

# 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- $\beta$  Receptor

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq$  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

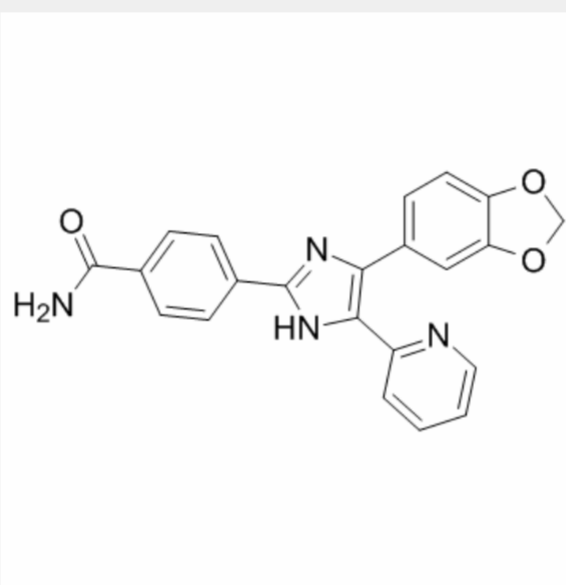
SB-431542 is a potent and selective inhibitor of **ALK5** with an **IC<sub>50</sub>** value of 94 nM, and is also an inhibitor of **TGF- $\beta$  Receptor**.

IC50 & Target: IC50: 94 nM (ALK5)<sup>[2]</sup>

***In Vitro:***

SB-431542 (1  $\mu$ M) significantly reduces the TGF- $\beta$ -induced nuclear accumulation of Smad proteins in A498 cells. SB-431542 inhibits TGF- $\beta$ 1-induced collagen  $\alpha$ 1 and PAI-1 mRNA with  $IC_{50}$  values of 60 and 50 nM, respectively. In addition, SB-431542 inhibits TGF- $\beta$ 1-induced fibronectin mRNA and protein with  $IC_{50}$  values of 62 and 22 nM, respectively<sup>[1]</sup>. SB-431542 (10  $\mu$ M) is a selective inhibitor of endogenous activin and TGF- $\beta$  signaling but has no effect on BMP signaling in NIH 3T3 cells<sup>[2]</sup>. 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<sup>[3]</sup>. SB-431542 (0.3  $\mu$ M) inhibits cell proliferation induced by TGF- $\beta$  in MG63 cells<sup>[4]</sup>.

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



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!