Data Sheet (Cat.No.T206596)

TargetMol

PLK1-IN-13

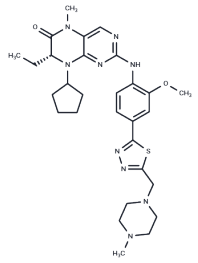
Chemical Properties

CAS No. : 3038489-48-1

Formula: C29H39N9O2S

Molecular Weight: 577.744

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-13 is a selective, orally active PLK1 inhibitor with an IC50 of 0.27 nM. It also inhibits PLK2 (IC50: 12.72 nM) and PLK3 (IC50: 4.12 nM). PLK1-IN-13 induces cell cycle arrest at the G2 phase, promotes apoptosis, and downregulates the transcription of the cancer-associated oncogene c-MYC. This compound inhibits tumor growth and is applicable for research in acute myeloid leukemia (AML).
Targets(IC50)	Apoptosis,c-Myc,PLK
In vitro	PLK1-IN-13 (72 h) (Compound WD6) exhibits antiproliferative effects on MDA-MB-231 (IC 50: 9.5 nM) and MV4-11 cells (IC 50: 23.3 nM) and has IC 50 values of 47.1 nM and 59.9 nM for MCF-7 and HCT-116, respectively. It weakly inhibits CYP2C9 (IC 50: 7.39 μM), CYP2C19 (IC 50: 14 μM), CYP2D6 (IC 50: 13.8 μM), and CYP3A4 (IC 50: 17.3 μM), suggesting a low potential for drug-drug interactions. Additionally, PLK1-IN-13 induces G2/M cell cycle arrest and apoptosis in MV4-11 cells at concentrations ranging from 2.92 nM to 46.6 nM over 72 hours and downregulates the transcription of the proliferation-associated oncogene c-MYC in MV4-11 cells within 24 hours at 0-1 μM concentrations.
In vivo	PLK1-IN-13 (Compound WD6) administered orally at 20 mg/kg once daily for 19 consecutive days significantly inhibits tumor growth in MV4-11 xenograft mouse models, achieving a tumor growth inhibition (TGI) of 91.2%. Additionally, PLK1-IN-13 (administered orally at 10 and 20 mg/kg) exhibits a favorable half-life, high plasma exposure, and moderate bioavailability in SD rats.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7309 mL	8.6544 mL	17.3088 mL
5 mM	0.3462 mL	1.7309 mL	3.4618 mL
10 mM	0.1731 mL	0.8654 mL	1.7309 mL
50 mM	0.0346 mL	0.1731 mL	0.3462 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

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