5-Iminodaunorubicin hydrochloride

Cat. No.: HY-138645A

CAS No.: 67324-99-6

Molecular Formula: $C_{27}H_{31}ClN_2O_9$

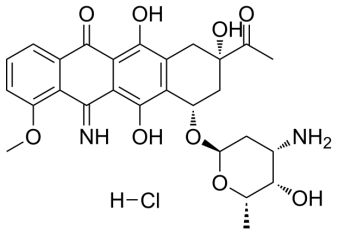
Molecular Weight: 563

Target: DNA/RNA Synthesis

Pathway: Cell Cycle/DNA Damage

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 230 mg/mL (408.53 mM; Need ultrasonic)

H_2O : 8.33 mg/mL (14.80 mM; Need ultrasonic)

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	1.7762 mL	8.8810 mL	17.7620 mL
5 mM	0.3552 mL	1.7762 mL	3.5524 mL
10 mM	0.1776 mL	0.8881 mL	1.7762 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: ≥ 5 mg/mL (8.88 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 5 mg/mL (8.88 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

5-Iminodaunorubicin hydrochloride is a quinone-modified anthracycline that retains antitumor activity[1]. 5-Iminodaunorubicin hydrochloride 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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