Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

SB-431542

Catalog No: tcsc0135

Available Sizes

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
301836-41-9

Formula:
$C_{22}H_{16}N_4O_3$

Pathway:
TGF-beta/Smad

Target:
TGF-β Receptor

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 40 mg/mL (104.06 mM); Ethanol : 11.17 mg/mL (29.06 mM; Need ultrasonic and warming)

Observed Molecular Weight:
384.39

Product Description

SB-431542 is a potent and selective inhibitor of **ALK5** with an **IC_{50}** value of 94 nM, and is also an inhibitor of **TGF-β Receptor**.

IC50 & Target: IC50: 94 nM (ALK5)[2]

In Vitro:

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SB-431542 (1 μM) significantly reduces the TGF-β-induced nuclear accumulation of Smad proteins in A498 cells. SB-431542 inhibits TGF-β1-induced collagen Iα1 and PAI-1 mRNA with IC_{50} values of 60 and 50 nM, respectively. In addition, SB-431542 inhibits TGF-β1-induced fibronectin mRNA and protein with IC_{50} values of 62 and 22 nM, respectively[1]. SB-431542 (10 μM) is a selective inhibitor of endogenous activin and TGF-β signaling but has no effect on BMP signaling in NIH 3T3 cells[2]. TRKI, SB-431542, inhibits TGF-beta-induced transcription, gene expression, apoptosis, and growth suppression. SB-431542 attenuates the tumor-promoting effects of TGF-beta, including TGF-beta-induced EMT, cell motility, migration and invasion, and vascular endothelial growth factor secretion in human cancer cell lines. SB-431542 induces anchorage independent growth of cells that are growth-inhibited by TGF-beta, whereas it reduces colony formation by cells that are growth-promoted by TGF-beta[3]. SB-431542 (0.3 μM) inhibits cell proliferation induced by TGF-β in MG63 cells[4].

In Vivo: SB-431542 (10 mg/kg, i.p.) decreases lung metastasis but does not significantly alter growth of the primary tumor 4T1 xenograft[5].