



Oncology & Pulmonology

Innovation

Ventures

RCM-1 Compound to Treat Cancers and Pulmonary Indications

Brief Description of Technology

Increased FOXM1 is associated with proliferative diseases such as cancer and pulmonary diseases. A small molecule FOXM1 inhibitor has been identified.

TECHNOLOGY ID

2016-0903

BUSINESS OPPORTUNITY

Exclusive License or Sponsored Research

TECHNOLOGY TYPE

Therapeutic Target

PATENT INFORMATION

Provisional Filed

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Technology Overview

Microarray analysis of human solid tumors demonstrated that Forkhead box M1 (FOXM1) is one of the most common overexpressed genes in human tumors. A small molecule, RCM-1, has been identified as a FOXM1 inhibitor. FOXM1 is a transcription factor critical for proliferation of multiple cell types including cancer cells and cells associated with excessive mucus cell secretion (e.g. asthma). Other diseases associated with excessive mucus cell secretion include cystic fibrosis (CF) and chronic obstructive pulmonary disease (COPD). 50,000 small molecule compounds were screened to identify RCM-1. Studies with tumor cell lines demonstrated that RCM-1 inhibited protein levels of FOXM1 in human lung and prostate adenocarcinoma cell lines as shown in Western blots. In addition, tumors were extracted and shown to be reduced in size.

Applications

- New therapeutic treatment approaches for human non-small cell cancers
- Asthma, CF, COPD, and eosinophilc esophagitis (EoE)

Advantages

RCM-1 is a nontoxic, small molecule that inhibits cell proliferation, invasion and colony formation in mouse cancer models; as well as, goblet cell metaplasia and excessive mucus production in mice after exposure to allergens.

Market Overview

With applicability in several indications, this has the potential to address a large market. Approximately 85% of lung cancers are nonsmall cell lung cancer, ~25M people have asthma in the US, more than 11M people have COPD, ~30K people have CF, and ~150K people have EoE.

Investigator Overview

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