Evelo Biosciences Presents Preclinical Data for EDP1867 at 37th Congress of the European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS)

October 13, 2021

–Data suggest SINTAX™ medicine may overcome blood-brain barrier limitations to anti-inflammatory drug delivery–
–EDP1867 reduced disease severity and incidence of relapse in murine model of multiple sclerosis–
–Data support development of EDP1867 for the treatment of neuroinflammatory diseases–

CAMBRIDGE, Mass., Oct. 13, 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 presented preclinical data for EDP1867, a non-live pharmaceutical preparation of a single strain of *Veillonella parvula*, at ECTRIMS 2021, October 13-15, 2021. The data show that orally administered EDP1867 reduced disease severity and incidence of relapse in relapsing-remitting experimental autoimmune encephalomyelitis (EAE) mouse models of multiple sclerosis (MS), supporting the development of EDP1867 for the treatment of neuroinflammatory diseases.

"These data suggest that the small intestinal axis, SINTAX, is an immune signaling portal to the central nervous system (CNS), opening up an entirely new pathway for treating neuroinflammation," said Mark Bodmer, Ph.D., President of R&D and Chief Scientific Officer of Evelo. "This striking observation shows that an orally delivered, gut-restricted SINTAX medicine overcomes blood-brain barrier limitations to drug delivery by harnessing the immune sensory connections between the small intestine and the CNS. This result complements our growing body of evidence in clinical and preclinical studies that SINTAX medicines have the potential to treat a wide range of systemic inflammatory conditions, without systemic exposure. The observation that it extends to the CNS suggests the potential for SINTAX medicines beyond the treatment of classical chronic inflammatory diseases to intractable neuroinflammation."

In the preclinical study presented at ECTRIMS, EDP1867 was tested in a relapsing-remitting EAE mouse model of neuroinflammation. Oral daily treatment with EDP1867 administered prophylactically or therapeutically reduced the severity of disease as demonstrated by a decreased mean maximum score and a decreased incidence of relapse compared to placebo. Treatment with EDP1867 reduced inflammation and demyelination in the spinal cord as shown in histopathological analysis. Transcriptional profiling of small intestine tissue confirmed that EDP1867 upregulated genes in lymphocyte pathways that resolve inflammation, as well as genes associated with intestinal homeostasis.

About EDP1867
EDP1867 is a non-live pharmaceutical preparation of a single strain of *Veillonella parvula*, isolated from the ileum of a human donor. It is made non-live by γ-irradiation in the manufacturing process making it unable to colonize or persist in the gut, a central feature of SINTAX medicines. EDP1867 is currently in clinical development. It has the potential to treat a wide range of inflammatory and neuroinflammatory diseases.

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 EDP1867, the promise and potential impact of EDP1867, 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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