

# PRODUCT INFORMATION

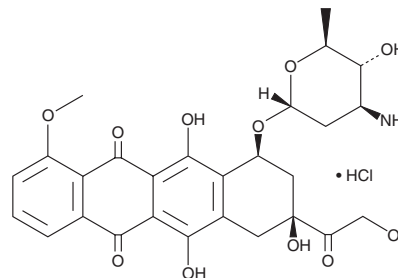


## Epirubicin (hydrochloride)

Item No. 12091

**CAS Registry No.:** 56390-09-1  
**Formal Name:** (8S,10S)-10-[(3-amino-2,3,6-trideoxy- $\alpha$ -L-arabino-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(2-hydroxyacetyl)-1-methoxy-5,12-naphthacenedione, monohydrochloride

**Synonym:** 4'-Epidoxorubicin  
**MF:** C<sub>27</sub>H<sub>29</sub>NO<sub>11</sub> • HCl  
**FW:** 580.0  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 234, 252, 289, 479 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

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

Epirubicin (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, epirubicin (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Epirubicin (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

Epirubicin is a stereoisomer of the antitumor anthracycline doxorubicin (Item No. 15007) that undergoes  $\beta$ -glucuronidation, which partially detoxifies the dose-limiting side effects that are present with doxorubicin.<sup>1</sup> Compared to doxorubicin, epirubicin is equally cytotoxic to HeLa cells (ID<sub>50</sub>s = 9  $\mu$ M).<sup>1</sup> When used either alone or in combination therapies, epirubicin has been shown to demonstrate high rates of complete or partial remission in various cancers including advanced ovary, lymphomas, breast, pancreas, gastric, hepatocellular carcinoma, head and neck tumors, and colorectal.<sup>1,2</sup>

### References

1. Arcamone, F. Properties of antitumor anthracyclines and new developments in their application: Cain memorial award lecture. *Cancer Res.* **45(12 Pt 1)**, 5995-5999 (1985).
2. Yao, X., Hosenpud, J., Chitambar, C.R., *et al.* A phase II study of concurrent docetaxel, epirubicin and cyclophosphamide as a neoadjuvant chemotherapy regimen in patients with locally advanced breast cancer. *J. Cancer* **3**, 145-151 (2012).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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