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Corbus Pharmaceuticals Announces Publication Demonstrating Lenabasum as First Drug to Stimulate Resolution of Innate Immune Responses in a Clinical Model

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- *Study identifies lenabasum as important upstream trigger of resolution of innate immune responses*
- *Data provides mechanistic validation of positive clinical data reported from Company's Phase 2 clinical studies in systemic sclerosis, cystic fibrosis and dermatomyositis*

Corbus Pharmaceuticals Holdings, Inc. (NASDAQ: CRBP) ("Corbus" or the "Company"), a clinical stage drug development company targeting chronic, serious inflammatory and fibrotic diseases, announced today that data from a human clinical model shows that lenabasum (formerly known as anabasum) is an activator of resolution of innate immune responses and is the first experimental therapeutic shown to activate this pathway in humans.

These data were published in the peer-reviewed "Clinical Pharmacology & Therapeutics" journal in a paper entitled: "[*Potent anti-inflammatory and pro-resolving effects of anabasum in a human model of self-resolving acute inflammation.*](#)" The lead author is Dr. Derek Gilroy, Professor of Experimental Inflammation and Pharmacology, University College London. The results identify the CB2 receptor, the therapeutic target of lenabasum, as a key link between the innate immune response and the endocannabinoid system acting as an upstream activator of the resolution of innate immunity. Resolution is the active process through which an ongoing innate immune response is switched off to restore tissue homeostasis and function.

In this 22-subject, Corbus-sponsored study by Motwani *et al.*, using a model of acute innate immune response in healthy individuals triggered by bacteria injected into the skin of volunteers, the authors found that oral administration of lenabasum at 5 mg or 20 mg twice a day inhibited the accumulation of neutrophils at the experimentally infected site. Controlling neutrophils is considered highly important for treating many diseases driven by chronic inflammation. In addition to inhibiting neutrophil accumulation, lenabasum also enhanced clearance of the injected bacteria. The findings in this paper provide additional evidence for lenabasum's unique mechanism of action to modulate the trafficking of key harmful effector cells to the site of infection and injury without compromising internal host defense

mechanisms, and instead enhancing it. This dual mechanism of action of lenabasum combines the inhibition of lipid mediators that normally reduce the immune system's ability to clear bacteria with the inhibition of pro-inflammatory lipid mediators. This unique activity of lenabasum ultimately drives the inflammatory response down the pro-resolution pathway.

"Lenabasum's mechanism of action as a potential treatment of diseases characterized by inflammation and associated fibrosis or vascular damage is unique. Lenabasum is the first drug shown to stimulate resolution of innate immune responses in a clinical model. Importantly, our data are the first to identify the inducible G-protein coupled cell surface receptor, CB2, as a target to initiate resolution pathway," stated Professor Gilroy.

Mark Tepper, Ph.D., Chief Scientific Officer of the Company commented, "This important proof-of-mechanism study in humans validates lenabasum's potential to offer the first therapy that provides efficacy without immunosuppression in a broad range of serious chronic inflammatory and fibrotic diseases. We look forward to the clinical advancement of lenabasum in each of our indications over the course of 2018."

About Lenabasum

Lenabasum (formerly known as anabasum) is a synthetic, oral, small-molecule, selective cannabinoid receptor type 2 (CB2) agonist that preferentially binds to CB2 expressed on activated immune cells and fibroblasts. CB2 activation triggers physiologic pathways that resolve inflammation, speed bacterial clearance and halt fibrosis. CB2 activation also induces the production of specialized pro-resolving lipid mediators that activate an endogenous cascade responsible for the resolution of inflammation and fibrosis, while reducing production of multiple inflammatory mediators. Through activation of CB2, lenabasum also is designed to have a direct effect on fibroblasts to halt tissue scarring. Lenabasum is believed to induce resolution rather than immunosuppression by triggering biological pathways to turn "off" chronic inflammation and fibrotic processes. Lenabasum has demonstrated promising potency in preclinical models of inflammation and fibrosis. Preclinical and human clinical studies have shown lenabasum to have a favorable safety, tolerability and pharmacokinetic profile. Further, the drug has demonstrated clinical benefit and positive impact on inflammatory and immunological markers in Phase 2 studies in diffuse cutaneous systemic sclerosis, dermatomyositis and cystic fibrosis.

About Corbus

Corbus Pharmaceuticals Holdings, Inc. is a Phase 3 clinical stage pharmaceutical company focused on the development and commercialization of novel therapeutics to treat rare, chronic, and serious inflammatory and fibrotic diseases. The Company's lead product candidate, lenabasum, is a novel synthetic oral endocannabinoid-mimetic drug designed to resolve chronic inflammation and fibrotic processes. Lenabasum is currently being evaluated in systemic sclerosis, cystic fibrosis, dermatomyositis, and systemic lupus erythematosus.

For more information, please visit www.CorbusPharma.com and connect with the Company on [Twitter](#), [LinkedIn](#), [Google+](#) and [Facebook](#).

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