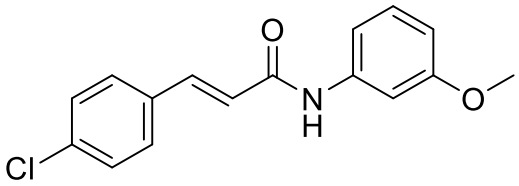
Product data sheet

MedKoo Cat#: 522592 Name: SB-366791 CAS#: 472981-92-3 Chemical Formula: $C_{16}H_{14}ClNO_2$ Exact Mass: 287.0713 Molecular Weight: 287.74	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
SB-366791 is a potent and selective TRPV1 antagonist. SB-366791 inhibits glutamatergic synaptic transmission in rat spinal dorsal horn following peripheral inflammation. SB-366791 decreased capsaicin-induced Ca2+ influx in cultured trigeminal ganglion cells in a concentration-dependent manner (0.5-10 microM) with an IC50 of 651.9 nM. SB366791 is a more selective and in vivo also a more potent TRPV1 receptor antagonist than capsazepine in the rat therefore, it may promote the assessment of the therapeutic utility of TRPV1 channel blockers.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	28.77	100
Ethanol	2.88	10

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.48 mL	17.38 mL	34.75 mL
5 mM	0.70 mL	3.48 mL	6.95 mL
10 mM	0.35 mL	1.74 mL	3.48 mL
50 mM	0.07 mL	0.35 mL	0.70 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Mamana J, Humber GM, Espinal ER, Seo S, Vollmuth N, Sin J, Kim BJ. Coxsackievirus B3 infects and disrupts human induced-pluripotent stem cell derived brain-like endothelial cells. Front Cell Infect Microbiol. 2023 Apr 17;13:1171275. doi: 10.3389/fcimb.2023.1171275. PMID: 37139492; PMCID: PMC10149843.
2. Rita Pereira EM, Souza JM, Carobin NV, Silva JF, Santos DC, Silva Júnior CA, Binda NS, Borges MH, Pinto Nagem RA, Kushmerick C, Ferreira J, Castro Junior CJ, Ribeiro FM, Gomez MV. Phoneutria toxin PnTx3-5 inhibits TRPV1 channel with antinociceptive action in an orofacial pain model. Neuropharmacology. 2020 Jan 1;162:107826. doi: 10.1016/j.neuropharm.2019.107826. Epub 2019 Oct 22. PMID: 31647972.

In vivo study

1. Mazeto TK, Picada JN, Correa ÁP, Rebelo IN, Ribeiro MT, Gomez MV, de Souza AH. Antinociceptive and genotoxic assessments of the antagonist TRPV1 receptor SB-366791 on morphine-induced tolerance in mice. Naunyn Schmiedebergs Arch Pharmacol. 2020 Mar;393(3):481-490. doi: 10.1007/s00210-019-01748-6. Epub 2019 Oct 26. PMID: 31655852.

2. Lappin SC, Randall AD, Gunthorpe MJ, Morisset V. TRPV1 antagonist, SB-366791, inhibits glutamatergic synaptic transmission in rat spinal dorsal horn following peripheral inflammation. Eur J Pharmacol. 2006 Jul 1;540(1-3):73-81. doi: 10.1016/j.ejphar.2006.04.046. Epub 2006 May 6. PMID: 16737693.

7. Bioactivity

Biological target:

SB-366791 is a VR1/TRPV1 antagonist with an IC50 value of 5.7 nM.

In vitro activity

In this study, inhibiting TRPV1 activity with SB-366791 significantly reduced Coxsackievirus B3 (CVB3) infection in induced-pluripotent stem cell-derived brain-like endothelial cells. SB-366791 could potentially limit viral entry into the brain, showcasing its potential as a treatment for neurotropic viruses.

Reference: Front Cell Infect Microbiol. 2023 Apr 17;13:1171275. https://pubmed.ncbi.nlm.nih.gov/37139492/

In vivo activity

SB-366791 showed increased pain relief in both morphine-tolerant and non-tolerant mice without inducing genotoxic or mutagenic effects. SB-366791 led to an analgesic effect in the tail flick test. Behavioral results of the thermal nociception tests showed that SB-366791 had antinociceptive potential in both morphine-tolerant and non-tolerant mice without genotoxic or mutagenic effects.

Reference: Naunyn Schmiedebergs Arch Pharmacol. 2020 Mar;393(3):481-490. https://pubmed.ncbi.nlm.nih.gov/31655852/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.