

New Drug for IPF



Amira Pharmaceuticals – Developing a New Drug for Idiopathic Pulmonary Fibrosis

Idiopathic pulmonary fibrosis (IPF) is a progressive and generally fatal disease characterized by scarring and remodeling of the lungs that thickens the lining of the lungs, causing an irreversible loss of the tissue's ability to transport oxygen. It ultimately robs a patient of the ability to breathe. More than 200,000 people in the United States suffer from this disease and there are at least five million cases of patients with IPF worldwide. With approximately 50,000 new cases diagnosed annually and 45,000 deaths each year in the US from IPF the number of patients who die from the disease is similar to that of breast cancer. IPF is five times more common than cystic fibrosis, yet the disease remains virtually unknown. There is no known cause, no FDA approved treatment and no cure.

Amira Pharmaceuticals is working hard to provide new therapeutic options for these patients. Amira potentially has a promising approach to treating IPF by targeting Lyso-phosphatidic Acid (LPA) receptors. Clinical data has demonstrated that LPA and the associated LPA1 receptor are up-regulated in the lungs of IPF patients. In addition, recent data from Andrew Tager's lab at Massachusetts Gen-

eral Hospital has demonstrated that mice which lack the LPA1 receptor are protected from developing pulmonary fibrosis in a fibrosis model. Amira scientists have produced oral drug candidates targeting the LPA1 receptor and have been able to demonstrate similar protective benefit with these compounds in fibrotic mouse models, including a lung fibrosis model. Clinical phase 1 trials are slated to begin with candidates from this program in 2010.

LPA is a bioactive lipid that activates a family of LPA receptors, including the LPA1 receptor. Amira's team is highly experienced in developing drugs in bioactive pathways. In fact, Amira's lead program, a 5-lipoxygenase-activating protein (FLAP) inhibitor that inhibits the production of bioactive lipids, leukotrienes, is currently in Phase 2 clinical trials for treatment of asthma with partner GlaxoSmithKline. Another bioactive lipid program at Amira is prostaglandin D2 receptor (DP2) antagonists. The lead compound has recently completed phase 1 clinical trials and is a potential therapy for asthma and chronic obstructive pulmonary disorder (COPD).

While there is still a considerable amount of basic research and years of clinical investigation that need to be completed on the role of LPA1 in IPF, it is the hope of the scientists at Amira that their work will someday translate into a new treatment option for IPF and other fibrotic diseases.

*Written by: Peppi Prasit, Co-founder and
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Research on Pulmonary Fibrosis that has been funded by the Foundation.

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