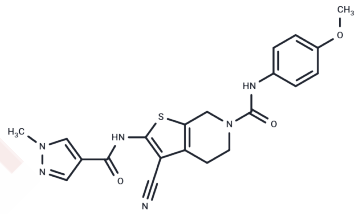
Data Sheet (Cat.No.T62491)

TargetMol

STAT3-IN-13

Chemical Properties



CAS No. : 2248552-86-3

Formula: C21H20N6O3S

Molecular Weight: 436.49

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	STAT3-IN-13 is a potent STAT3 inhibitor.STAT3-IN-13 has antiproliferative and anticancer activity and acts by binding to the structural domain of STAT3 SH2.STAT3-IN-13 inhibits the phosphorylation of STAT3 Y705, which induces apoptosis and inhibits tumor cell growth and metastasis.STAT3-IN-13 can be used to study breast cancer and liver cancer. The study of breast cancer and hepatocellular carcinoma.
Targets(IC50)	Apoptosis,Bcl-2 Family,STAT
In vitro	STAT3-IN-13 (compound 6f), over a period of 48 hours, demonstrates anti-proliferative activity with IC50 values of 0.25, 0.11, and 0.55 μM for 143B, HOS, and MG63 cells, respectively [1].In the concentration range of 0.001-100 μM, STAT3-IN-13 (compound 6f) binds to STAT3 and interacts with STAT3^586-685 in a concentration-dependent manner, with a KD of 0.96 μM [1].Over a period of 24 hours at concentrations ranging from 0 to 1.0 μM in 143B and HOS cells, STAT3-IN-13 (compound 6f) inhibits STAT3 Y705 phosphorylation and suppresses STAT3 in tumor cells [1].At concentrations ranging from 0 to 1.0 μM over 48 hours in 143B cells, STAT3-IN-13 (compound 6f) induces apoptosis in a dose-dependent manner [1].
In vivo	In vivo, STAT3-IN-13 (compound 6f), administered intraperitoneally at doses of 10-20 mg/kg twice daily for 4 weeks in nude mice, effectively blocks osteosarcoma growth and metastasis [1].

Solubility Information

Solubility	DMSO: 80 mg/mL (183.28 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (11.46 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	2.291 mL	11.455 mL	22.910 mL
5 mM	0.4582 mL	2.291 mL	4.582 mL
10 mM	0.2291 mL	1.1455 mL	2.291 mL
50 mM	0.0458 mL	0.2291 mL	0.4582 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

Jin W, et al. Discovery of 2-Amino-3-cyanothiophene Derivatives as Potent STAT3 Inhibitors for the Treatment of Osteosarcoma Growth and Metastasis. J Med Chem. 2022 May 12;65(9):6710-6728.