**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-lyxo-hexopyranosyl)oxy)-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(2-hydroxyacetyl)-1-methoxy-5,12-naphthacenedione, monohydrochloride  
**Synonym:** DOX  
**MF:** C_{27}H_{29}NO_{11} • HCl  
**FW:** 580.0  
**Purity:** ≥98%  
**UV/Vis.:** λ_{max}: 234, 252, 288, 479 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years

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

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**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**