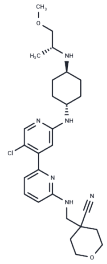
Data Sheet (Cat.No.T16363)

TargetMol

NVP-2

Chemical Properties



CAS No. : 1263373-43-8

Formula: C27H37ClN6O2

Molecular Weight: 513.07

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	NVP-2 is an effective and selective ATP-competitive cyclin-dependent kinase 9 (CDK9) probe. NVP-2 induces cell apoptosis. NVP-2 inhibits CDK9/CycT activity (IC50: 0.514 nM). NVP-2 shows inhibitory effcts on CDK1/CycB, CDK2/CycA and CDK16/CycY kinases (IC50: 0.584 μM, 0.706 μM, and 0.605 μM, respectively).
Targets(IC50)	Apoptosis,CDK
In vitro	NVP-2 exhibits anti-proliferative activity against leukemia cells, specifically targeting KOPT-K1, Jurkat, P12-ICHIKAWA, DU.528, MOLT 16, HSB-2, PF-382, SKW-3, SUP-T11, DND-41, and HPB-ALL cells with IC50 values of 0.1688 μM, 0.1233 μM, 0.5736 μM, 0.1575 μM, 0.1620 μM, 0.1585 μM, 0.1808 μM, 0.2589 μM, 0.0918 μM, and 0.3023 μM, respectively. NVP-2 (0-10 nM; 72 hours) demonstrates CRBN-dependent anti-proliferative and pro-apoptotic effects in MOLT4 cells (IC50: 9 nM). At 250 nM for 24 hours, NVP-2 induces apoptosis in MOLT4 cells, increasing caspase-3 and γH2A.X expression, although this effect is significantly reduced upon compound washout. Additionally, NVP-2 (250 nM-1 μM; 6 hours) engages CDK9 in both wildtype and CRBN - / - MOLT4 cells without affecting CDK2 and CDK7.

Solubility Information

Solubility	DMSO: 250 mg/mL (487.26 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: 4 mg/mL (7.8 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	1.9491 mL	9.7453 mL	19.4905 mL
5 mM	0.3898 mL	1.9491 mL	3.8981 mL
10 mM	0.1949 mL	0.9745 mL	1.9491 mL
50 mM	0.039 mL	0.1949 mL	0.3898 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

Winter GE, et al. BET Bromodomain Proteins Function as Master Transcription Elongation Factors Independent of CDK9 Recruitment.Mol Cell. 2017 Jul 6;67(1):5-18.e19.
Shan X, Jiang R, Gou D, et al.Identification of a diketopiperazine-based O-GlcNAc transferase inhibitor sensitizing hepatocellular carcinoma to CDK9 inhibition.The FEBS Journal.2023
Wang J, Wen Y, Zhang Y, et al.An interpretable artificial intelligence framework for designing synthetic lethality-based anti-cancer combination therapies.Journal of Advanced Research.2023