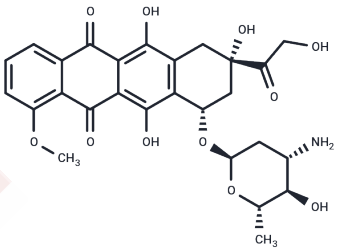
Data Sheet (Cat.No.T69093)

TargetMol

Epirubicin

Chemical Properties



CAS No. : 56420-45-2

Formula: C27H29NO11

Molecular Weight: 543.52

Storage: Keep away from moisture
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	Epirubicin (4'-Epidoxorubicin) is an anthracycline antibiotic that acts as a Topoisomerase II inhibitor. It exerts its antitumor effects by intercalating into DNA base pairs, inhibiting DNA replication and transcription, and inducing DNA strand breaks/apoptosis. Epirubicin is widely used in the treatment of breast, gastric, lung, and ovarian cancers.
Targets(IC50)	Others
In vitro	In human hepatoma G2 cells, Epirubicin exhibits cytotoxicity (24 h IC50=1.6 μg/mL), induces apoptosis, and upregulates catalase (+50%), GSH-Px (+110%), and SOD (+135-172%) activities [3]. It inhibits DNA/RNA/protein synthesis by complexing with DNA, primarily killing S-phase cells, while high concentrations affect G1/M/G2 phases and membrane integrity [1].
In vivo	In a human breast carcinoma R-27 xenograft model, systemic administration of Epirubicin at a dose of 3.5 mg/kg resulted in a 74.4% reduction in tumor mass. The compound shows broad clinical activity across various malignancies, including malignant lymphomas, lung cancer, and gastrointestinal tumors [4][5].

Solubility Information

Solubility	DMSO: 100 mg/mL (183.99 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8399 mL	9.1993 mL	18.3986 mL
5 mM	0.368 mL	1.8399 mL	3.6797 mL
10 mM	0.184 mL	0.9199 mL	1.8399 mL
50 mM	0.0368 mL	0.184 mL	0.368 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

Cersosimo RJ, et al. Epirubicin: a review of the pharmacology, clinical activity, and adverse effects of an adriamycin analogue. J Clin Oncol. 1986 Mar;4(3):425-39.
Kashima H, et al. Epirubicin, Identified Using a Novel Luciferase Reporter Assay for Foxp3 Inhibitors, Inhibits Regulatory T Cell Activity. PLoS One. 2016 Jun 10;11(6):e0156643.
Ozkan, A., et al. Epirubicin HCl toxicity in human-liver derived hepatoma G2 cells. Pol J Pharmacol, 2004. 56(4): p. 435-44.
Bonadonna, G., et al. Drugs ten years later: epirubicin. Ann Oncol, 1993. 4(5): p. 359-69.
Asanuma, F., et al. Antitumor activity of paclitaxel and epirubicin in human breast carcinoma, R-27. Folia Microbiol (Praha), 1998. 43(5): p. 473-4.

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