Evelo Biosciences Announces New Clinical Candidate in Oncology and Presents Additional Interim Data from Phase 1/2 Clinical Trial of EDP1503 in Patients with Triple-Negative Breast Cancer

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–EDP1908 announced as clinical candidate in oncology after showing superior preclinical activity over EDP1503–
–Interim clinical data for EDP1503 suggest potential of orally delivered SINTAX™ product candidates to activate systemic immunity–

CAMBRIDGE, Mass., Dec. 09, 2020 (GLOBE NEWSWIRE) -- Evelo Biosciences, Inc. (Nasdaq:EVLO), a clinical stage biotechnology company developing a new modality of orally delivered medicines which act in the small intestine with systemic effects, today announced that it is prioritizing EDP1908 as its lead clinical candidate in oncology given its superior preclinical activity over EDP1503. The Company will halt patient recruitment in the Phase 1/2 clinical trial of EDP1503 and will wind down the study. The Company also announced that additional interim clinical data from its Phase 1/2 open-label study evaluating EDP1503 in combination with pembrolizumab in patients with triple-negative breast cancer (TNBC) were presented today in a poster session at the San Antonio Breast Cancer Symposium (SABCS) 2020 Virtual Meeting. The presentation showed that as of a cutoff date of October 30, 2020, EDP1503 was well-tolerated, with an overall response rate (ORR) of 17 percent and a disease control rate (DCR) of 25% in the 12 patients who received the higher dose of EDP1503. These results suggest that the small intestinal axis, SINTAX™, has the potential to be targeted with oral, gut-restricted medicines.

“The EDP1908 preclinical data presented last month at the Society for Immunotherapy for Cancer (SITC) meeting showed that orally administered bacterial extracellular vesicles (EV) showed encouraging preclinical activity without systemic distribution. Based on the strength of the preclinical results from EDP1908 compared to those we observed during our early development of EDP1503, combined with the EDP1503 clinical results, we have decided to focus on advancing EDP1908 as our lead oncology product candidate,” said Duncan McHale, M.B.B.S., Ph.D., Chief Medical Officer of Evelo. “EVs may offer oncology patients better outcomes and serve as the foundation of a new class of potentially safe, effective, and affordable immuno-oncology medicines. We are now scaling up manufacturing in order to advance EDP1908 into the clinic in the first half of 2022.”

Reminder of Data Presented at SITC Annual Meeting
In the preclinical study presented at SITC, tumor-bearing mice were treated with ascending doses of either oral EDP1908 or the parental microbial strain of EDP1908, or with anti-PD-1. Treatment with EDP1908 resulted in superior tumor growth control versus either the parent microbial strain or anti-PD-1 therapy, with an observed dose-dependent reduction in tumor growth. The effects were at least comparable to those reported in the literature for intra-tumorally administered immune stimulators.

Treatment with EDP1908 significantly reduced tumor growth in syngeneic mice compared to vehicle, and activated IFNγ-positive cytolytic and helper lymphocytes, dendritic cells, and interferon gamma-induced protein 10 (IP-10) in the tumor microenvironment. Fluorescent biodistribution analysis showed that EDP1908 was not detected outside the gastrointestinal tract. These data suggest that EDP1908 activated innate immunity locally on host immune cells in the gut and triggered distal immune responses within the tumor microenvironment, with no apparent adverse safety or tolerability issues.

Additional Interim Data Presented at SABCS from the Phase 1/2 Clinical Trial of EDP1503 in Combination with Pembrolizumab
As of the data cutoff date of October 30, 2020, 15 patients had been treated across two EDP1503 doses, including three patients treated with low dose EDP1503 (two capsules twice daily (BID)) and 12 patients treated with high dose EDP1503 (four capsules BID). 27 percent of patients had received prior anti-PD-(L)1 therapy.

Interim Safety Results
As of the cutoff date, the combination of EDP1503 and pembrolizumab was generally well-tolerated with the majority of treatment-related adverse events (AEs) reported by investigators being Grade 1 or 2. Across all grades, treatment-related AEs reported by investigators most commonly included abdominal distension (20%), decreased appetite (20%), diarrhea (13%), flatulence (13%), nausea (13%), pruritis (13%) and rash maculo-papular (13%). Investigators reported a single treatment-related Grade 3 AE in one patient (diarrhea). No treatment-related Grade 4 or 5 AEs or serious AEs were reported, and one patient discontinued EDP1503 due to a treatment-related AE.

Interim Efficacy Results
Fifteen patients were evaluable for response assessment as of the cutoff date, as measured using the Response Evaluation Criteria in Solid Tumors (RECIST). Among all 15 patients treated, the ORR was 13 percent, and the DCR was 20 percent. In patients receiving high dose EDP1503 therapy (n=12), the ORR was 17 percent and the DCR was 25 percent, with partial responses observed in two patients and stable disease observed in one patient. One patient who had relapsed on prior therapy with an anti-PD-L1 inhibitor combination had a partial response to the EDP1503 and pembrolizumab combination treatment. The patient was on treatment for 10.5 months and had no measurable disease visible on their latest PET scan as of the data cutoff date.

About Extracellular Vesicles
Some bacteria produce EVs that share molecular content with the parent bacterium, in particles that are roughly one-one thousandth the volume and are not capable of self-replicating. EVs enable bacterial communication and survival during stress, host-immune modulation, material exchange and cell-cell interactions. EV’s significantly smaller size compared to microbes may enable improved distribution and target engagement.

About Evelo Biosciences
Evelo Biosciences is a clinical stage biotechnology company developing orally delivered product candidates that are designed to act on SINTAX™, the small intestinal axis, 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 the 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 EDP1908, the promise and potential impact of EDP1908, and the timing of and plans for clinical trials of EDP1908.

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 quarter ended September 30, 2020, 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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