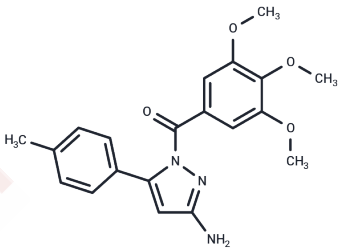
Data Sheet (Cat.No.T85704)

TargetMol

Antitumor agent-138

Chemical Properties



CAS No. : 2975168-22-8

Formula: C20H21N3O4

Molecular Weight: 367.40

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	Antitumor agent-138 (compound 5b), with an IC 50 of 1.87 μM, inhibits tubulin polymerization at the tubulin colchicine-binding sites. It arrests the cell cycle at the G2/M phase and induces apoptosis in MCF-7 cells. Additionally, this compound suppresses cell migration and angiogenesis [1].
Targets(IC50)	Apoptosis,Microtubule Associated
In vitro	Antitumor agent-138 exhibits antiproliferative activity in several cell lines including MCF-7, A549, MDA-MB-231, HT-29, HeLa, and L02 with IC 50 values of 0.04, 0.39, 0.04, 0.06, 0.11, and 2.73 μM, respectively [1]. At concentrations of 5-20 nM, it inhibits colony formation in human breast cancer MCF-7 cells [1], induces microtubule collapse in MCF-7 cells at 25-200 nM [1], and dose-dependently inhibits tube formation in HUVEC cells at 6.25-50 nM, thereby inhibiting angiogenesis [1]. In a Cell Migration Assay, Antitumor agent-138 suppresses cell migration in A549 cells at 6.25-50 nM over 24 hours in a dose-dependent manner [1]. The Cell Proliferation Assay reveals low-concentration antiproliferative properties in cancer cells such as MCF-7, A549, MDA-MB-231, HT-29, and HeLa when treated with 0-5 μM for 48 hours [1]. Western Blot Analysis shows that the treatment increases P21, Cyclin B1, Cdc25c, cdk7, Bax, Cleaved-PARP, Bim, and Cleaved Caspase-9, whilst decreasing Bcl-2 in a dose- and time-dependent manner in MCF-7 cells at 6.25-25 nM over 24 hours [1]. Immunofluorescence demonstrates dot-like appearances in the microtubule network in MCF-7 cells treated with 25-200 nM for 8 hours [1].
In vivo	Antitumor agent-138, administered at a dosage of 20 mg/kg through intraperitoneal injection for 21 days, demonstrated tumor inhibition activity in MCF-7 xenograft BALB/c nude mice, achieving a tumor growth inhibition (TGI) rate of 68.95% [1]. Animal Model: MCF-7 xenograft in BALB/c nude mice [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7218 mL	13.6091 mL	27.2183 mL
5 mM	0.5444 mL	2.7218 mL	5.4437 mL
10 mM	0.2722 mL	1.3609 mL	2.7218 mL
50 mM	0.0544 mL	0.2722 mL	0.5444 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.