

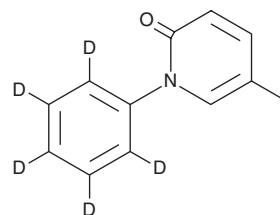
PRODUCT INFORMATION



Pirfenidone-d₅

Item No. 26452

CAS Registry No.: 1020719-62-3
Formal Name: 5-methyl-1-(phenyl-2,3,4,5,6-d₅)-2(1H)-pyridinone
MF: C₁₂H₆D₅NO
FW: 190.3
Chemical Purity: ≥98% (Pirfenidone)
Deuterium
Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Pirfenidone-d₅ is intended for use as an internal standard for the quantification of pirfenidone (Item No. 13986) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Pirfenidone-d₅ is supplied as a solid. A stock solution may be made by dissolving the pirfenidone-d₅ in the solvent of choice. Pirfenidone-d₅ is soluble in organic solvents such as methanol and chloroform, which should be purged with an inert gas.

Description

Pirfenidone is an orally bioavailable pyridone derivative with antifibrotic, anti-inflammatory, and antioxidant activities.¹⁻⁵ It inhibits TGF-β1-stimulated increases in collagen type I, fibronectin, and Hsp47 expression in A549 lung cancer cells in a concentration-dependent manner.⁴ Pirfenidone (300 mg/kg per day) inhibits fibrosis and inhibits increases in collagen content, fibrocyte pool size, and the levels of chemokines CCL2 and CCL12 in lung in a mouse model of pulmonary fibrosis induced by bleomycin (Item No. 13877).² In a mouse model of non-alcoholic steatohepatitis (NASH), pirfenidone inhibits fibrosis and increases in hepatocyte apoptosis, lobular inflammation, and hepatic expression of the fibrosis-related genes *Col1a1*, *Timp1*, *Tgfb1*, *Pdgfb*, and *Fgf2* when administered at a dose of 280 mg/kg but has no effect on steatosis.¹ Pirfenidone also inhibits NADPH-dependent lipid peroxidation in sheep liver microsomes and scavenges hydroxyl radicals (IC₅₀s = ~6 and ~2.5 mM, respectively).³ Formulations containing pirfenidone have been used in the treatment of idiopathic pulmonary fibrosis.

References

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3. Misra, H.P. and Rabideau, C. *Mol. Cell. Biochem.* **204**(1-2), 119-126 (2000).
4. Hisatomi, K., Mukae, H., Sakamoto, N., *et al. BMC Pulm. Med.* **12**:24 (2012).
5. Moeller, A., Ask, K., Warburton, D., *et al. Int. J. Biochem. Cell Biol.* **40**(3), 362-382 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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