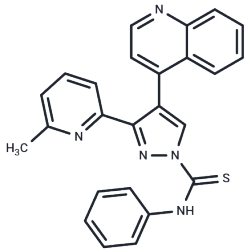
Data Sheet (Cat.No.T3031)

TargetMol

A 83-01

Chemical Properties



CAS No. : 909910-43-6

Formula: C25H19N5S

Molecular Weight: 421.52

Appearance: no data available

Storage: store at low temperature
Powder: -20°C for 3 years

Biological Description

Description	A 83-01 (ALK5 Inhibitor IV) is an inhibitor of the TGF-β type I receptors ALK5, ALK4, and ALK7 (IC50=12/45/7.5 nM). A 83-01 promotes the reprogramming of mouse fibroblasts into iPSCs. A 83-01 can be used in organoid cultures.
Targets(IC50)	ALK,TGF-beta/Smad
In vitro	**METHODS**: Wild-type mink lung epithelial cells, Mv1Lu, were treated with A 83-01 (0.03-10 μM) and TGF-β (1 ng/mL) for 48 h, and cell proliferation was detected using a Coulter counter. **RESULTS**: A 83-01 prevented the inhibition of Mv1Lu cell growth by TGF-β in a dose-dependent manner. [1] **METHODS**: Mouse ovarian cancer cells HM-1 were treated with A 83-01 (1-10 μM) for 30 min, followed by treatment with TGF-β (1-10 ng/mL) for 60 min, and the expression levels of target proteins were detected using Western Blot. **RESULTS**: The addition of TGF-β1 increased the expression of pSmad3, and A 83-01 inhibited the up-regulation of TGF-β. [2]
In vivo	**METHODS**: To detect anti-tumor activity in vivo, A 83-01 (150 μg/each) was administered intraperitoneally three times a week for four weeks to a B6C3F1 mouse model of peritoneal spread of HM-1 cancer. **RESULTS**: Ascites formation tended to be slower in the A 83-01-treated group, and A 83-01 significantly improved the survival rate of the mice. [2] **METHODS**: To investigate the role in myocardial injury, A 83-01 (10 mg/kg) was administered intraperitoneally to Nkx2.5 enh-Cre/mTmG mice once daily for seven days. **RESULTS**: A 83-01 treatment significantly increased the number of Nkx2.5+ myocardial myofibroblasts at baseline and after myocardial injury, leading to an increase in the number of newly formed myocardial cells. A 83-01 treatment significantly improved ventricular elasticity and stroke work, which led to an improvement of contractility after injury. [3]
Cell Research	HM-1 cells are seeded into a 96-well plate and are incubated for 18 hr. A-83-01 (1 μM) or vehicle are then added for 12 hr followed by the addition of TGF-β1 (1 ng/mL) or vehicle for 60 hr. The number of viable cells in each well is examined using the WST-1 assay following the manufacturer's instructions.

Solubility Information

Solubility	DMSO: 10 mg/mL (23.72 mM),The compound is unstable in solution. Please use soon. 10% DMSO+90% Saline: 1 mg/mL (2.37 mM),Solution. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3724 mL	11.8618 mL	23.7237 mL
5 mM	0.4745 mL	2.3724 mL	4.7447 mL
10 mM	0.2372 mL	1.1862 mL	2.3724 mL
50 mM	0.0474 mL	0.2372 mL	0.4745 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

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A gastric cancer patient-derived three-dimensional cell spheroid culture model