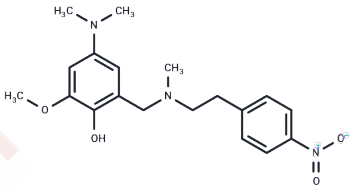
Data Sheet (Cat.No.T4671)

BN82002

Chemical Properties



CAS No. : 396073-89-5

Formula: C19H25N3O4

Molecular Weight: 359.42

Storage: Pure form: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	BN82002 (CDC25 Phosphatase Inhibitor I) is a synthetic inhibitor of CDC25 phophatases
Targets(IC50)	Phosphatase
In vitro	The in vitro impact of BN82002 on the proliferation of various human tumor cell lines has been assessed, with menadione serving as a control due to its documented proliferation inhibitory properties. All tested cell lines exhibit sensitivity to both BN82002 and menadione, demonstrating concentration-dependent inhibition within the low micromolar range. Among these, the pancreatic cancer cell line MIA PaCa-2 is the most affected by BN82002, showing an IC50 of 7.2 μM, while the colon cancer cell line HT-29 shows the least sensitivity with an IC50 of 32.6 μM. This range of inhibitory concentration for BN82002 closely matches that observed with menadione (5-15 μM). Further findings indicate that a 50 μM concentration of BN82002 completely halts cell proliferation. Although the influence on cell cycle distribution is relatively mild, there is a noted decrease in the S phase and an increase in cells with G1 and G2 DNA content, hinting at cell cycle arrest at various stages due to BN82002 treatment.

Solubility Information

Solubility	DMSO: 150 mg/mL (417.34 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: 3.3 mg/mL (9.18 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	2.7823 mL	13.9113 mL	27.8226 mL
5 mM	0.5565 mL	2.7823 mL	5.5645 mL
10 mM	0.2782 mL	1.3911 mL	2.7823 mL
50 mM	0.0556 mL	0.2782 mL	0.5565 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

Brezak MC, et al. A novel synthetic inhibitor of CDC25 phosphatases: BN82002. Cancer Res. 2004 May 1;64(9):3320-5.

Wang, Meng, et al. Thymosin β4 reverses phenotypic polarization of glial cells and cognitive impairment via negative regulation of NF-κB signaling axis in APP/PS1 mice. Journal of Neuroinflammation. 18.1 (2021): 1-22.