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# A 83-01

## Catalog No: tcsc1437

### Available Sizes

**Size:** 10mg

**Size:** 50mg

### Specifications

**CAS No:**
909910-43-6

**Formula:**
$C_{25}H_{19}N_5S$

**Pathway:**
TGF-beta/Smad

**Target:**
TGF-β Receptor

**Purity / Grade:**
>98%

**Solubility:**
DMSO : 30 mg/mL (71.17 mM; Need ultrasonic); H2O :

**Observed Molecular Weight:**
421.52

## Product Description

A 83-01 is a potent inhibitor of **TGF-β type I receptor ALK5 kinase**, type I activin/nodal receptor **ALK4** and type I nodal receptor **ALK7**, with **$IC_{50}$**s of 12, 45 and 7.5 nM against the transcription induced by ALK5, ALK4 and ALK7, respectively.

IC50 & Target: IC50: 12 nM (ALK5, cell-based), 45 nM (ALK4 cell-based), 7.5 nM (ALK7 cell-based)[1]

***In Vitro:*** A 83-01 is a potent inhibitor of TGF-β type I receptor ALK5 kinase, type I activin/nodal receptor ALK4 and type I nodal

receptor ALK7, reduces the level of ALK-5-induced transcription with an $IC_{50}$ of 12 nM in Mv1Lu cells, also blocks the ALK4-TD and ALK7-TD induced transcription with $IC_{50}$s of 45 nM and 7.5 nM in R4-2 cells, and weakly suppresses that induced by constitutively active ALK-6, ALK-2, ALK-3, and ALK-1. A 83-01 (0.03-10 μM) potently prevents the growth-inhibitory effects of TGF-β, and completely inhibits the effect at 3 μM. A 83-01 (1-10 μM) inhibits TGF-β-induced Smad activation in HaCaT cells[1]. A 83-01 (1 μM) decreases cell motility, adhesion and invasion increased by TGF-β1 in HM-1 cells, but does not change cell proliferation[2].

***In Vivo:*** A 83-01 (50, 150 and 500 μg/mouse, i.p.) significantly improves survival of the mice without body weight or neurobehavioral appearances[2]. A 83-01 (0.5 mg/kg, i.p.) shows a significantly strong antitumor effect in mice bearing M109 cells[3].