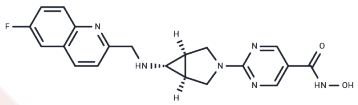
Data Sheet (Cat.No.T16270)

TargetMol

Nanatinostat

Chemical Properties



CAS No. : 1256448-47-1

Formula: C20H19FN6O2

Molecular Weight: 394.4

Storage: Store at low temperature
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	Nanatinostat (CHR-3996) is an HDAC inhibitor with selectivity and oral bioavailability, with IC50 values of 3-7 nM for HDAC1/2/3 and >200 nM for other subtypes. Nanatinostat also inhibits tumour cell proliferation and induces apoptosis, for studying neurodegenerative diseases and cancer.
Targets(IC50)	Apoptosis,HDAC
In vitro	**Methods**: Nanatinostat (CHR-3996) (30 mg/kg, oral) was used to treat NOD/SCID mice that were inoculated subcutaneously with 2×10^6 H929 myeloma cells on the right flank. Caliper measurements of the longest vertical tumor diameter (length) and width were performed every other day. **Results**: Nanatinostat slowed tumor growth in tumor-bearing mice. [2]
In vivo	**Methods**: H929, KMS11, LP-1, MM1-S, and RPMI-8828 cells were treated with Nanatinostat (CHR-3996) (0.0001-100 μM), and cell proliferation was detected by WST-1. **Results**: The LC50 values of various cell lines treated with Nanatinostat ranged from 30.3-97.6 nM. [1]

Solubility Information

Solubility	DMSO: 40 mg/mL (101.42 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.07 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5355 mL	12.6775 mL	25.355 mL
5 mM	0.5071 mL	2.5355 mL	5.071 mL
10 mM	0.2535 mL	1.2677 mL	2.5355 mL
50 mM	0.0507 mL	0.2535 mL	0.5071 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

Moffat D, et al. Discovery of 2-(6-{[(6-fluoroquinolin-2-yl)methyl]amino}bicyclo[3.1.0]hex-3-yl)-N-hydroxypyrimidine-5-carboxamide (CHR-3996), a class I selective orally active histone deacetylase inhibitor. J Med Chem. 2010 Dec 23;53(24):8663-78.
Smith EM, et al. The combination of HDAC and aminopeptidase inhibitors is highly synergistic in myeloma and leads to disruption of the NFκB signalling pathway. Oncotarget. 2015 Jul 10;6(19):17314-27.
Castillo JR, et al. The heme oxygenase-1 metalloporphyrin inhibitor stannsoporfin enhances the bactericidal activity of a novel regimen for multidrug-resistant tuberculosis in a murine model. bioRxiv [Preprint]. 2023 Nov 13: 2023.08.09.552716.