 capsules or 10 capsules. They were then randomized in a 2:1 ratio to active or placebo prior to starting dosing. Trial medication was taken once daily for 16 weeks, and patients were followed for 4 weeks after treatment completion to week 20. In the trial, 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. Secondary endpoints included the proportion of trial participants who achieve a PASI-50 response or greater. The 16-week primary endpoint gave probabilities that EDP1815 is superior to placebo ranging from 80% to 90% across the prespecified analyses and cohorts. 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.

All patients had the option to enter Part B of the trial. The objective of Part B was to assess durability of treatment response and incidence of rebound

(e.g., increase in PASI score to 125% of baseline value or above, or onset of new pustular erythrodermic psoriasis within 3 months of cessation of dosing) following cessation of dosing. Patients in Part B were assessed during follow-up visits at weeks 24 and 28. Only patients who had achieved a PASI-50 or greater at week 16 were also evaluated at week 40. Patients were not permitted to start other psoriasis treatments or trials during Part B.

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 of the disease 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 product candidates 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. The Company'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 a broad range of inflammatory diseases.

Evelo currently has three product candidates in development for inflammatory diseases: EDP1815, EDP1867, and EDP2939. 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 and our other product candidates, and the promise and potential impact of our product candidates.

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 trials, and the continuity of our business*; *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 trials, 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; 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 and principal stockholders have the 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 September 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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