

Tubulin-IN-55

Chemical Properties

CAS No. :	353258-94-3
Formula:	C ₂₁ H ₂₆ N ₄ O
Molecular Weight:	350.47
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

Biological Description

Description	Tubulin-IN-55 is a tubulin inhibitor that disrupts the PI3K/Akt signaling pathway in cancer cells. It exhibits broad-spectrum antiproliferative activity against various tumor cell lines (HeLa, HCT116, 4T1, A549, H1299, MDA-MB231). Tubulin-IN-55 induces G2/M phase arrest and apoptosis (apoptosis) while inhibiting cancer cell migration and invasion. It demonstrates significant antitumor efficacy in an in situ autologous mouse model and is applicable in cancer research.
Targets(IC50)	Apoptosis,Akt,PI3K
In vitro	Tubulin-IN-55 (Compound 89) exhibits potent antiproliferative effects on HeLa, HCT116, and 4T1 cells at concentrations of 0.1-10 µM over 24 hours, with IC50 values of 1.20 µM, 4.91 µM, 1.13 µM, and 0.65 µM, respectively. At 0.3-0.9 µM for 12-24 hours, it demonstrates anti-migration and anti-invasion properties in the same cell lines. Tubulin-IN-55 also induces apoptosis and G2/M phase arrest in HeLa, HCT116, and 4T1 cells within the 0.3-1.2 µM range over 24 hours. It inhibits tubulin polymerization in vitro in a dose-dependent manner at concentrations of 6.25-100 µM over 60 minutes. Additionally, Tubulin-IN-55 downregulates the phosphorylation levels of PI3K and Akt in HeLa, HCT116, and 4T1 cells without affecting total PI3K and Akt levels when used in concentrations of 0.3-0.9 µM for 24 hours. Furthermore, Tubulin-IN-55 shows antitumor activity in breast cancer organoids (BC-PDO1, BC-PDO2, and BC-PDO10), reducing organoid viability with IC50 values of 1.07 µM, 0.81 µM, and 0.42 µM, respectively.
In vivo	Tubulin-IN-55 (Compound 89), administered intraperitoneally at a dose of 10 mg/kg every other day for four weeks, demonstrates significant antitumor activity in an orthotopic autograft model using BALB/c mice.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8533 mL	14.2666 mL	28.5331 mL
5 mM	0.5707 mL	2.8533 mL	5.7066 mL
10 mM	0.2853 mL	1.4267 mL	2.8533 mL
50 mM	0.0571 mL	0.2853 mL	0.5707 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481