Peptide Inhibitors of Idiopathic Pulmonary Fibrosis

Tech ID: 31787 / UC Case 2019-089-0

ABSTRACT

Researchers at the University of California, Davis have developed a peptide that targets fibrogenic pathways in order to treat idiopathic pulmonary fibrosis.

FULL DESCRIPTION

Fibrosis is the development of excess fibrous, connective tissue. The development of some fibrous tissue is a normal step in many tissue or organ repair processes. In the lungs, however, repeated injury and repair can lead to life-threatening diseases such as idiopathic pulmonary fibrosis (IPF). IPF has a poor prognosis, and current therapeutics are ineffective - as they tend to focus on the inflammation aspects of the disease (not the fibrosis stage). These therapeutic have limited success due to their non-specific suppression of the inflammatory response. They can also act as powerful immunosuppressants. So there is a strong need for improved therapeutics to treat IPF.

Researchers at the University of California, Davis have developed a novel peptides targeting fibrogenic pathways. Phospho-MARCKS can act as a specific marker for activated fibroblasts. This marker can be targeted by a MARCKS PSD sequence (MPS) peptide to inhibit the marker's activity. The novel peptides will destroy activated fibroblasts/myofibroblasts without affecting dormant fibroblasts. It is also effective in inhibiting fibroblast cell movement, proliferation and differentiation into myofibroblasts without exhibiting any toxicity to normal cells.

APPLICATIONS

- Therapeutic treatment for pulmonary fibrosis through fibrosis suppression

FEATURES/BENEFITS

- More effective than IPF therapeutics that focus on inflammation
- Effective in inhibition of fibroblast cell migration, proliferation, and differentiation
- Does not affect dormant fibroblasts
- Peptide is soluble, stable and easy to manipulate

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20220267390	08/25/2022	2019-089

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OTHER INFORMATION

KEYWORDS

Idiopathic Pulmonary Fibrosis, Fibroblast, MPS peptide, MARCKS

CATEGORIZED AS

- **Medical**
  - Disease: Respiratory and Pulmonary System
  - New Chemical Entities, Drug Leads
  - Therapeutics

RELATED CASES

2019-089-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Disease Markers: Mucin 5B Monoclonal Antibodies

- Controlling Tumor Growth And Malignancy
- Suppression of Allergic Lung Inflammation and Hyperactivity
- Mucin-Specific Monoclonal Antibodies

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