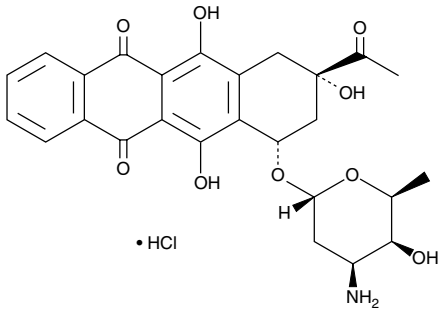
# Product Information

## Idarubicin (hydrochloride)

*Item No. 14176*

**CAS Registry No.:** 57852-57-0
**Formal Name:** (7S,9S)-9-acetyl-7-[(3-amino-2,3,6-trideoxy-α-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:** $C_{26}H_{27}NO_9$ • HCl
**FW:** 534.0
**Purity:** ≥98%
**Stability:** ≥2 years at -20°C
**Supplied as:** A crystalline solid
**UV/Vis.:** $\lambda_{max}$: 252, 287, 482 nm




### Laboratory Procedures

For long term storage, we suggest that idarubicin (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

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

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).[1-3] Idarubicin is effective in combination therapy for the treatment of different types of leukemia.[4,5]

### 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 α-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).


### Related Products

For a list of related products please visit: www.caymanchem.com/catalog/14176

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

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