Data Sheet (Cat.No.T10442)

TargetMol

A 83-01 sodium salt

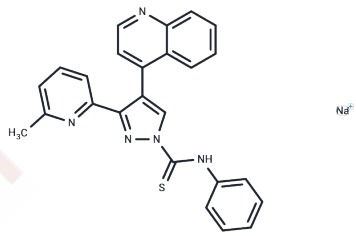
Chemical Properties

CAS No. : 2828431-89-4

Formula: C25H19N5NaS+

Molecular Weight: 444.51

Storage: Powder: -20°C for 3 years
Actual storage temperature shall be subject to the COA.



Biological Description

Description	A 83-01 sodium salt is a potent inhibitor of TGF-β type I receptor ALK5 kinase, ALK4 and ALK7, with IC 50 s of 12 nM, 45 nM and 7.5 nM against the ALK5, ALK4 and ALK7 induced transcription, respectively [1].
Targets(IC50)	ALK,TGF-beta/Smad
In vitro	A 83-01 sodium salt is a powerful inhibitor of TGF-β type I receptor ALK5 kinase, ALK4 and ALK7, significantly reducing ALK-5-induced transcription with an IC50 of 12 nM in Mv1Lu cells. It also inhibits ALK4-TD and ALK7-TD induced transcription in R4-2 cells with IC50 values of 45 nM and 7.5 nM, respectively, while only mildly suppressing transcription induced by constitutively active ALK-6, ALK-2, ALK-3, and ALK-1. At concentrations ranging from 0.03-10 μM, A 83-01 effectively counteracts the growth-inhibitory effects of TGF-β, completely negating this effect at 3 μM. Furthermore, A 83-01 at 1-10 μM prevents TGF-β-induced Smad activation in HaCaT cells, and at 1 μM, it decreases TGF-β1-enhanced cell motility, adhesion, and invasion in HM-1 cells without affecting cell proliferation.
In vivo	A 83-01, administered intraperitoneally (i.p.) at doses of 50, 150, and 500 μg/mouse, significantly enhances survival rates in mice without affecting their body weight or neurobehavioral functions [2]. At a dosage of 0.5 mg/kg, A 83-01 exhibits a pronounced antitumor effect in mice with M109 cells [3].

Solubility Information

Solubility	DMSO: 100 mg/mL (224.97 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2497 mL	11.2483 mL	22.4967 mL
5 mM	0.4499 mL	2.2497 mL	4.4993 mL
10 mM	0.225 mL	1.1248 mL	2.2497 mL
50 mM	0.045 mL	0.225 mL	0.4499 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Tojo M, et al. The ALK-5 inhibitor A-83-01 inhibits Smad signaling and epithelial-to-mesenchymal transition by transforming growth factor-beta. Cancer Sci. 2005 Nov;96(11):791-800.
Yamamura S, et al. The activated transforming growth factor-beta signaling pathway in peritoneal metastases is a potential therapeutic target in ovarian cancer. Int J Cancer. 2012 Jan 1;130(1):20-8.
Taniguchi Y, et al. Enhanced antitumor efficacy of folate-linked liposomal doxorubicin with TGF-β type I receptor inhibitor. Cancer Sci. 2010 Oct;101(10):2207-13.

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