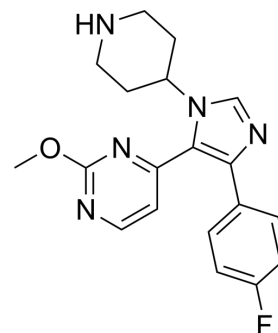


SB 242235

Cat. No.:	HY-18306		
CAS No.:	193746-75-7		
Molecular Formula:	C ₁₉ H ₂₀ FN ₅ O		
Molecular Weight:	353.39		
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 : ≥ 48 mg/mL (135.83 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		1 mg	5 mg	10 mg
	Concentration	Mass			
	1 mM		2.8297 mL	14.1487 mL	28.2973 mL
	5 mM		0.5659 mL	2.8297 mL	5.6595 mL
	10 mM		0.2830 mL	1.4149 mL	2.8297 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (7.07 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (7.07 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (7.07 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SB-242235 is a potent and selective p38 MAP kinase inhibitor, with an IC₅₀ of 1.0 μM in primary human chondrocytes^[1].

IC₅₀ & Target

IC₅₀: 1.0 μM (p38 MAPK, primary human chondrocytes)^[1]

In Vitro

SB 242235 (0-10 μM) dose-dependently inhibits the activation of MAPKAP K2 with an IC₅₀ of 1.0 μM in human chondrocytes stimulated with IL-1β^[1].

SB 242235 inhibits intracellular p38 activity, MAPKAP K2 was then isolated from these cells and assayed using HSP27 as a substrate^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis^[1]

Cell Line:	Human chondrocytes
Concentration:	0 μM, 0.01 μM, 0.1 μM, 1 μM, 10 μM
Incubation Time:	15 minutes
Result:	Dose-dependently inhibited the activation of MAPKAP K2 with an IC ₅₀ of 1.0 μM.

In Vivo

SB242235 (100 mg/kg; p.o.) abolishes MAP-KAPK-2 activity and HSP27 phosphorylation^[2].

SB242235 inhibits expression of the pro-inflammatory cytokines interleukin (IL)-6 and KC (murine IL-8) and COX-2^[2].

SB-242235 is demonstrated non-linear elimination kinetics that manifested as a decrease in clearance with increasing dose and apparent oral bioavailability > 100% at high oral doses in rat and monkey^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female SKH-1 hairless mice (4–6 weeks) ^[2]
Dosage:	100 mg/kg
Administration:	Oral administered, 30 minutes prior to ultraviolet B (UVB) irradiation
Result:	Abolished MAP-KAPK-2 activity and heat shock protein 27 (HSP27) phosphorylation.

CUSTOMER VALIDATION

- Cell Death Dis. 2020 Jul 27;11(7):588.

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REFERENCES

[1]. Badger, A.M., et al., Differential effects of SB 242235, a selective p38 mitogen-activated protein kinase inhibitor, on IL-1 treated bovine and human cartilage/chondrocyte cultures. Osteoarthritis Cartilage, 2000. 8(6): p. 434-43.

[2]. Kim AL, et al. Role of p38 MAPK in UVB-induced inflammatory responses in the skin of SKH-1 hairless mice. J Invest Dermatol. 2005 Jun;124(6):1318-25.

[3]. Ward, K.W., et al., SB-242235, a selective inhibitor of p38 mitogen-activated protein kinase. I: preclinical pharmacokinetics. Xenobiotica, 2002. 32(3): p. 221-33.

Caution: Product has not been fully validated for medical applications. For research use only.

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