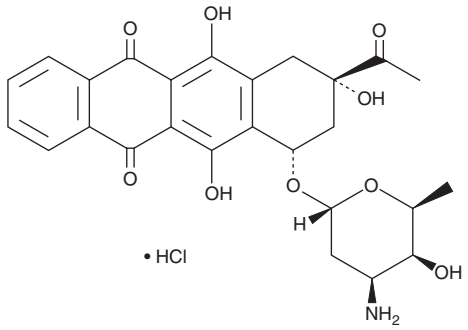
PRODUCT INFORMATION

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%
UV/Vis.:	λ_{max}: 252, 287, 482 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥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).[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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM