

PRODUCT INFORMATION

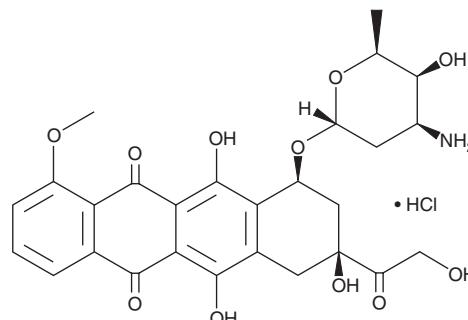


Doxorubicin (hydrochloride)

Item No. 15007

CAS Registry No.: 25316-40-9
Formal Name: (8S,10S)-10-[(3-amino-2,3,6-trideoxy- α -L-lyxohexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(2-hydroxyacetyl)-1-methoxy-5,12-naphthacenedione, monohydrochloride

Synonym: DOX
MF: C₂₇H₂₉NO₁₁ • HCl
FW: 580.0
Purity: \geq 98%
UV/Vis.: λ_{max} : 234, 252, 288, 479 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

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 organic solvents such as ethanol and DMSO, which should be purged with an inert gas. The solubility of doxorubicin (hydrochloride) in these solvents is approximately 1 and 10 mg/ml, respectively.

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.

Description

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

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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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