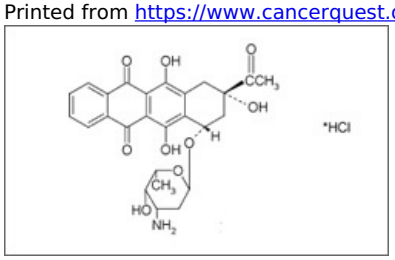
Idarubicin

Printed from https://www.cancerquest.org/patients/drug-reference/idarubicin on 11/16/2026



Brand name: Idamycin®
IUPAC: (1S,3S)-3-acetyl-3,5,12-trihydroxy-6,11-dioxo-1,2,3,4,6,11-hexahydrotetracen-1-yl 3-amino-2,3,6-trideoxo-±-L-lyxo-hexopyranoside
FDA approval: Yes
Manufacturer Link
Usage:

Idarubicin is used to treat multiple forms of leukemia (acute myelogenous, acute lymphoblastic and chronic myelogenous) in adults and is administered as an injection.1

1 Chu, E., & DeVita, V. T. (2015). Physicians' cancer chemotherapy drug manual 2015. Burlington, MA: Jones & Bartlett Learning.

Mechanism:

Idarubicin (Idamycin®) is an anthracycline antibiotic that exerts its effects on cancer cells via two different mechanisms. Idarubicin is an intercalating agent, which means that it wedges between the bases of DNA and blocks DNA synthesis and transcription. The drug also inhibits the activity of an enzyme, topoisomerase type II. This leads to breaks in the genomic DNA via the formation of oxygen free radicals, especially in the S- and G2- phases of the cell cycle.1

The diagram below shows the 3D molecular structure of Idarubicin.

Stick | Sphere | Line | Rotate

1 Chu, E., & DeVita, V. T. (2015). Physicians' cancer chemotherapy drug manual 2015. Burlington, MA: Jones & Bartlett Learning.

Side effects:

Common side effects include bone marrow suppression, nausea and vomiting, hair loss, infection, abdominal cramps and diarrhea, rashes. Idarubicin should not be taken by women who are pregnant and patients should not become pregnant while using this drug, as it may have harmful affects on the developing fetus. This drug may have effects on fertility after treatment has ended. Idarubicin is a strong suppressor of bone marrow activity, which makes it important to monitor blood cell and platelet counts throughout the duration of treatment. Idarubicin may also have toxic effects on other systems, therefore, renal (kidney) function and hepatic (liver) function tests should be performed routinely. Also, cardiac function must be monitored to avoid irreversible effects of toxicity. 1, 2

1 Idamycin PFS.. Prescribing Information. Pharmacia & Upjohn Company. [http://www.pfizer.com]
2 Chu, E., & DeVita, V. T. (2015). Physicians' cancer chemotherapy drug manual 2015. Burlington, MA: Jones & Bartlett Learning.

Contraindications:

Use caution in patients with abnormal liver function and make sure breastfeeding is avoided for nursing mothers on the treatment.1

1 Chu, E., & DeVita, V. T. (2015). Physicians' cancer chemotherapy drug manual 2015. Burlington, MA: Jones & Bartlett Learning.