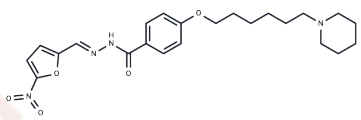
Data Sheet (Cat.No.T75005)

TargetMol

TGFβ1-IN-3

Chemical Properties



CAS No. : 2883813-58-7

Formula: C23H30N4O5

Molecular Weight: 442.51

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	TGFβ1-IN-3, a diarylhydrazone derivative, inhibits fibroblast activation and proliferation, positioning it as a candidate compound for the treatment of idiopathic pulmonary fibrosis (IPF).
Targets(IC50)	Others,TGF-beta/Smad
In vitro	TGFβ1-IN-3 (compound 44) inhibits NIH-3T3 cells with an IC50 of 0.57 μM. At 10 μM for 24 hours, it inhibits TGF-β1-induced abnormal activation of NIH-3T3 and A549 cells, as well as migration and epithelial-mesenchymal transition (EMT) of A549 cells. TGFβ1-IN-3 binds to STAT3, interacting with Ile659, while the hydrophilic piperidine forms intermolecular forces with Ser636, Arg609, and Pro639. The nitrofuran of TGFβ1-IN-3 interacts with Lys658.[1]
In vivo	TGFβ1-IN-3 (compound 44) administered orally at 30-60 mg/kg once daily for 22 days in C57BL/6 mice slows IPF progression and enhances lung function, potentially reversing pulmonary fibrosis in a treatment model.[1]

Solubility Information

Solubility	DMSO: 45 mg/mL (101.69 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2598 mL	11.2992 mL	22.5984 mL
5 mM	0.452 mL	2.2598 mL	4.5197 mL
10 mM	0.226 mL	1.1299 mL	2.2598 mL
50 mM	0.0452 mL	0.226 mL	0.452 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

Xingping Su, et al. Design, synthesis and biological evaluation of novel diarylacylhydrazones derivatives for the efficient treatment of idiopathic pulmonary fibrosis. Eur J Med Chem. 2023 Jan 5;245(Pt 2):114918.