5-Iminodaunorubicin

Cat. No.: HY-138645

CAS No.: 72983-78-9

Molecular Formula: $C_{27}H_{30}N_2O_9$

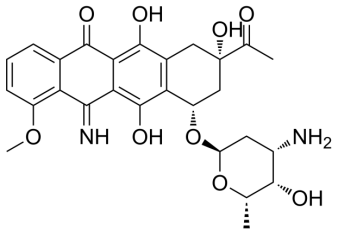
Molecular Weight: 526.54

Target: DNA/RNA Synthesis

Pathway: Cell Cycle/DNA Damage

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (189.92 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.8992 mL	9.4960 mL	18.9919 mL
	5 mM	0.3798 mL	1.8992 mL	3.7984 mL
	10 mM	0.1899 mL	0.9496 mL	1.8992 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.75 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.75 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

5-Iminodaunorubicin is a quinone-modified anthracycline that retains antitumor activity[1]. 5-Iminodaunorubicin produces protein-concealed DNA strand breaks in cancer cells[2].

In Vitro

In mouse leukemia L1210 cells, 5-Iminodaunorubicin produces protein-concealed DNA strand breaks. Many of the 5-iminodaunorubicin breaks may arise from apposed single-strand breaks (i.e., double-strand breaks)[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

In rat, 5-Iminodaunorubicin (5-ID; 1-16 mg/kg) treatment produces widening of the QRS complex, increased R- and S-wave voltage, and prolonged the Q alpha T interval. And the quinone redox cycling is suppressed in 5-Iminodaunorubicin. 5-Iminodaunorubicin shows lower cardiotoxic[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. R A Jensen, et al. Electrocardiographic and transmembrane potential effects of 5-iminodaunorubicin in the rat. Cancer Res. 1984 Sep;44(9):4030-9.

[2]. L A Zwelling, et al. Cytotoxicity and DNA strand breaks by 5-iminodaunorubicin in mouse leukemia L1210 cells: comparison with adriamycin and 4'-(9-acridinylamino)methanesulfon-m-anisidide. Cancer Res. 1982 Jul;42(7):2687-91.

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