

**Product Name:** SB 203580

**Catalog No.:** 1202

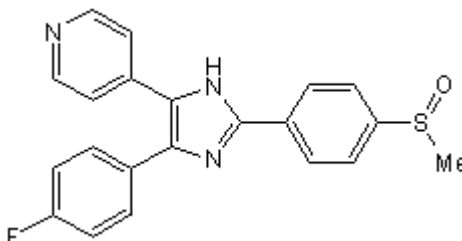
**Batch No.:** 5

CAS Number: 152121-47-6

IUPAC Name: 4-[5-(4-Fluorophenyl)-2-[4-(methylsulfonyl)phenyl]-1*H*-imidazol-4-yl]pyridine

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>21</sub>H<sub>16</sub>FN<sub>3</sub>OS  
**Batch Molecular Weight:** 377.44  
**Physical Appearance:** Cream solid  
**Solubility:** DMSO to 25 mM  
 1eq. HCl to 100 mM  
**Storage:** Desiccate at +4°C  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**TLC:** R<sub>f</sub> = 0.23 (Dichloromethane:Methanol [9:1])  
**HPLC:** Shows 98.4% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	66.83	4.27	11.13
Found	66.65	4.33	11.06

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**Description:**

Selective inhibitor of p38 mitogen-activated protein kinase (IC<sub>50</sub> values are 50 and 500 nM for SAPK2a/p38 and SAPK2b/p38β2 respectively). Displays 100-500-fold selectivity over LCK, GSK-3β and PKBα. Shown to inhibit interleukin-2-induced T cell proliferation, cyclooxygenase-1 and -2, and thromboxane synthase. Enhances clonal growth of skin epithelial progenitor cells; stimulates neural stem cell (NSC) proliferation. Part of the MAPK Cascade Inhibitor Tocriset™ and MAPK Inhibitor Tocriset™. Water-soluble salt SB 203580 hydrochloride (Cat. No. 1402) also available.

**Physical and Chemical Properties:**

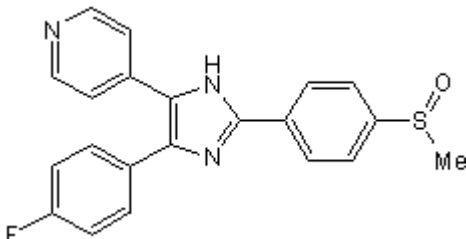
Batch Molecular Formula: C<sub>21</sub>H<sub>16</sub>FN<sub>3</sub>OS

Batch Molecular Weight: 377.44

Physical Appearance: Cream solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**References:**

**Saklatvala et al** (1996) Role for p38 mitogen-activated protein kinase in platelet aggregation caused by collagen on a thromboxane analogue. *J.Biol.Chem.* **271** 6586. PMID: 8636072.

**Borsch-Haubold et al** (1998) Direct inhibition of cyclooxygenase-1 and -2 by the kinase inhibitors SB 203580 and PD 98059. *J.Biol.Chem.* **273** 28766. PMID: 9786874.

**Davies et al** (2000) Specificity and mechanism of action of some commonly used protein kinase inhibitors. *Biochem.J.* **351** 95. PMID: 10998351.

**Sato et al** (2008) Inhibitors of p38 mitogen-activated protein kinase enhance proliferation of mouse neural stem cells. *J.Neurosci.Res.* **86** 2179. PMID: 18338804.

**Storage:** Desiccate at +4°C

**Solubility & Usage Info:**

DMSO to 25 mM

1eq. HCl to 100 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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