Cincinnati Children's | Innovation Ventures

Pulmonology

Repurposing Barasertib for Idiopathic Pulmonary Fibrosis

Brief Description of Technology

Repurposing a phase I/II compound (AURKB inhibitor - barasertib) for idiopathic pulmonary fibrosis therapy.

TECHNOLOGY ID

2018-0103

COMPLEMENTARY TECHNOLOGY

2016-0229

BUSINESS OPPORTUNITY

Exclusive License or Sponsored Research

TECHNOLOGY TYPE

Small Molecule

PATENT INFORMATION

Provisional Filed

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Technology Overview

Idiopathic Pulmonary Fibrosis (IPF) is a fatal rare lung disease associated with aberrant activation of fibroblasts leading to their excessive proliferation, accumulation, and extracellular matrix production. Currently, two FDA approved drugs, Ofev (nintedanib) and Esbriet (pirfenidone) are available as new therapies for the treatment of patients with IPF, but neither of these drugs provide a cure and both have several serious side effects. Identification of safe, novel therapeutic targets that are involved in multiple pro-fibrotic processes are needed for a better patient outcome in IPF. Through informatics approaches coupled with in vitro and in vivo studies, we have identified aurora kinase B (AURKB) and AURKB-selective inhibitor barasertib as a lead target and lead small molecule respectively for IPF.

Applications

- Novel lead target (aurora kinase B or AURKB) for idiopathic pulmonary fibrosis.
- Repurposing barasertib (AURKB inhibitor), a phase II compound, as a therapeutic for IPF.

Advantages

- Barasertib is a phase I/II compound.
- Barasertib can potentially inhibit the expansion of the fibrotic machinery in IPF.

Market Overview

- Approximately 3 million people worldwide are affected by IPF.
- Up to 132,000 people in the US are curently affected by IPF and 30,000 to 40,000 new cases being diagnosed each year.

Investigator Overview

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