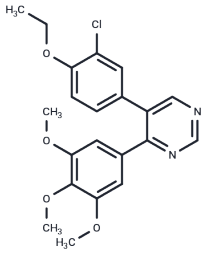
Data Sheet (Cat.No.T61940)

TargetMol

Tubulin polymerization-IN-4

Chemical Properties



CAS No. : 2835559-00-5

Formula: C21H21ClN2O4

Molecular Weight: 400.86

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	Tubulin polymerization-IN-4 is an effective inhibitor of tubulin polymerization, and its IC_{50} is 4.6 μM m. In HeLa cells, Tubulin polymerization-IN-4 can interfere with microtubule assembly and destroy the intracellular microtubule network, leading to cell cycle stagnation in G2/M phase, inducing cell apoptosis, and inhibiting cell clone formation and migration ability.
Targets(IC50)	Apoptosis,Microtubule Associated
In vitro	Tubulin polymerization-IN-4 (compound 9j) (0-1 μM; 48 hours) exhibits sub-micromolar inhibitory activities against HeLa, SiHa and MS751 [1]. Tubulin polymerization-IN-4 (3, 6 and 12.5 μM; 0-20 min) inhibits tubulin polymerization in a concentration-dependent manner with the inhibition percentages of 39%, 54%, and 77% at 3, 6 and 12.5 μM [1]. Tubulin polymerization-IN-4 (1-100 μM; 2 hours) inhibits the formation of EBI-β-tubulin adduct in a concentration-dependent manner [1]. Tubulin polymerization-IN-4 (0.2 μM; 1 and 2 hours) disrupts the HUVEC-formed vascular tube [1]. Tubulin polymerization-IN-4 (0.1-0.4 μM; 24 hours) increases cell distribution to the G2/M phase in a concentration-dependent manner [1]. Tubulin polymerization-IN-4 (0.1-0.4 μM; 24 hours) induces apoptosis of HeLa cells [1]. Tubulin polymerization-IN-4 (20, 50, 100 nM; 14 days) reduces new colony formation and suppresses HeLa cell growth for 14 days in a dose-dependent manner [1]. Tubulin polymerization-IN-4 (0.1, 0.2 and 0.4 μM; 24 hours) effectively inhibits the migration of HeLa cells in a concentration-dependent manner [1]. Tubulin polymerization-IN-4 (0-200 μM; 24 hours) exhibits good renal safety profile, with IC 50 of 188 ± 16 μM in HK-2 cells [1].
In vivo	Tubulin polymerization-IN-4, administered intraperitoneally (IP) at doses ranging from 100 to 1000 mg/kg, exhibits very low toxicity, with its lethal dose 50 (LD50) exceeding 1000 mg/kg [1]. When given daily for 21 days at doses of 30 and 60 mg/kg, it effectively inhibits tumor growth, achieving tumor growth inhibition (TGI) rates of 35% and 58%, respectively, at these doses [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4946 mL	12.4732 mL	24.9464 mL
5 mM	0.4989 mL	2.4946 mL	4.9893 mL
10 mM	0.2495 mL	1.2473 mL	2.4946 mL
50 mM	0.0499 mL	0.2495 mL	0.4989 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

Huo Z, Liu K, Zhang X, Liang Y, Sun X. Discovery of pyrimidine-bridged CA-4 CBSIs for the treatment of cervical cancer in combination with cisplatin with significantly reduced nephrotoxicity. Eur J Med Chem. 2022;235:114271.