SD 0006

Cat. No.: HY-11087

CAS No.: 271576-80-8

Molecular Formula: $C_{20}H_{20}ClN_5O_2$

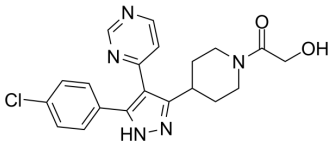
Molecular Weight: 397.86

Target: p38 MAPK; Autophagy

Pathway: MAPK/ERK Pathway; Autophagy

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (125.67 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5134 mL	12.5672 mL	25.1345 mL
5 mM	0.5027 mL	2.5134 mL	5.0269 mL
10 mM	0.2513 mL	1.2567 mL	2.5134 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.28 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SD 0006 (SD-06) is an orally active, selective, ATP-competitive and potent diaryl pyrazole inhibitor of p38α MAP kinase, with an IC_{50} of 110 nM for p38α[1][2].

IC_{50} & Target

IC50: 110 nM (p38 MAPK)[1].

In Vitro

SD 0006 clearly inhibits p38α as shown by the dose-dependent inhibition of phosphorylation of its endogenous Hsp27 substrate[1].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	SD 0006 (0-30 mg/kg) may be an effective alternative to steroids and biologics for RA therapy[1]. SD0006 (3.75, 7.5 and 15 mg/kg; p.o.; b.i.d.) is highly effective in attenuating SCW-induced inflammation as shown by the dose-dependent inhibition of paw swelling[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	8- to 12-week-old DBA/1 mice[1].
Dosage:	3.75, 7.5 and 15 mg/kg.
Administration:	Orally twice daily.
Result:	Inhibited the transcription of several inflammatory mediators to prevent joint swelling and bone destruction and to preserve bone density.

REFERENCES

[1]. Burnette BL, et al. SD0006: a potent, selective and orally available inhibitor of p38 kinase. Pharmacology. 2009;84(1):42-60.

[2]. Walker JK, et al. Identification of SD-0006, a potent diaryl pyrazole inhibitor of p38 MAP kinase. Bioorg Med Chem Lett. 2010 Apr 15;20(8):2634-8.

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