Pirfenidone-d_5

Cat. No.: HY-B0673S

CAS No.: 1020719-62-3

Molecular Formula: $C_{12}H_6D_5NO$

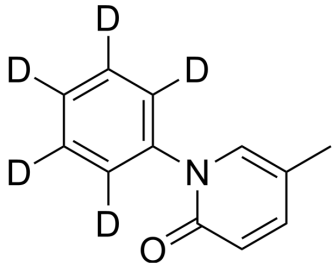
Molecular Weight: 190.25

Target: TGF-beta/Smad; CCR

Pathway: Stem Cell/Wnt; TGF-beta/Smad; GPCR/G Protein; Immunology/Inflammation

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (525.62 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	5.2562 mL	26.2812 mL	52.5624 mL
5 mM	1.0512 mL	5.2562 mL	10.5125 mL
10 mM	0.5256 mL	2.6281 mL	5.2562 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 6.25 mg/mL (32.85 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 6.25 mg/mL (32.85 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 5.95 mg/mL (31.27 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pirfenidone-d_5 is a deuterium labeled Pirfenidone. Pirfenidone is an antifibrotic agent that attenuates CCL2 and CCL12 production in fibrocyte cells. Pirfenidone has growth-inhibitory effect and reduces TGF-β2 protein levels in human glioma cell lines. Pirfenidone also has anti-inflammatory activities[1][2][3].

IC_{50} & Target

TGF-β2[1][2]
CCL2 and CCL12[3]

REFERENCES

[1]. Burghardt I, et al. Pirfenidone inhibits TGF-beta expression in malignant glioma cells. Biochem Biophys Res Commun. 2007 Mar 9;354(2):542-7.

[2]. Nakazato H, et al. A novel anti-fibrotic agent pirfenidone suppresses tumor necrosis factor-alpha at the translational level. Eur J Pharmacol. 2002 Jun 20;446(1-3):177-85.

[3]. Inomata M, et al. Pirfenidone inhibits fibrocyte accumulation in the lungs in bleomycin-induced murine pulmonary fibrosis. Respir Res. 2014 Feb 8;15:16.

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