

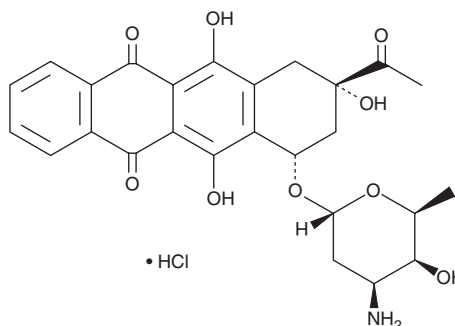
# PRODUCT INFORMATION



## Idarubicin (hydrochloride)

Item No. 14176

**CAS Registry No.:** 57852-57-0  
**Formal Name:** (7S,9S)-9-acetyl-7-[(3-amino-2,3,6-trideoxy- $\alpha$ -L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,9,11-trihydroxy-5,12-naphthacenedione, monohydrochloride  
**Synonyms:** 4-Demethoxydaunorubicin, 4-DMD, NSC 256439  
**MF:**  $C_{26}H_{27}NO_9 \cdot HCl$   
**FW:** 534.0  
**Purity:**  $\geq 98\%$   
**UV/Vis.:**  $\lambda_{max}$ : 252, 287, 482 nm  
**Supplied as:** A crystalline solid  
**Storage:**  $-20^{\circ}C$   
**Stability:**  $\geq 4$  years



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

### Laboratory Procedures

Idarubicin (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the idarubicin (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Idarubicin (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of idarubicin (hydrochloride) in these solvents is approximately 10 mg/ml.

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

Idarubicin is a 4-demethoxy analog of the leukemia therapeutic daunorubicin (Item No. 14159). Both are anthracycline antibiotics which intercalate in DNA and inhibit topoisomerase II, resulting in cancer cell cytotoxicity at low concentrations ( $IC_{50} = 20-120$  nM for idarubicin).<sup>1-3</sup> Idarubicin is effective in combination therapy for the treatment of different types of leukemia.<sup>4,5</sup>

### References

1. Arcamone, F. Properties of antitumor anthracyclines and new developments in their application: Cain memorial award lecture. *Cancer Res.* **45**, 5995-5999 (1985).
2. Dautant, A., d'Estaintot, B.L., Gallois, B., *et al.* A trigonal form of the idarubicin:d(CGATCG) complex; crystal and molecular structure at 2.0 Å resolution. *Nucleic Acids Res.* **23(10)**, 1710-1716 (1995).
3. Binaschi, M., Farinosi, R., Austin, C.A., *et al.* Human DNA topoisomerase II  $\alpha$ -dependent DNA cleavage and yeast cell killing by anthracycline analogues. *Cancer Res.* **58**, 1886-1892 (1998).
4. Tallman, M.S., Gilliland, D.G., and Rowe, J.M. Drug therapy for acute myeloid leukemia. *Blood* **106(4)**, 1154-1163 (2005).
5. Wang, Z.-Y. and Chen, Z. Acute promyelocytic leukemia: From highly fatal to highly curable. *Blood* **111(5)**, 2505-2515 (2008).

#### 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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