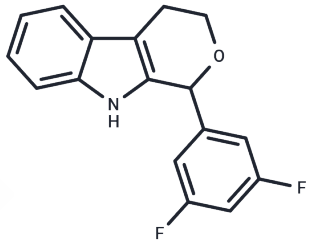
Data Sheet (Cat.No.T60564)

TargetMol

PI3K/Akt/mTOR-IN-2

Chemical Properties



CAS No. : 2757804-89-8

Formula: C17H13F2NO

Molecular Weight: 285.29

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	PI3K/Akt/mTOR-IN-2 is a potent PI3K/AKT/mTOR inhibitor with anticancer effects and selectivity for MDA-MB-231 cells (IC50 2.29 μM). It induces cell cycle arrest and apoptosis in cancer cells.
Targets(IC50)	Apoptosis,Akt,mTOR,PI3K
In vitro	PI3K/Akt/mTOR-IN-2 (compound 23) (0.5 - 100 μM; 72 h) demonstrates significant anti-cancer efficacy, with IC50 values between 2.29 and 24.63 μM, notably 2.29 μM in MDA-MB-231 cells.[1] It induces growth inhibition in MDA-MB-231 cells by causing cell cycle arrest at G0/G1 (1, 2, and 4 μM; 24 h), elicits dose- and time-dependent apoptosis (1, 2, and 4 μM; 24, 48, and 72 h), increases Bax expression and decreases Bcl-2 expression (1, 2, and 4 μM; 48 h), and triggers mitochondria-dependent apoptosis by disrupting mitochondrial membrane potential, increasing ROS, reducing GSH levels, and elevating intracellular Ca2+ (1, 2, and 4 μM; 24 h).[1]

Solubility Information

Solubility	DMSO: 250 mg/mL (876.3 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5052 mL	17.526 mL	35.0521 mL
5 mM	0.701 mL	3.5052 mL	7.0104 mL
10 mM	0.3505 mL	1.7526 mL	3.5052 mL
50 mM	0.0701 mL	0.3505 mL	0.701 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

Qin J, et al. Design, synthesis and biological evaluation of novel 1,3,4,9-tetrahydropyrano[3,4-b]indoles as potential treatment of triple negative breast cancer by suppressing PI3K/AKT/mTOR pathway. Bioorg Med Chem. 2021 Dec 31;55:116594.