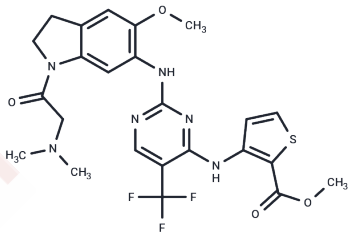
Data Sheet (Cat.No.T63886)

TargetMol

PLK1-IN-4

Chemical Properties



CAS No. : 2622273-55-4

Formula: C24H25F3N6O4S

Molecular Weight: 550.55

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	PLK1-IN-4 (compound 31) is a selective PLK1 inhibitor (IC50 < 0.51 nM) exhibiting antiproliferative activity against multiple cancer cell lines including A549, HT-29, and HCT-116. It induces cell cycle arrest and apoptosis, making it suitable for hepatocellular carcinoma research.
Targets(IC50)	Apoptosis,Cell Cycle Arrest,PLK
In vitro	PLK1-IN-4 (compound 31) (0-5 μM, 48 h) exhibits excellent antiproliferative activity against hepatocellular carcinoma (HCC) cells [1]. PLK1-IN-4 (60 and 100 nM, 24 h) induces abnormal spindle formation in the human hepatocellular carcinoma cell line HepG2 and the human colorectal cancer cell line HT-29 [1]. PLK1-IN-4 (10-300 nM, 0-48 h) can induce cancer cell apoptosis by arresting the cell cycle at the G2/M phase [1]. PLK1-IN-4 (0-120 nM, 24 h) dose-dependently increases the phosphorylation levels of PLK1, histone H3, and nucleophosmin (NPM), while decreasing the phosphorylation level of Cdc2 [1].
In vivo	PLK1-IN-4 shows low metabolic stability in humans, mice, dogs and monkeys, with its hepatic clearance (CLhep) values of 74.3, 330.9, 61.5 and 196.5 mL/min/kg, respectively [1]. At a dose of 30 mg/kg administered via tail vein injection (once or twice daily for 12 consecutive days), PLK1-IN-4 suppresses tumour growth in a dose-dependent manner [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8164 mL	9.0818 mL	18.1637 mL
5 mM	0.3633 mL	1.8164 mL	3.6327 mL
10 mM	0.1816 mL	0.9082 mL	1.8164 mL
50 mM	0.0363 mL	0.1816 mL	0.3633 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

Deng Z, et al. Discovery of methyl 3-((2-((1-(dimethylglycyl)-5-methoxyindolin-6-yl)amino)-5-(trifluoro-methyl) pyrimidin-4-yl)amino)thiophene-2-carboxylate as a potent and selective polo-like kinase 1 (PLK1) inhibitor for combating hepatocellular carcino