

# SB202190 (FHPI)

Catalog Number: C152121



**OrganRegen, INC.**  
Creating Solutions for Organoid Cultures

## DESCRIPTION

**Background** SB202190 is a selective p38 MAP kinase inhibitor with IC50s of 50 nM and 100 nM for p38 $\alpha$  and p38 $\beta$ 2, respectively. SB 202190 binds to the ATP pocket of the active recombinant human p38 kinase with a Kd of 38 nM. SB 202190 has anti-cancer activity and rescued memory deficits<sup>[1][2]</sup>. SB202190 induces autophagy<sup>[3]</sup>.

**M. W t** 331.34

**Formula** C<sub>20</sub>H<sub>14</sub>FN<sub>3</sub>O

**CAS No** 152121-30-7

**Storage** Powder - 20°C 3 years

4°C 2 year

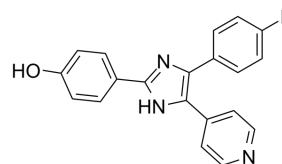
In solvent -80°C 6 months

-20°C 1 month

**Solubility** DMSO 100 mg/mL(301.80 mM; Need ultrasonic)

Ethanol 12 mg/mL(36.22 mM)

H<sub>2</sub>O < 0.1 mg/mL(insoluble)



C<sub>20</sub>H<sub>14</sub>FN<sub>3</sub>O

## BIOLOGICAL ACTIVITY

### In Vitro

SB202190 (0-10  $\mu$ M; 0-72 hours) attenuates growth of a subgroup of CRC cell lines such as RKO, CACO2 and SW480 in a dose- and time-dependent manner<sup>[1]</sup>.

SB 202190 strongly inhibited colony formation and anchorage-independent growth (10  $\mu$ M for 7–10 days) and elevated apoptotic cell death (10  $\mu$ M for 72 h) in this same subset of CRC lines (RKO, CACO2 and SW480)<sup>[2]</sup>.

In RKO, CACO2 and SW480 cells, SB202190 (10  $\mu$ M; 2 hours) abrogates phosphorylation of S6K1(T389) and S6(S235/236), but not AKT(S473), indicating that p38i selectively blocks mTORC1 signaling<sup>[2]</sup>.

### In Vivo

SB202190 (5 mg/kg; intraperitoneal injection; daily for 10-12 days) shows inhibition of tumor cell survival and tumor growth<sup>[2]</sup>.

## REFERENCES

[1]. Davies SP, et al. Specificity and mechanism of action of some commonly used protein kinase inhibitors. *Biochem J.* 2000 Oct 1;351(Pt 1):95-105.

[2]. Nemoto S, et al. Induction of apoptosis by SB202190 through inhibition of p38beta mitogen-activated protein kinase. *J Biol Chem.* 1998 Jun 26;273(26):16415-20.

[3]. Grossi V, et al. Bay 43-9006 inhibits p38 $\alpha$  activity in colorectal cancer cells and synergizes with the DFG-in inhibitor SB202190 to increase apoptotic response. *Cancer Biol Ther.* 2012 Dec;13(14):1471-81.