



Product Specification Sheet

Product Name: SB203580**Catalog Number:** C7320**Technical information:**Chemical Formula: $C_{21}H_{16}FN_3OS$

CAS #: 152121-47-6

Molecular Weight: 377.43

Purity: > 98%

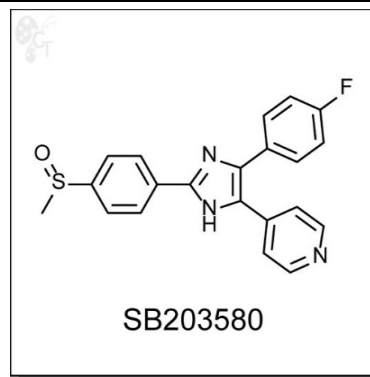
Appearance: White solid

Solubility: Soluble in DMSO up to 100 mM

Chemical Name: 4-(4-(4-fluorophenyl)-2-(4-(methylsulfinyl)phenyl)-1H-imidazol-5-yl)pyridine

Storage: Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.

Shelf Life: In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.



- Handling:**
- To make 10 mM stock solution, add 0.265mL of DMSO for each mg of SB203580.
 - For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

Biological Activity: SB203580 is a pyridinylimidazole-based inhibitor of p38-MAPK at an IC₅₀ of 0.3-0.5 μ M. [1] It also inhibits PKB phosphorylation at an IC₅₀ of 3-5 μ M and blocks the key cell cycle event of retinoblastoma protein phosphorylation in IL-2-stimulated T-cells. SB203580 was found to inhibit the activation of p70S6K, but at a location downstream of PI3K. [1]

Independent studies indicate at concentrations of 10 μ M, SB203580 activates phosphorylation of ERK1/2 and JNK, which in turn may activate gene transcription regulated by NF- κ B. [2] Similarly, SB203580 was shown to stimulate the phosphorylation and activation of cPLA2, CAMKII α and arachidonic acid release. [3]

In an L1210 mouse leukemic cell line resistant to vincristine, SB203580 is believed to play a role in the reversal of Pgp-mediated multidrug resistance. [4]

- Reference:**
1. Lali 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. J. Biol. Chem. 2000, 275(10), 7395-7402. Pubmed ID: 10702313
 2. Birkenkamp et al., The p38 MAP kinase inhibitor SB203580 enhances nuclear factor-kappa B transcriptional activity by a non-specific effect upon the ERK pathway. Br. J. Pharmacol. 2000, 131, 99-107. Pubmed ID: 10960075
 3. Fatima et al., Cytosolic phospholipase A2 activation by the p38 kinase inhibitor SB203580 in rabbit aortic smooth muscle cells. J. Pharmacol. Exp. Ther. 2001, 298(1), 331-338. Pubmed ID: 11408559
 4. Barancik et al., SB203580, a specific inhibitor of p38-MAPK pathway, is a new reversal agent of P-glycoprotein-mediated multidrug resistance. Eur. J. Pharmaceut. Sci. 2001, 14, 29-36. Pubmed ID: 11457647

To reorder: <http://www.cellagentech.com/SB203580/>

For Technical Support: technical@cellagentech.com

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