

PNU-159682

Chemical Properties

CAS No. : 202350-68-3

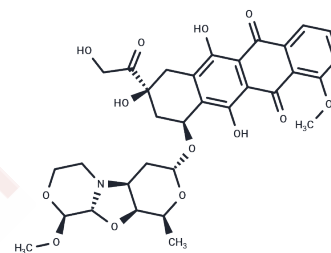
Formula: C32H35NO13

Molecular Weight: 641.62

Keep away from direct sunlight

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	PNU-159682, a metabolite of anthracycline nemorubicin, is a DNA topoisomerase II inhibitor with excellent cytotoxicity.
Targets(IC50)	ADC Cytotoxin,Topoisomerase
In vitro	PNU-159682 inhibits a panel of human tumor cell lines (IC70 values in the range of 0.07-0.58 nM). PNU-159682 is 2,360- to 790-fold and 6,420- to 2,100-fold more potent than MMDX and doxorubicin, respectively. PNU-159682 displays cytotoxic effect on CAIX-expressing SKRC-52 cells (IC50: 25 nM). PNU-159682 (10 μM)-DNA adducts contain one or two drug molecules bound to double-stranded DNA. PNU-159682 (100 μM) weakly inhibits topoisomerase II unknotting activity [1][2][3].
In vivo	PNU-159682 (25 nmol/kg) shows an effective antitumor effect in mice bearing SKRC-52 xenografted tumors. PNU-159682 (15 μg/kg, i.v.) displays antitumor activity in mice bearing disseminated murine L1210 leukemia and in MX-1 human mammary carcinoma xenografts at 4 μg/kg[1][3].

Solubility Information

Solubility	DMSO: 96.7 mg/mL (150.71 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 (5.14 mM),Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.5586 mL	7.7928 mL	15.5855 mL
5 mM	0.3117 mL	1.5586 mL	3.1171 mL
10 mM	0.1559 mL	0.7793 mL	1.5586 mL
50 mM	0.0312 mL	0.1559 mL	0.3117 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

Quintieri L, et al. Formation and antitumor activity of PNU-159682, a major metabolite of nemorubicin in human liver microsomes. Clin Cancer Res. 2005 Feb 15;11(4):1608-17.

Cazzamalli S, et al. Acetazolamide Serves as Selective Delivery Vehicle for Dipeptide-Linked Drugs to Renal Cell Carcinoma. Mol Cancer Ther. 2016 Dec;15(12):2926-2935.

Scalabrin M, et al. Virtual Cross-Linking of the Active Nemorubicin Metabolite PNU-159682 to Double-Stranded DNA. Chem Res Toxicol. 2017 Feb 20;30(2):614-624.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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