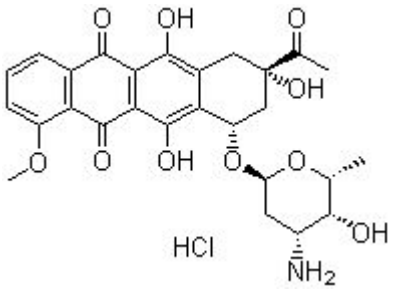
Product Introduction

Daunorubicin HCl

Daunorubicin HCl inhibits both DNA and RNA synthesis and inhibits **DNA** synthesis with K_I of 0.02 μM.

Technical Data:

Molecular Weight (MW):	563.98	
Formula:	$C_{27}H_{29}NO_{10}$. HCl	
Solubility (25°C) * <1 mg/ml means slightly soluble or insoluble:	DMSO 113 mg/mL	
	Water 113 mg/mL	
	Ethanol 13 mg/mL	
Purity:	>98%	
Storage:	3 years -20℃Powder	
	6 months-80℃in DMSO	
CAS No.:	23541-50-6	

Biological Activity

At drug concentrations that reflect the peak plasma concentration after Daunorubicin administration, the primary mechanism is likely to be through interaction with topoisomerase II, which may be a primary triggering event for growth arrest and/or cell killing through a signalling pathway leading to apoptosis, at least in leukemic cells and thymocytes. The quinone structure permits daunorubicin to act as electron acceptors in reactions mediated by oxoreductive enzymes including cytochrome P450 reductase, NADH dehydrogenase, and xanthine oxidase. At Daunorubicin concentrations exceeding approximately 2–4 μM, free radical mediated toxicity and DNA cross-linking may become evident. Daunorubicin inhibits both DNA and RNA syntheses in HeLa cells over a concentration range of 0.2 through 2 μM. Daunorubicin inhibits

both DNA syntheses in Ehrlich ascites tumor cells over a concentration range of 4 μM. Daunorubic triggers apoptosis at concentrations of 0.5 and 1 μM in either HL-60 or U-937 human leukemic cells. [1] Daunorubicin stimulates ceramide elevation and apoptosis in P388 and U937 cells through de novo synthesis via activation of the enzyme ceramide synthase. [2] Daunorubicin dose-dependently increases the phosphatidylserine exposure and consequent procoagulant activity of human umbilical vein endothelial cells. Daunorubicin (0.2 mM) significantly enhances the release of endothelial microparticles which are highly procoagulant in human umbilical vein endothelial cells. [3]

References

[1] Gewirtz DA, et al. Biochem Pharmacol, 1999, 57(7), 727-741.

[2] Bose R, et al. Cell, 1995, 82(3), 405-414.

[3] Fu Y, et al. Thromb Haemost, 2010, 104(6), 1235-1241.

[4] Tardi P, et al. Leuk Res, 2009, 33(1), 129-139.

Note： Products protected by valid patents are not offered for sale in countries where the sale of such products constitutes a patent infringement and its liability is at buyer’s risk. This item is only for R&D purpose not for commercial business in kilos. Buyers should overview the patent issue in their countries.