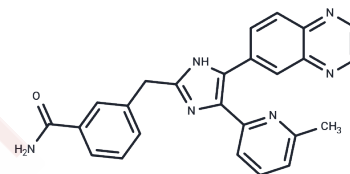


IN-1130

Chemical Properties

CAS No. : 868612-83-3
 Formula: C₂₅H₂₀N₆O
 Molecular Weight: 420.47
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
 Actual storage temperature shall be subject to the COA.



Biological Description

Description	IN-1130 is a selective inhibitor of ALK5 with IC ₅₀ values of 5.3 nM, 36 nM, and 4.3 μM for phosphorylation of ALK5-mediated Smad3, ALK5 phosphorylation of casein and p38α mitogen-activated protein kinase.
Targets(IC ₅₀)	ALK,TGF-beta/Smad
In vitro	IN-1130 (0.5 -1 μM) inhibits the phosphorylation and nuclear translocation of TGF-β-stimulated Smad2 in HepG2 and 4T1 cells. In MCF10A cells, IN-1130 (1 μM) restores the TGF-β-mediated decrease in E-cadherin protein expression, inhibits TGF-β-induced MMPs mRNA expression, and reduces the gelatinolytic activity of secreted MMPs[2].
In vivo	In unilateral ureteral obstruction rats, intraperitoneal administration of IN-1130 (10-20 mg/kg) decreases the extent of interstitial nephritis and fibrosis. dose-dependently reduces the levels of TGF-β1 mRNA and suppresses Smad2, α-SMA, myofibroblasts phosphorylation[1]. In MMTV/c-Neu mice intraperitoneal administration of IN-1130 (40 mg/kg) blocks breast cancer lung metastasis[2].

Solubility Information

Solubility	DMSO: 90 mg/mL (214.05 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 1 mg/mL (2.38 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3783 mL	11.8915 mL	23.7829 mL
5 mM	0.4757 mL	2.3783 mL	4.7566 mL
10 mM	0.2378 mL	1.1891 mL	2.3783 mL
50 mM	0.0476 mL	0.2378 mL	0.4757 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

Moon JA, et al. IN-1130, a novel transforming growth factor-beta type I receptor kinase (ALK5) inhibitor, suppresses renal fibrosis in obstructive nephropathy. *Kidney Int.* 2006 Oct;70(7):1234-43.

Park CY, et al. An novel inhibitor of TGF- β type I receptor, IN-1130, blocks breast cancer lung metastasis through inhibition of epithelial-mesenchymal transition. *Cancer Lett.* 2014 Aug 28;351(1):72-80.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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