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Artelo Biosciences Announces Positive Preclinical Efficacy Data for ART26.12 in Osteoarthritis Pain at the 35th Annual International Cannabinoid Research Society Symposium

ART26.12, a Novel FABP5 Inhibitor, Demonstrates Sustained Analgesic Effects Without Tolerance

SOLANA BEACH, Calif., July 09, 2025 (GLOBE NEWSWIRE) -- **Artelo Biosciences, Inc. (Nasdaq: ARTL)**, a clinical-stage pharmaceutical company focused on modulating lipid-signaling pathways to develop treatments for people living with cancer, pain, dermatological or neurological conditions, today announced the presentation of preclinical data in an osteaoarthritis (OA) pain model on its lead fatty acid binding protein 5 (FABP5) inhibitor, ART26.12, at the 35th Annual International Cannabinoid Research Society (ICRS) Symposium, being held July 6–10 in Bloomington, Indiana.

The presentation, titled *"The Fatty Acid Binding Protein 5 Inhibitor ART26.12 Alleviates Osteoarthritis Pain,"* was delivered on July 8th by Dr. Martin Kaczocha, Assistant Professor in the Departments of Anesthesiology, Biochemistry and Cell Biology at Stony Brook University, New York. Dr. Kaczocha was the lead researcher for the OA study and serves as a scientific advisor at Artelo. The results demonstrated that ART26.12, a first-in-class, non-opioid, non-steroidal analgesic drug candidate, significantly alleviated pain associated with OA in preclinical models, in which a direct effect on plasma levels of relevant endocannabinoids was also observed.

"We are grateful to continue our translational research with ART26.12 in OA models in collaboration with Stony Brook University," commented Professor Saoirse O'Sullivan, Vice President of Translation Sciences at Artelo. "Our latest data now shows in this OA model that daily treatment with ART26.12 leads to increases in plasma levels of the endocannabinoids 2-Arachidonoylglycerol (2-AG) and Oleoylethanolamide (OEA). Both of these endocannabinoids were positively correlated with pain ratings such that high levels of plasma 2-AG and OEA were associated with an increased ability of the animals to bear weight on the operated limb."

In these OA studies with ART26.12, the FABP5 inhibitor demonstrated efficacy comparable to naproxen, a commonly prescribed nonsteroidal anti-inflammatory drug (NSAID), with ART26.12 maintaining analgesic efficacy throughout a four-week period of chronic dosing. Importantly, this extended administration did not result in the development of tolerance or

diminished activity, a positive attribute that supports ART26.12's potential in long-term treatment scenarios.

From a safety perspective, ART26.12 may offer advantages over NSAIDs, which are collectively associated with gastrointestinal side effects in approximately one-third of patients receiving NSAIDs and are linked to a five-fold increase in gastric ulcer complications. ART26.12's distinct pharmacological profile and utilization of endocannabinoids has the potential to provide a more favorable therapeutic option for patients requiring ongoing pain relief.

"These preclinical OA study results, which complement our recently announced positive human single dose safety data, continue to support ART26.12 as a well-differentiated and potentially safer alternative to NSAIDs in the treatment of osteoarthritis pain. We look forward to advancing our lead FABP5 inhibitor program through clinical development," concluded Professor O'Sullivan.

About ART26.12

ART26.12, Artelo's lead FABP5 inhibitor, is being developed as a novel, peripherally acting, non-opioid, non-steroidal analgesic. The initial clinical development planned is for chemotherapy-induced peripheral neuropathy (CIPN). FABPs are a family of intracellular proteins that chaperone lipids important to normal cellular function. FABP is overexpressed and associated with abnormal lipid signaling in several pathologies. In addition to ART26.12 in CIPN, Artelo's extensive library of small molecule inhibitors of FABPs has shown therapeutic promise for the treatment of certain cancers, neuropathic and nociceptive pain, anxiety disorders, and psoriasis. ART26.12 has been included in Helping to End Addiction Long-term® (HEAL) Initiative's Preclinical Screening Platform for Pain program of the U.S. National Institutes of Health. The HEAL program is dedicated to advancing non-opioid solutions to pain and curbing opioid use disorder.

About Artelo Biosciences

Artelo Biosciences, Inc. is a clinical-stage pharmaceutical company dedicated to the development and commercialization of proprietary therapeutics that modulate lipid-signaling pathways. Artelo is advancing a portfolio of broadly applicable product candidates designed to address significant unmet needs in multiple diseases and conditions, including anorexia, cancer, anxiety, dermatologic conditions, pain, and inflammation. Led by proven biopharmaceutical executives collaborating with highly respected researchers and technology experts, the Company applies leading-edge scientific, regulatory, and commercial discipline to develop high-impact therapies. More information is available at www.artelobio.com and X: @ArteloBio.

About the International Cannabinoid Research Society

The International Cannabinoid Research Society (ICRS) is the premier global scientific association with more than 650 international members from 40 countries, all active researchers in the field of endogenous, plant-derived, and synthetic cannabinoids and related bioactive lipids. In addition to acting as a source for impartial information on cannabis and the cannabinoids, the main role of the ICRS is to provide an open forum for researchers to meet and discuss their research. Dr.'s O'Sullivan and Kaczocha were awarded the

prestigious Early Career Award (formerly the Young Investigator of the Year) at the annual ICRS Symposium in 2016 and 2017, respectively. Since that time Artelo has been the exclusive underwriter of the Award at the ICRS. The ICRS Symposium is being held July 6-10, 2025 in Bloomington, IN. Interested parties may follow @ICRS_Society on X.

About Osteoarthritis

Osteoarthritis (OA) is a progressive joint disease in which cartilage wears away over time, causing chronic pain, stiffness, swelling, and significant loss of mobility, especially in the knees, hips, hands, and spine. OA affects approximately 606.9 million people globally, including over 32 million in the U.S., and can lead to disabling pain, reduced quality of life, and loss of independence, especially in advanced cases. OA is often treated with over the counter and prescription drugs commonly used for pain and inflammation, including NSAIDs, acetaminophen, corticosteroids, duloxetine, and opioids. Intermittent hyaluronic acid injections may offer relief for some individuals over the long term.

Forward-Looking Statements

This press release contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 and Private Securities Litigation Reform Act, as amended, including those relating to the Company's future investment policy of its excess capital, product development, clinical and regulatory timelines, market opportunity, competitive position, possible or assumed future results of operations, business strategies, potential growth opportunities and other statement that are predictive in nature. These forward-looking statements are based on current expectations, estimates, forecasts and projections about the industry and markets in which we operate and management's current beliefs and assumptions. These statements may be identified by the use of forward-looking expressions, including, but not limited to, "expect," "anticipate," "intend," "plan," "believe," "estimate," "potential," "predict," "project," "should," "would" and similar expressions and the negatives of those terms. These statements relate to future events or our financial performance and involve known and unknown risks, uncertainties, and other factors which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include those set forth in the Company's filings with the Securities and Exchange Commission, including our ability to raise additional capital in the future. Prospective investors are cautioned not to place undue reliance on such forward-looking statements, which speak only as of the date of this press release. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise, except to the extent required by applicable securities laws.

Investor Relations Contact:
Crescendo Communications, LLC
Tel: 212-671-1020
Email: ARTL@crescendo-ir.com

Source: Artelo Biosciences