Product Name: **Doxorubicin hydrochloride** **Catalog No.: 2252** **Batch No.: 5**

CAS Number: 25316-40-9 EC Number: 246-818-3

IUPAC Name: 10-[(3-Amino-2,3,6-trideoxy-α-L-lyxohexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-5,12-naphthacenedione hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{27}H_{29}NO_{11}.HCl.¼H_2O$

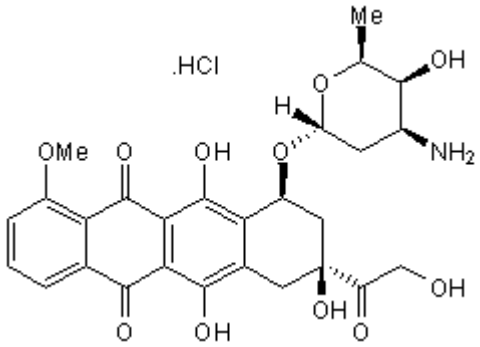
Batch Molecular Weight: 584.49

Physical Appearance: Orange solid

Solubility: water to 50 mM
DMSO to 50 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	55.48	5.26	2.4
Found	55.37	5.24	2.47

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Description:

Antitumor antibiotic agent that inhibits DNA topoisomerase II. DNA intercalator that inhibits nucleic acid synthesis and induces apoptosis. Reduces intracellular tau levels.

Physical and Chemical Properties:

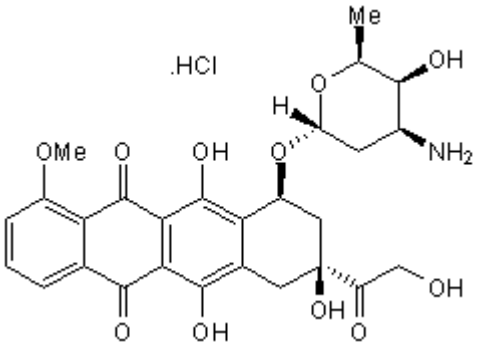
Batch Molecular Formula: $C_{27}H_{29}NO_{11}.HCl.¼H_2O$

Batch Molecular Weight: 584.49

Physical Appearance: Orange solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 50 mM
DMSO to 50 mM

CAUTION - This product is hygroscopic and we recommend that it is desiccated upon arrival. Solutions should be made up as soon as the vial is opened.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Skladanowski and Konopa (1993) Adriamycin and daunomycin induce programmed cell death (apoptosis) in tumour cells. Biochem.Pharmacol. ***46*** 357. PMID: 8347161.

Patel *et al* (1997) Identification of yeast DNA topoisomerase II mutants resistant to the antitumor drug doxorubicin: implications for the mechanisms of doxorubicin action and cytotoxicity. Mol.Pharmacol. ***52*** 658. PMID: 9380029.

Gewirtz (1999) A critical evaluation of the mechanisms of action proposed for the antitumor effects of the anthracycline antibiotics adriamycin and daunorubicin. Biochem.Pharmacol. ***57*** 727. PMID: 10075079.

Dickey *et al* (2006) Pharmacologic reductions of total tau levels; implications for the role of microtubule dynamics in regulating tau expression. Mol.Neurodegen. ***1*** 6. PMID: 16930453.