

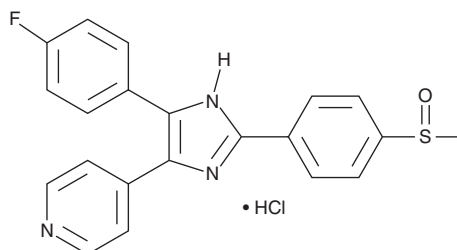
PRODUCT INFORMATION



SB 203580 (hydrochloride)

Item No. 13344

CAS Registry No.: 869185-85-3
Formal Name: 4-[4-(4-fluorophenyl)-2-[4-(methylsulfinyl)phenyl]-1H-imidazol-5-yl]-pyridine, monohydrochloride
Synonyms: PB 203580, RWJ 64809
MF: C₂₁H₁₆FN₃OS • HCl
FW: 413.9
Purity: ≥95%
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 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the SB 203580 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. SB 203580 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of SB 203580 (hydrochloride) in these solvents is approximately 30 mg/ml.

SB 203580 (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, SB 203580 (hydrochloride) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. SB 203580 (hydrochloride) has a solubility of approximately 0.1 mg/ml in a 1:10 solution of ethanol: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 (MAPKs) 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 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 SB 203580 (hydrochloride) has a formulation with greater solubility in organic solvents than standard SB 203580 (Item No. 13067).

References

1. Roux, P.P. and Blenis, J. ERK and p38 MAPK-activated protein kinases: A family of protein kinases with diverse biological functions. *Microbiol. Mol. Biol. Rev.* **68**(2), 320-344 (2004).
2. Cuenda, A., Rouse, J., Doza, Y.N., et al. SB 203580 is a specific inhibitor of a MAP kinase homologue which is stimulated by cellular stresses and interleukin-1. *FEBS Lett.* **364**(2), 229-233 (1995).
3. Lali, F.V., Hunt, A.E., Turner, S.J., 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.* **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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