

# Pirfenidone

Catalog No: tcsc2905



## Available Sizes

**Size:** 100mg

**Size:** 500mg

**Size:** 1g

**Size:** 5g



## Specifications

**CAS No:**

53179-13-8

**Formula:**

$C_{12}H_{11}NO$

**Pathway:**

Stem Cell/Wnt;TGF-beta/Smad

**Target:**

TGF-beta/Smad;TGF-beta/Smad

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq 100$  mg/mL (539.90 mM)

**Alternative Names:**

AMR69

**Observed Molecular Weight:**

185.22

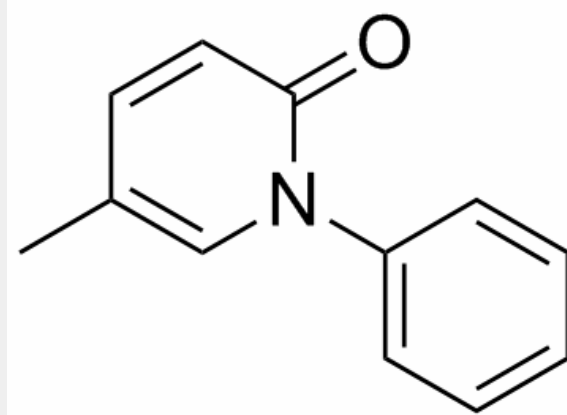
## Product Description

Pirfenidone leads to a reduction of **TGF-β<sub>2</sub>** mRNA levels and of the mature **TGF-β<sub>2</sub>** protein due to decreased expression and direct inhibition of the **TGF-β** pro-protein convertase furin.

IC50 & Target: TGF-β<sub>2</sub><sup>[1]</sup>

**In Vitro:** Pirfenidone (PFD) reduces the protein levels of the matrix metalloproteinase (MMP)-11, a TGF-β target gene and furin substrate involved in carcinogenesis. These data define PFD or PFD-related agents as promising agents for human cancers associated with enhanced TGF-β activity<sup>[1]</sup>. In RAW264.7 cells, a murine macrophage-like cell line, Pirfenidone suppresses the proinflammatory cytokine TNF-α by a translational mechanism, which is independent of activation of the MAPK2, p38 MAPK, and JNK. In the murine endotoxin shock model, Pirfenidone potently inhibits the production of the proinflammatory cytokines, TNF-α, interferon-γ, and interleukin-6, but enhances the production of the anti-inflammatory cytokine, interleukin-10<sup>[2]</sup>. Pirfenidone (PFD) shows its inhibitory effects on the proliferation of HLECs. Cell proliferation is attenuated in the 0.3 mg/mL group after 24 hours compare with the control group (P=0.044). The effect is more apparent in the 0.5 mg/mL group at 24, 48, and 72 hours (P[3].

**In Vivo:** Administration of Pirfenidone (300 mg/kg/day) for 4 wk. Pirfenidone significantly attenuates the score when administered in Bleomycin (BLM)-treated mice (P[4].



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