



Technology Summary: Anti-Fibrosis Compound

Opportunity Statement

Fibrosis is the formation of excess fibrous connective tissue in an organ or tissue in a reparative or reactive process. The causes of fibrosis can be radiation, chemotherapy, burns, or an improper treatment of lymphedema. In fibrosis, the tissues are damaged because the scar-like structures prevent tissue fluid from bringing essential nutrients to the cells. This produces increased toxic waste products surrounding the cells within these tissues. Muscles with significant fibrosis have less strength and flexibility and operate with less efficiency compared to normal muscles.

The main types of fibrosis are Cystic Fibrosis (CF) and Idiopathic Pulmonary Fibrosis (IPF). The global IPF market was valued at USD 2.0 billion in 2009, and it is expected to increase with a compound annual growth rate of 25.1% from 2009 to 2016. The US market for CF is projected to exceed USD 896 million by 2015.

Problem

Pirfenidone (PFD) is the only approved drug for treatment of fibrosis in Europe and Japan, and is yet to be approved by US FDA. Despite its proven efficacy, one major shortcoming of PFD is the fact that its activity is not high and, therefore, it requires a high dosage to be effective.

Therefore, there is a need for an alternative drug that can overcome the shortcomings of PFD used for treatment of fibrosis.

360ip Partner's Solution

360ip partner's invention involves the introduction of a substituent, in particular an amino group or substituted amino group, into the benzene ring of a pyridone compound, to increase its activity.

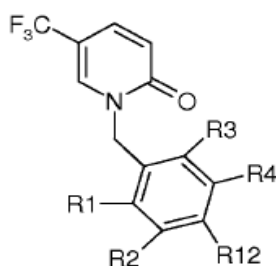
The table below shows the comparison of the current invention with other compounds in the market or currently in clinical trials for treatment of fibrosis.

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Compounds	Relative activity	Relative toxicity	Half life (h)	Safety index
PFD	1	1	~2	5.32
Hydronidone	~2	~>1	~4	~10
F-86	~2	~0.3	Unknown	~35
ITMN-520	~15	~>3	~8	~28
CURRENT INVENTION	30	~0.5	~8	161

The main advantages of the compound in the inventions are as follows:

- Long half life, which implies lesser dosage is needed compared with other compounds
- Much higher relative activity compared to other compounds
- Low relative toxicity and very high safety index



Patents

360ip's partner has filed one patent on this technology and plans to seek protection in multiple jurisdictions.

360ip is seeking interested parties for the licensing, further development and commercialization of this technology-based product.

For additional information, contact:

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