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Artelo Biosciences Announces Publication of New Peer-Reviewed Study Demonstrating Intraperitoneal Administration of a Novel Fatty Acid Binding Protein 5 (FABP5) Inhibitor Significantly Reduces Stress-Induced Anxiety and Depression Behaviors in Preclinical Models

Findings further validate FABP5 inhibition and strengthen the therapeutic potential of Artelo's FABP5 platform for mood and stress-related disorders

SOLANA BEACH, Calif., Dec. 03, 2025 (GLOBE NEWSWIRE) -- **Artelo Biosciences, Inc. (Nasdaq: ARTL)** ("Artelo" or the "Company"), 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 publication of new peer-reviewed research from the laboratory of Dr. Steven Laviolette, Professor in the Schulich School of Medicine at the University of Western Ontario, Canada, partially funded by the Company, demonstrating that intraperitoneal administration of Artelo's proprietary FABP5 inhibitor SBFI103 produces robust anxiolytic and antidepressant-like effects in a validated preclinical model of chronic stress.

The paper, titled "Inhibition of fatty acid binding protein 5 prevents stress-induced anxiogenic and depressive-like symptoms through modulation of hippocampal neurogenesis, cannabinoid and neurotrophic signaling in the limbic circuitry," was published in Neurobiology of Disease and builds on the earlier research from the Laviolette laboratory showing that direct delivery of SBFI103 into specific brain regions accelerated fear extinction and reduced anxiety-related behaviors.

Key Findings

The newly published study demonstrates that intraperitoneal administration of SBFI103 leads to significant:

- Reductions in anxiety- and depression-like behaviors in chronically stressed rats after a

single dose, with no adverse impact on locomotion or memory

- Increased gene expression of key receptors within the endocannabinoid system, including CB_2, GPR55, and TRPV1, in the hippocampus
- Prevention of stress-induced reductions in biomarkers associated with depression in the hippocampus
- Blocking of the detrimental effects of chronic stress on hippocampal neurogenesis, a critical biological process linked to mood regulation and cognitive function

Lead author, Taygun Uzuneser, Ph.D., commented, “We demonstrated that inhibition of FABP5 by SBFI103 represents a promising strategy to effectively elevate endocannabinoid-mediated neurotransmission and, in turn, ameliorate stress-induced affective and anxiogenic disturbances in rats. Remarkably, FABP5 inhibition powerfully prevented the impacts of chronic stress on adult hippocampal neurogenesis and neurotrophic signaling disturbances, demonstrating a unique neurobiological mechanism by which indirect modulation of the endocannabinoid system can prevent stress-induced pathophysiology.”

This new publication provides compelling evidence that peripheral dosing of SBFI103 can modulate central stress-regulated pathways and support neurogenesis—two key therapeutic objectives for treating depression, anxiety disorders, and stress-related pathology.

“These findings add important validation to the therapeutic potential of our FABP5 inhibitor platform,” said Gregory D. Gorgas, Chief Executive Officer of Artelo. “The demonstration that SBFI103 can reverse stress-induced behavioral and neurobiological impairments significantly strengthens the scientific rationale for advancing new FABP5 inhibitors such as SBFI103 into future human studies, as we have already successfully accomplished with ART26.12, the first selective FABP5 inhibitor to enter clinical studies.”

The authors of the study were solely responsible for the design, conduct, and conclusions of the research. The Company’s role was limited to funding.

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, with a diversified pipeline addressing significant unmet needs in anorexia, cancer, anxiety, dermatologic conditions, pain, and inflammation. Led by an experienced executive team collaborating with world-class researchers and technology partners, Artelo applies rigorous scientific, regulatory, commercial, and treasury management practices, including digital assets, to maximize stakeholder value. More information is available at www.artelobio.com and X: @ArteloBio.

About ART26.12

ART26.12, Artelo’s lead Fatty Acid Binding Protein 5 (FABP5) inhibitor, is under development as a novel, peripherally acting, non-opioid, non-steroidal analgesic, initially for the treatment of chemotherapy-induced peripheral neuropathy (CIPN) under an investigational new drug application opened with the U.S. FDA. Fatty Acid Binding Proteins (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 a

number of 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, psoriasis, and anxiety disorders.

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 product development, clinical and regulatory timelines, market opportunity, competitive position, possible or assumed future results of operations, business strategies, potential growth opportunities and other statements 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.

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