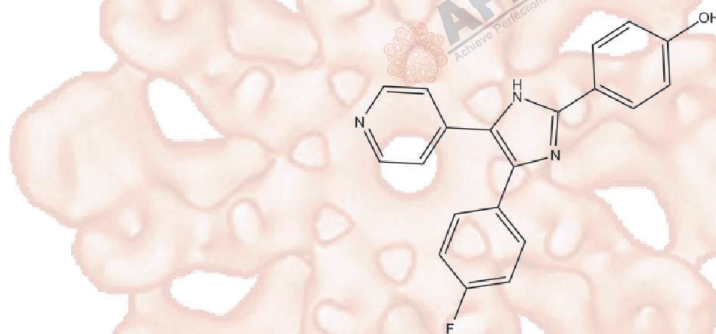


Product Data Sheet

SB202190 (FHPI)

Cat. No.:	A1632
CAS No.:	152121-30-7
Formula:	C ₂₀ H ₁₄ N ₃ O _F
M.Wt:	331.34
Synonyms:	
Target:	MAPK Signaling
Pathway:	p38
Storage:	Store at -20°C



Solvent & Solubility

insoluble in H₂O; ≥22.47 mg/mL in EtOH; ≥57.7 mg/mL in DMSO

In Vitro	Preparing Stock Solutions	Mass			
		1mg	5mg	10mg	
		Solvent			
		Concentration			
		1 mM	3.0180 mL	15.0902 mL	30.1805 mL
		5 mM	0.6036 mL	3.0180 mL	6.0361 mL
		10 mM	0.3018 mL	1.5090 mL	3.0180 mL

Please refer to the solubility information to select the appropriate solvent

Biological Activity

Shortsummary	P38 MAPK inhibitor	
IC ₅₀ & Target	50 nM (p38α MAPK), 100 nM (p38β MAPK)	
In Vitro	Cell Viability Assay	
	Cell Line:	THP-1 and MV4-11 leukemia cells
	Preparation method:	The solubility of this compound in DMSO is > 10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
	Reacting conditions:	72 h, 5 μM

	Applications:	SB202190 is a specific inhibitor of p38 α and p38 β through competition with ATP for the same binding site on p38. SB202190 potentially activated the growth of THP-1 and MV4-11 cells. Furthermore, SB202190 increased the phosphorylation of C-Raf and ERK, suggesting that Raf–MEK–MAPK pathway activation is involved in the cell growth induced by SB202190.
In Vivo	Animal experiment	
	Animal models:	Three-month specific pathogen-free (SPF) male Wistar rats
	Dosage form:	5 μ L of 10 μ mol/L SB202190, ICV injection
	Applications:	One week after SB202190 treatment, p38 MAPK phosphorylation in hippocampus was higher in the model group than in the SB202190 group. Compared to the model group, the SB202190 group exhibited significantly shorter escape latencies in the Morris water maze hidden platform trials. The SB202190 group also showed higher Bcl-2 expression, lower caspase-3 expression and significantly decreased neuronal apoptosis in hippocampus.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Post JB, Hami N, et al. "CRISPR-induced RASGAP deficiencies in colorectal cancer organoids reveal that only loss of NF1 promotes resistance to EGFR inhibition." *Oncotarget*. 2019 Feb 15;10(14):1440-1457. PMID:30858928
2. van der Waals LM, Laoukili J, et al. "Differential anti-tumour effects of MTH1 inhibitors in patient-derived 3D colorectal cancer cultures." *Sci Rep*. 2019 Jan 28;9(1):819. PMID:30692572
3. Ramos-Alvarez I, Lee L, et al. "Cyclic AMP-dependent protein kinase A and EPAC mediate VIP and secretin stimulation of PAK4 and activation of Na(+),K(+)-ATPase in pancreatic acinar cells." *Am J Physiol Gastrointest Liver Physiol*. 2019 Feb 1;316(2):G263-G277. PMID:30520694
4. Ramos-Alvarez I, Jensen RT. "P21-activated kinase 4 in pancreatic acinar cells is activated by numerous gastrointestinal hormones/neurotransmitters and growth factors by novel signaling, and its activation stimulates secretory/growth cascades." *Am J Physiol Gastrointest Liver Physiol*. 2018 Aug 1;315(2):G302-G317. PMID:29672153
5. Verissimo CS, Overmeer RM, et al. "Targeting mutant RAS in patient-derived colorectal cancer organoids by combinatorial drug screening." *Elife*. 2016 Nov 15;5. pii: e18489. PMID:27845624

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References

- [1]. Hirose M, Nakahara M, Otsuka R, et al. The p38 pathway inhibitor SB202190 activates MEK/MAPK to stimulate the growth of leukemia cells[J]. *Leukemia research*, 2009, 33(5): 693-699.
- [2]. Yang S, Zhou G, Liu H, et al. Protective effects of p38 MAPK inhibitor SB202190 against hippocampal apoptosis and spatial learning and memory deficits in a rat model of vascular dementia[J]. *BioMed research international*, 2013, 2013: 215798.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



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