Print Date: Oct 17th 2013

Certificate of Analysis

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Product Name: **Daunorubicin hydrochloride** **Catalog No.: 1467** **Batch No.: 2**

CAS Number: 23541-50-6 EC Number: 245-723-4

IUPAC Name: (8*S*,10*S*)-8-Acetyl-10-[(3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyransoyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-5,12-naphthacenedione hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{27}H_{29}NO_{10}.HCl.½H_2O$

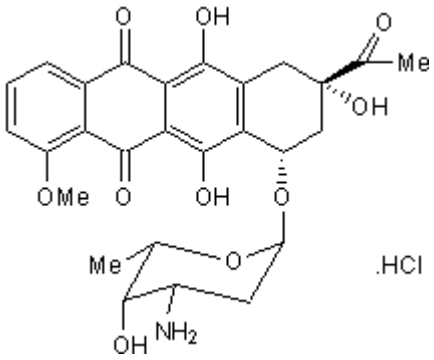
Batch Molecular Weight: 573

Physical Appearance: Red solid

Solubility: water to 50 mM

Storage: Desiccate at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.2% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	56.6	5.45	2.44
Found	56.75	5.28	2.5

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Description:

Anticancer agent that is clinically used to treat nonlymphocytic leukemia. Inhibits RNA and DNA synthesis and causes DNA fragmentation in vivo. Reduces tau mRNA levels in vitro.

Physical and Chemical Properties:

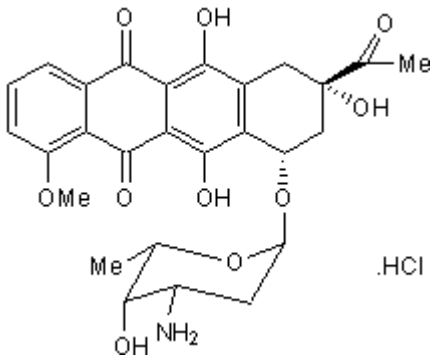
Batch Molecular Formula: $C_{27}H_{29}NO_{10}.HCl.½H_2O$

Batch Molecular Weight: 573

Physical Appearance: Red solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Desiccate at +4°C

Solubility & Usage Info:

water to 50 mM

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:

Aubel-Sadron and Londos-Gagliardi (1984) Daunorubicin and doxorubicin, anthracycline antibiotics, a physicochemical and biological review. Biochimie ***66*** 333. PMID: 6380596.

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.

Laurent and Jaffrezou (2001) Signaling pathways activated by daunorubicin. Blood ***98*** 913. PMID: 11493433.

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.