

# Product Information

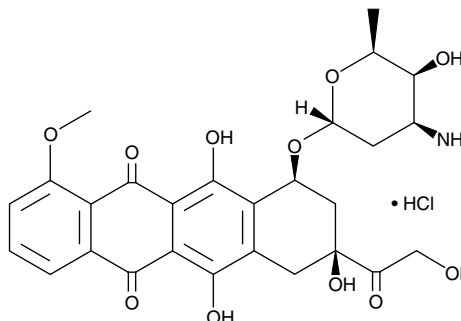


## Doxorubicin (hydrochloride)

Item No. 15007

Sold for research purposes under agreement from Pfizer Inc.

**CAS Registry No.:** 25316-40-9  
**Formal Name:** (8S,10S)-10-[(3-amino-2,3,6-trideoxy- $\alpha$ -L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(2-hydroxyacetyl)-1-methoxy-5,12-naphthacenedione, monohydrochloride  
**Synonyms:** Adriacin, DOX, NSC 123127  
**MF:**  $C_{27}H_{29}NO_{11} \cdot HCl$   
**FW:** 580.0  
**Purity:**  $\geq 98\%$   
**Stability:**  $\geq 2$  years at  $-20^{\circ}C$   
**Supplied as:** A crystalline solid  
**UV/Vis.:**  $\lambda_{max}$ : 234, 252, 288, 479 nm



### Laboratory Procedures

For long term storage, we suggest that doxorubicin (hydrochloride) be stored as supplied at  $-20^{\circ}C$ . It should be stable for at least two years.

Doxorubicin (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the doxorubicin (hydrochloride) in the solvent of choice. Doxorubicin (hydrochloride) is soluble in DMSO and water. The solubility of doxorubicin (hydrochloride) in these solvents is approximately 10 mg/ml.

Doxorubicin (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, doxorubicin (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Doxorubicin (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Doxorubicin is an anthracycline antitumor antibiotic that inhibits DNA topoisomerase II by inducing double-stranded DNA breaks.<sup>1</sup> By intercalating within DNA, doxorubicin inhibits nucleic acid synthesis and induces apoptosis by inducing the accumulation of the p53 tumor suppressor protein.<sup>2</sup>

### References

1. Patel, S., Sprung, A.U., Keller, B.A., *et al.* 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**(4), 658-666 (1997).
2. Lorenzo, E., Ruiz-Ruiz, C., Quesada, A.J., *et al.* Doxorubicin induces apoptosis and CD95 gene expression in human primary endothelial cells through a p53-dependent mechanism. *J. Biol. Chem.* **277**(17), 10883-10892 (2002).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/15007](http://www.caymanchem.com/catalog/15007)

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**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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