

PRODUCT INFORMATION



SB 203580

Item No. 13067

CAS Registry No.: 152121-47-6
Formal Name: 4-[4-(4-fluorophenyl)-2-[4-methylsulfinyl]phenyl]-1H-imidazol-5-yl-pyridine

Synonyms: PB 203580, RWJ 64809

MF: C₂₁H₁₆FN₃OS

FW: 377.4

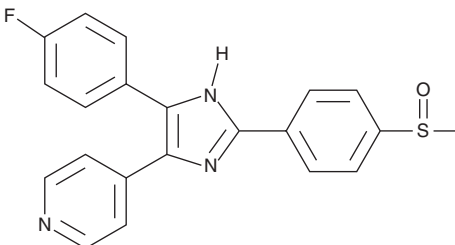
Purity: ≥98%

UV/Vis.: λ_{max}: 226, 318 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

SB 203580 is supplied as a crystalline solid. A stock solution may be made by dissolving the SB 203580 in the solvent of choice, which should be purged with an inert gas. SB 203580 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of SB 203580 in ethanol is approximately 0.2 mg/ml and approximately 10 mg/ml in DMSO and DMF.

SB 203580 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, SB 203580 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. SB 203580 has a solubility of approximately 0.5 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Mitogen-activated protein kinases (MAPK) mediate signal transduction from cell surface receptors to the nucleus and are classified into various subtypes. p38 MAPK is activated by environmental stresses and inflammatory cytokines and is critical for normal immune and inflammatory responses as it regulates the expression of many cytokines, transcription factors, and cell surface receptors.¹ SB 203580 is a pyridinyl imidazole inhibitor of p38 MAPK that specifically blocks its kinase activity. SB 203580 does not however, disrupt JNK activity, which is activated by similar stressors to those which activate p38 MAPK.² p38 MAPK activity in heat-shocked HeLa cells and osmotically stressed PC12 cells is inhibited by SB 203580 with an IC₅₀ value of 0.6 μM.² SB 203580 also prevents the activation of PKB/Akt by inhibiting phosphoinositide-dependent protein kinase 1 (PDK1) at IC₅₀ values of 3-5 μM.³

References

1. Roux, P.P. and Blenis, J. *Microbiology and Molecular Biology Reviews* **68**(2), 320-344 (2004).
2. Cuenda, A., Rouse, J., Doza, Y.N., et al. *FEBS Lett.* **364**, 229-233 (1995).
3. Lali, F.V., Hunt, A.E., Turner, S.J., et al. *J. Biol. Chem.* **275**(10), 7395-7402 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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