

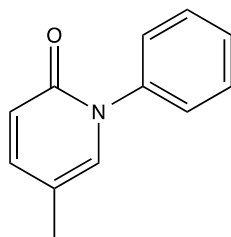
**Catalog # 10-2307**

**Pirfenidone**

53179-13-8

5-Methyl-1-phenyl-2(1H)-pyridinone

Lot # X106277



Antifibrotic agent. Prevents lung fibrosis in bleomycin-induced animal models.<sup>1</sup> Down-regulates bleomycin-induced overexpression of lung procollagen I and III genes.<sup>2</sup> Up-regulates RGS2 (Regulator of G-protein Signaling 2) which represents a new mechanism of pirfenidone action.<sup>3</sup> Inhibits fibroblast proliferation.<sup>4</sup> Suppresses TNF $\alpha$  production at the translational level.<sup>5</sup> Scavenges hydroxyl radicals and inhibits lipid peroxidation in a dose-dependent manner.<sup>6</sup> Recently approved therapeutic agent for idiopathic pulmonary fibrosis.<sup>7</sup> Orally active.

- 1) Kehrer and Margolin (1997), *Pirfenidone diminishes cyclophosphamide-induced lung fibrosis in mice*; Toxicol.Lett., **90** 125
- 2) Iyet *et al.* (1999), *Effects of pirfenidone on procollagen gene expression at the transcriptional level in bleomycin hamster model of lung fibrosis*; J.Pharmacol.Exp.Ther., **289** 211
- 3) Xie *et al.* (2002), *Upregulation of RGS2: a new mechanism for pirfenidone amelioration of pulmonary fibrosis*; Respir.Res., **17** 103
- 4) Li *et al.* (2016), *Oral pirfenidone protects against fibrosis by inhibiting fibroblast proliferation and TGF- $\beta$  signaling in a murine colitis model*; Biochem.Pharmacol., **117** 57
- 5) Nakazato *et al.* (2002), *A novel anti-fibrotic agent pirfenidone suppresses tumor necrosis factor-alpha at the translational level*, Eur.J.Pharmacol. **446** 177
- 6) Misra and Rabideau (2000), *Pirfenidone inhibits NADPH-dependent microsomal lipid peroxidation and scavenges hydroxyl radicals*, Mol.Cell Biochem. **204** 119
- 7) Canestaro *et al.* (2016), *Drug Treatment of Idiopathic Pulmonary Fibrosis: Systemic Review and Network Meta-Analysis*; Chest, **149** 756

**PHYSICAL DATA**

Molecular Weight:	185.23
Molecular Formula:	C <sub>12</sub> H <sub>11</sub> NO
Purity:	>98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (up to 20 mg/ml)
Physical Description:	Off-white solid
Storage and Stability:	Store as supplied desiccated at room temperature for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

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