

SB202190

p38 MAP kinase inhibitor

Catalog # tlr1-sb90

For research use only

Version # 16E04-MM

PRODUCT INFORMATION

Content:

5 mg of SB202190 provided lyophilized

Storage and stability:

- SB202190 is shipped at room temperature. Store lyophilized product at -20°C. Lyophilized product is stable for 1 year when properly stored.

- Upon resuspension, prepare aliquots of SB202190 and store at -20°C. SB202190 resuspended in DMSO is stable for 1 month when properly stored.

Quality control:

- Purity: ≥98% (UHPLC)
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.
- The inhibitory activity of the product has been validated using RAW-Lucia™ ISG cells.

DESCRIPTION

SB202190, a close relative of SB203580, is widely used to assess the physiological roles of p38 α and p38 β MAPKs. Recent studies have identified other protein kinases, including GAK, CK1 and RIP2, that are potently inhibited by SB202190 (as well as SB203580)¹. Further, SB202190 was shown to induce autophagic vacuoles through cross-inhibition of the PI3K/mTOR pathway².

1. **Bain J. et al., 2007.** The selectivity of protein kinase inhibitors: a further update. *Biochem J.* 408(3):297-315. 2. **Menon MB. et al., 2011.** SB202190-induced cell type-specific vacuole formation and defective autophagy do not depend on p38 MAP kinase inhibition. *PLoS One.* ;6(8):e23054.

CHEMICAL PROPERTIES

CAS number: 152121-30-7

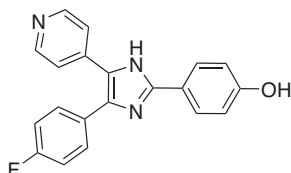
Formula: C₂₀H₁₄FN₃O

Molecular weight: 331.34

Solubility: 30 mg/ml in DMSO provides a yellow solution

Appearance: Pale yellow powder

Structure:



METHODS

Preparation of stock solution (90 mM)

1. Add 167 μ l of DMSO to 5 mg SB202190.
2. Vortex until completely dissolved.
3. Prepare aliquots and store at -20°C.
4. Once SB202190 has been solubilized, dilutions can be prepared by adding sterile water or culture medium. Aqueous solutions should not be stored for more than one day.

Working concentration: 1-60 μ M (331 ng/ml - 19.88 μ g/ml) for cell culture assays

Inhibition assay

Described below is a protocol to study p38 MAP kinase inhibition in the murine macrophage reporter cell line, RAW-Lucia™ ISG cells.

Day 1:

1. Prepare a RAW-Blue™ ISG cell suspension at ~625,000 cells/ml.
2. Add 20 μ l of SB202190 at a final concentration of 1-60 μ M.
3. Add 160 μ l of cell suspension (~100,000 cells) per well.
4. Incubate for 1 hour at 37°C.
5. Add 20 μ l of sample or a TLR4 ligand, such as LPS-EB Ultrapure (at a final concentration of 100 ng/ml), per well of a flat-bottom 96-well plate.
6. Incubate the plate at 37°C in a 5% CO₂ incubator for 18-24 hours.
7. Detect p38 MAP kinase inhibition using the appropriate detection system, such as the Lucia luciferase detection assay reagent QUANTI-Luc™.

RELATED PRODUCTS

Product	Catalog Code
LPS-EB Ultrapure	tlr1-3pelps
QUANTI-Luc™	rep-qlc1
RAW-Lucia™ ISG cells	rawl-isg
SB203580	tlr1-sb20

TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873

InvivoGen USA (International): +1 (858) 457-5873

InvivoGen Europe: +33 (0) 5-62-71-69-39

InvivoGen Hong Kong: +852 3-622-34-80

E-mail: info@invivogen.com