

Lead Pharma Achieves Third Milestone in Sanofi Collaboration for Development of Autoimmune Diseases Treatments

Progress in collaboration triggers undisclosed third milestone payment

Nijmegen, The Netherlands, 21 November, 2017 – Lead Pharma, a pharmaceutical company developing innovative medicines for the treatment of immunological and oncological indications, today announced that it has achieved a third milestone under its research collaboration with Sanofi, triggering an undisclosed milestone payment. The collaboration aims to develop small molecules directed against the nuclear hormone receptor ROR gamma (t) for the treatment of a broad range of autoimmune disorders, including common diseases such as psoriasis, rheumatoid arthritis and inflammatory bowel disease.

In February 2015, Lead Pharma and Sanofi entered into a research collaboration and licensing agreement to discover, develop and commercialize small molecule therapies directed against ROR gamma (t), a key regulator of immune cells called T-helper 17 (Th17) cells. The current milestone payment follows an upfront cash payment at the start of the collaboration and two milestone payments in November 2015 and February 2017, respectively. Lead Pharma is eligible to receive further milestone payments and entitled to receive royalty payments on global sales from any resulting products. Financial details were not disclosed.

“We are delighted to have achieved another milestone in our collaboration, further validating the strength of our drug discovery engine and demonstrating our ability to work successfully with industry leaders like Sanofi” said Arthur Oubrie, Chief Scientific Officer of Lead Pharma. “We believe the overall quality of the candidate is high in view of the intricacies imposed by the pharmacology of the target and we are looking forward to results of GLP toxicology studies as the candidate advances to the clinic.”

Frank Nestle, MD, Sanofi’s Global Head of Immunology Therapeutic Research Area and Chief Scientific Officer, North America, commented: “At Sanofi, we are committed to seeking out collaborations that help us deliver on our promise to empower the lives of our patients through innovation. Lead Pharma specializes in difficult-to-address drug targets and we were attracted to their innovative approach to small molecule drug discovery. With such rapid progress in our research collaboration, I’m looking forward to many potential applications in autoimmune indications.”

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About Autoimmune Disorders

A wide range of human diseases are driven by deregulated immune function. These immune-mediated disorders include joint diseases such as rheumatoid arthritis and inflammatory bowel diseases such as ulcerative colitis and Crohn’s disease. Often, these diseases are characterized by inappropriate activation of molecules termed cytokines, which are important mediators of normal immune function. When inappropriately activated, these powerful molecules can cause severe damage to multiple body systems. Symptoms of immune-mediated diseases range from mild skin rashes to severe organ failure to death. In addition to the significant suffering of patients, the socioeconomic burden of just rheumatoid arthritis has been estimated at approximately \$40 billion in the U.S. alone (cf. J Rheumatol 2011; 88; 55-61; <http://www.jrheum.org/content/88/55>).

About ROR gamma (t)

The nuclear receptor retinoic acid receptor-related orphan receptor gamma, also known as ROR gamma (t), is a key regulator of the cytokine immune pathway, which leads to the differentiation of T cells to a pro-inflammatory subtype of T helper cells called Th17. ROR gamma (t) drives the production of key pro-inflammatory proteins, including interleukin (IL)-17A, IL-17F and the receptor for IL-23. In the last years, several clinical studies have validated the critical role of the IL-17 pathway in chronic autoimmune-related inflammation. Recent findings have demonstrated that the biological function of ROR gamma (t) can be moderated with small molecules and have advanced this target to the cutting edge of drug discovery.

About Lead Pharma

Lead Pharma is a biopharmaceutical company focusing on the discovery and development of innovative medicines for the treatment of autoimmune diseases and cancer. Lead Pharma's drug discovery engine combines medicinal, structural, and computational chemistry with molecular pharmacology, cell and tissue-based pharmacology. Focusing on these strengths, the company aims to identify first and / or best-in-class small molecule drugs and develop its pipeline through partnerships. Based in the Netherlands, Lead Pharma is privately owned and is financed by Biox Biosciences, Oost NL, Life Sciences & Health Fund B.V., and Technostartersfonds Zuid Nederland B.V.

New innovative projects

Deploying its expertise and capabilities to pursue difficult to address drug targets, Lead Pharma is developing several other projects in the areas of immunology and oncology:

1. Best-in-class LXR (Liver X receptor) agonists (activators) for the treatment of atopic dermatitis.

Targeting LXR offers a unique dual mode of action: the successful therapeutic should reduce inflammation and strengthen the barrier function of the skin at the same time. This contrasts to the standard-of-care, corticosteroids, which results in undesired side effects such as skin thinning. This field is challenging due to the fact that systemic LXR activity is known to cause adverse effects in the brain and liver. Lead Pharma has designed a new compound series which combines superior on-target activity and 'softness', which prevents high levels in the blood resulting in a safe therapeutic. Furthermore, Lead Pharma has discovered, and is currently validating, a novel biomarker to demonstrate proof-of-concept in clinical trials;

2. First-in-class inverse agonists (inhibitors) of ERRA function.

ERRa is a close family member of ERa but functionally very different. Whereas ERa is a marker of good prognosis in breast cancer, ERRA is associated with poor prognosis, recurrence of cancer, resistance to chemotherapy, and metastasis of several types of cancer including breast and colon cancer. Metastasis is the main cause of mortality in cancer, accounting for ~90 of cancer-related deaths. Identification of ERRA inhibitors with the right drug-like properties has been notoriously difficult. Lead Pharma has identified the first series of ERRA inhibitors that have been designed to enable oral administration and to induce a lasting effect once bound to the ERRA target without characteristics that could lead to adverse effects. Frontrunner compounds are currently being tested in a pre-clinical model of triple negative breast cancer.

In addition to these projects, for which Lead Pharma is currently starting partnership and licensing discussions, Lead Pharma is currently working on several early stage projects.



PRESS RELEASE

For more information visit: www.leadpharma.com

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