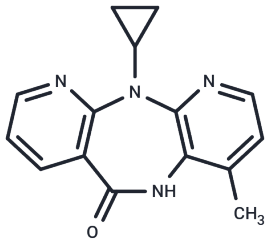
Data Sheet (Cat.No.T1595)

TargetMol

Nevirapine

Chemical Properties



CAS No. : 129618-40-2

Formula: C15H14N4O

Molecular Weight: 266.30

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	Nevirapine (NVP) is a benzodiazepine non-nucleoside reverse transcriptase inhibitor. In combination with other antiretroviral drugs, nevirapine reduces HIV viral loads and increases CD4 counts, thereby retarding or preventing the damage to the immune system and reducing the risk of developing AIDS.
Targets(IC50)	HIV Protease,Reverse Transcriptase,Parasite
In vitro	In various animal models, the metabolism of Nevirapine (NVP) proceeds as follows: One of the primary metabolites identified in the feces of all tested animals, except male rats, is 3-HydroxylNVP (3-OHNVP). For all male subjects as well as female mice, dogs, and monkeys, one of the principal metabolites is 4-Carboxylic AcidNVP (4-CANVP). Additionally, the predominant metabolites in rat bile are found to be 4-CANVP and a glucuronide conjugate of 12-HydroxylNVP (12-OHNVPglucuronide).
In vivo	Nevirapine (NVP) acts primarily as a CYP3A4 inhibitor, with its inhibitory concentration significantly higher than the concentration related to its therapeutic use (Ki: 270 μM). As a non-nucleoside reverse transcriptase inhibitor, Nevirapine effectively inhibits reverse transcriptase from retroviruses, and it also inhibits endogenous reverse transcription in both mouse and human cell lines. Additionally, Nevirapine has been shown to alleviate the differentiation block in cell lines and primary cells from acute myeloid leukemia (AML) patients, as indicated by morphological, functional, and immunophenotypic analyses. It alters the cleavage specificity of RNAse H, resulting in Nevirapine-induced RNase H activity that exceeds the expected changes in cleavage specificity. Nevirapine is a highly specific inhibitor of HIV-1 reverse transcriptase (RT), with an IC50 of 84 nM in enzyme assays and an IC50 of 40 nM against HIV-1 replication in cell cultures.
Cell Research	FRO cells are seeded into 96-well culture plates at 10,000 cells/well. Cells are treated with different doses of nevirapine (0, 100, 200, 350 and 500 μM) for 48 h. MTT dye (5 mg/mL) is added to each well for additional 4 h, and the reaction is then stopped by the addition of DMSO. Optical density is measured at 490 nm on a multi-well plate reader[2].

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 22.73 mg/mL (85.35 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: 1.00 mg/mL (3.76 mM),Sonication is recommended. 10% DMSO+90% Saline: 2.27 mg/mL (8.52 mM),Solution. *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	3.7552 mL	18.7758 mL	37.5516 mL
5 mM	0.751 mL	3.7552 mL	7.5103 mL
10 mM	0.3755 mL	1.8776 mL	3.7552 mL
50 mM	0.0751 mL	0.3755 mL	0.751 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

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