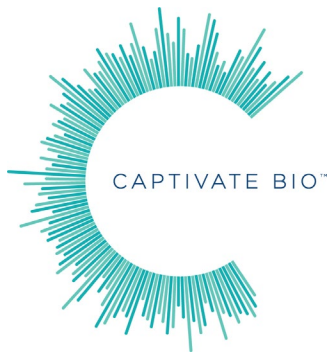


Technical Data Sheet: SB203580

Catalog Number	SML17B
Synonyms	RWJ 64809; SB-203580
Size	10 mg
Description	SB203580 is a selective ATP-competitive p38 MAPK inhibitor with IC ₅₀ s of 50 nM and 500 nM for SAPK2a/p38 and SAPK2b/p38β ₂ , respectively. SB203580 inhibits LCK, GSK3β and PKBα with IC ₅₀ s of 100-500-fold higher than that for SAPK2a/p38. SB203580 does not disrupt JNK activity and is an autophagy and mitophagy activator ² . SB203580 has been shown to enhance clonal growth of skin epithelial progenitor cells and to stimulate neural stem cell (NSC) proliferation ⁵ . Additionally, SB203580 has also demonstrated significant inhibition of the proliferation of HNSCC cells both in vitro and in vivo. ⁴
Molecular Weight	377.43
Molecular Formula	C ₂₁ H ₁₆ FN ₃ OS
Chemical Name	Pyridine, 4-[4-(4-fluorophenyl)-2-[4-(methyl sulfinyl) phenyl]-1H-imidazol-5-yl]-
CAS Number	152121-47-6
Target	p38 MAPK; Autophagy; Mitophagy
Appearance	White to light yellow (Solid)
Purity	≥98% by NMR
Solubility and Reconstitution	Soluble in DMSO up to 40mM, for example: 10 mg/132.475 mL = 0.075 mg/mL = 0.2 mM 10 mg/26.4950 mL = 0.377 mg/mL = 1 mM 10 mg/5.2990 mL = 1.877 mg/mL = 5 mM 10 mg/2.6495 mL = 3.774 mg/mL = 10 mM
Storage Temperature and Stability	Powder: -20°C 3 years 4°C 2 years In solvent: -80°C 6 months -20°C 1 month
References	1. Borsch-Haubold, A.G., et al. (1998) Direct inhibition of cyclooxygenase-1 and -2 by the kinase inhibitors SB 203580 and PD 98059. <i>J Biol Chem</i> 273: 28766-28772. PMID: 9786874. 2. Davies SP, et al. Specificity and mechanism of action of some commonly used protein kinase inhibitors. <i>Biochem J.</i> 2000 Oct 1;351(Pt 1):95-105. 3. Lali FV, et al. The pyridinyl imidazole inhibitor SB203580 blocks phosphoinositide-dependent protein kinase activity, protein kinase B phosphorylation, and retinoblastoma hyperphosphorylation in interleukin-2-stimulated T cells independently of p38 mitogen-activated protein kinase. <i>J Biol Chem.</i> 2000 Mar 10;275(10):7395- 402.



4. Leelahavanichkul K, et al. A role for p38 MAPK in head and neck cancer cell growth and tumor induced angiogenesis and lymph angiogenesis. *Mol Oncol.* 2014 Feb;8(1):105-18.

5. Sato, K., et al. (2008) Inhibitors of p38 mitogen-activated protein kinase enhance proliferation of mouse neural stem cells. *J Neurosci Res* 86: 2179-2189.