Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

SB 202190

Catalog No: tcsc0141

Available Sizes

Size: 50mg

Size: 100mg

Size: 200mg

Size: 500mg

Size: 1g

Specifications

CAS No:
152121-30-7

Formula:
$C_{20}H_{14}FN_3O$

Pathway:
MAPK/ERK Pathway;Autophagy

Target:
p38 MAPK;Autophagy

Form:
Pale-yellow Solid

Purity / Grade:
99.86%

Solubility:
DMSO : ≥ 40 mg/mL (120.72 mM)

Storage Instruction:

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Powder: -20°C for 3 years In solvent: -80°C for 12 months

Observed Molecular Weight:
331.34

Notes

SB-202190 is a pyridinyl imidazole that inhibits p38 MAPK via competing with ATP.

Product Description

Mitogen-activated protein kinase (MAPK) cascades regulate signal transduction involved in cell proliferation and death. SB-202190 is a potent cell-permeable inhibitor of p38 MAPK that inhibits p38 and p38β with IC50 values of 50 nM and 100 nM, respectively. SB-202190 at 5 μM inhibited the activation of p38 in HaCaT cells. The protein expression of COX-2 was almost completely blocked by 5 μM SB-202190 at 8 and 12 h post the exposure to UVB irradiation (250 J/m2). SB-202190 at the same concentration also significantly abrogated UVB induced cox-2mRNA in HaCaT cells. The inhibitory effect of SB-202190 on PGE2 production after UVB was observed in HaCaT cells treated by 5 μM SB-202190 for one hour. Bull serum albumin induced the gene expression of the inflammation marker MCP-1 more than 30-fold in renal tubular cells, while pre-incubation with 10 μM SB-202190 decreased the gene expression to the basal level. In HK-2 cells, 10 μM SB202190 treatment significantly reduced TGF-β1-induced gene expression. Two doses of SB-202190 (6.25 μg/dose, i.d. administered) prevented the development of blisters and a positive Nikolsky's skin induced by PV IgG injection (1.5 mg of IgG/g body weight) in neonatal mice. The PV IgG-mediated activation of phospho-p38MAPK immunoreactivity in the skin was abrogated in SB-202190-treated mice.

SB 202190 inhibits **p38** and **p38β2** with **IC_{50}** values of 50 nM and 100 nM. respectively.

IC50 & Target: IC50: 50 nM (p38), 100 nM (p38β2)

In Vitro: Treatment of cells with SB 202190 (SB202190) significantly inhibits both basal and anti-Fas antibody-induced MAPKAPK 2 activity in a dose-dependent manner as measured in immune complex kinase assays with GST-hsp27 as a substrate. Jurkat cells are treated with SB202190 or left untreated. After 24 h, cells are harvested, and the activity of CPP32-like caspases in cell extracts is measured by cleavage of the fluorescent peptide DEVD-AMC, which is a specific substrate of CPP32-like caspases. The cleavage of DEVD-AMC is significantly increased in cells treated with SB202190 but not in the control.

In Vivo: In HCT-116-derived colorectal tumors, administration of SB 202190 (SB202190), Sorafenib or a combination of both give similar results in terms of measurement of external tumor size (around 58% growth reduction compare with control tumors). SB202190 induces a 28% reduction of tumor growth, compare with a 31% reduction promoted by Sorafenib, while combination of both drugs reduce tumor growth by 55%. Compare to the model group, the SB202190 group exhibits significantly shorter escape latencies in the Morris water maze hidden platform trials ($P < 0.01$) and longer times in the original platform quadrant during probe trials ($P < 0.01$). The SB202190 group also shows significantly reduced neuronal apoptosis in the hippocampus compared to VaD model rats ($P < 0.01$) as well as higher (antiapoptotic) Bcl-2 expression and lower (proapoptotic) caspase-3 expression ($P < 0.01$ for both). In conclusion, blockade of the p38 MAPK signaling pathway by SB202190 following permanent 2-OV reduced apoptosis of hippocampal neurons and rescued spatial learning and memory deficits.

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Quality Guarantee

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