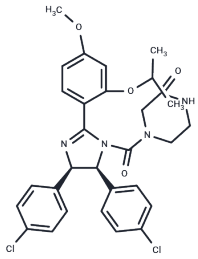
Data Sheet (Cat.No.T6614)

TargetMol

Nutlin-3b

Chemical Properties



CAS No. : 675576-97-3

Formula: C30H30Cl2N4O4

Molecular Weight: 581.49

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	Nutlin-3b ((+)-Nutlin-3) is a p53/MDM2 antagonist or inhibitor (IC50: 13.6 μM), 150-fold less potent (+)-enantiomer of Nutlin-3 as in comparison with opposite (-)-enantiomer Nutlin-3a.
Targets(IC50)	Mdm2,E1/E2/E3 Enzyme,MDM-2/p53
In vitro	Nutlin-3b is useful as a negative control s for non-MDM2-related cellular activities. Nutlin-3a induces the expression of MDM2 and p21 (but not p53) only in cells with wild-type p53. Nutlin-3b has no effect regardless of the p53 status of the cells. Only the active enantiomer Nutlin-3a shows a potent antiproliferative activity and clear separation of potency between the cells harboring wild-type p53 and those harboring mutant p53. The potency of Nutlin-3b is much lower in the wild-type p53 cells and nearly identical to the potency of Nutlin-3a against the mutant p53 cells. After 48 hours of exposure to the Nutlin-3a, 45% of the cell population became TUNEL positive, but cells treated with the Nutlin-3b are indistinguishable from the untreated controls. [1]
Kinase Assay	Biacore study: Competition assay is performed on a Biacore S51. A Series S Sensor chip CM5 is utilized for the immobilization of a PentaHis antibody for capture of the His-tagged p53. The level of capture is ~200 response units (1 response unit corresponds to 1 pg of protein per mm 2). The concentration of MDM2 protein is kept constant at 300 nM. Nutlin-3 is dissolved in DMSO at 10 mM and further diluted to make a concentration series of Nutlin-3 in each MDM2 test sample. The assay is run at 25°C in running buffer (10 mM Hepes, 0.15 M NaCl, 2% DMSO). MDM2-p53 binding in the presence of Nutlin-3 is calculated as a percentage of binding in the absence of Nutlin-3 and IC50 is calculated
Cell Research	MTT assay(Only for Reference)

Solubility Information

Solubility	DMSO: 93 mg/mL (159.93 mM),Sonication is recommended. Ethanol: 93 mg/mL (159.93 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (5.68 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	1.7197 mL	8.5986 mL	17.1972 mL
5 mM	0.3439 mL	1.7197 mL	3.4394 mL
10 mM	0.172 mL	0.8599 mL	1.7197 mL
50 mM	0.0344 mL	0.172 mL	0.3439 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

Vassilev LT, et al. Science, 2004, 303(5659), 844-848.