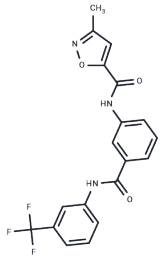
Data Sheet (Cat.No.T3960)

TargetMol

T56-LIMKi

Chemical Properties



CAS No. : 924473-59-6

Formula: C19H14F3N3O3

Molecular Weight: 389.33

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	T56-LIMKi (T5601640) is a selective inhibitor of LIMK2.
Targets(IC50)	LIM Kinase
In vitro	T56-LIMKi effectively suppresses the proliferation of various cancer cell lines, including ST88-14, U87, Panc-1, and A549 lung cancer cells, exhibiting IC50 values of 18.3, 7.4, 35.2, and 90 μM respectively. It significantly lowers phosphorylated cofilin (p-cofilin) levels, impairing the growth of pancreatic, glioma, and schwannoma cancer cells. This compound inhibits cofilin phosphorylation, crucial for actin disruption, thereby preventing tumor cell movement, proliferation, and the formation of colonies in soft agar without contact. At concentrations ranging from 10-50 μM, T56-LIMKi dose-dependently decreases p-cofilin in NF1−/− MEFs, with a 30 μM IC50, while not affecting total cofilin levels. Furthermore, a 50 μM dosage of T56-LIMKi significantly reduces the presence of stress fibers in cells.
In vivo	T56-LIMKi induces inhibition of cofilin phosphorylation and promotes Panc-1 tumor shrinkage in vivo, with mice treated with T56-LIMKi (60 mg/kg) showing a significant decrease in tumor volume compared to controls[1].
Cell Research	T56-LIMKi can induce inhibition of cofilin phosphorylation and Panc-1 tumor shrinkage in vivo. Mice treated with T56-LIMKi (60 mg/kg) shows a significant decrease in tumor volume compared to control[1].

Solubility Information

Solubility	DMSO: 50 mg/mL (128.43 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (6.42 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5685 mL	12.8426 mL	25.6852 mL
5 mM	0.5137 mL	2.5685 mL	5.137 mL
10 mM	0.2569 mL	1.2843 mL	2.5685 mL
50 mM	0.0514 mL	0.2569 mL	0.5137 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

Rak R, et al. Novel LIMK2 Inhibitor Blocks Panc-1 Tumor Growth in a mouse xenograft model. Oncoscience. 2014 Jan 1;1(1):39-48. eCollection 2014.

Mashiach-Farkash E, et al. Computer-based identification of a novel LIMK1/2 inhibitor that synergizes with salirasib to destabilize the actin cytoskeleton. Oncotarget. 2012 Jun;3(6):629-39.