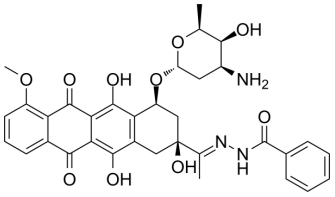
Zorubicin

Cat. No.:	HY-106556
CAS No.:	54083-22-6
Molecular Formula:	$C_{34}H_{35}N_3O_{10}$
Molecular Weight:	645.66
Target:	DNA/RNA Synthesis; Topoisomerase
Pathway:	Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Zorubicin (Rubidazon) is a derivative of Daunorubicin (HY-13062A). Zorubicin interacts with topoisomerase II and inhibits DNA polymerases. Zorubicin can be used for the research of acute leukemias and sarcomas[1][2][3][4][5].

In Vitro

Zorubicin (0.1-1 μg/mL; 0-24 h) affects cell cycle[2].
Zorubicin (0-128 nM/mL; 20 min) dose-dependently inhibits DNA polymerases α and β, and shows preferential inhibition of polymerase α[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cycle Analysis[2].

Cell Line:	Human lymphoid cell line
Concentration:	0.1-1 μg/mL
Incubation Time:	0-24 hours
Result:	Time-dependently increased G2-accumulations of human lymphoid cells, delayed the traverse through G1 and the G1-S transition. Caused a stepwise accumulation of cells in G2-phase.

In Vivo

Zorubicin (12-18 mg/kg; i.p. 48 h after tumour cells injection) affects leukaemic colony forming units[1].
Zorubicin (0.75-6.0 mg/kg; i.v.) increases plasma histamine concentrations and produces immediate hypotension in anesthetized beagle dogs[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Six- to eight-week-old male DBA_2 mice with P388 tumour cells[1]
Dosage:	12-18 mg/kg
Administration:	Intraperitoneal injection ; 12-18 mg/kg; 48 h after tumour cells injection
Result:	Showed a $D_{1/2}$ value of 1.6 mg/kg for leukaemic colony forming units.

REFERENCES

[1]. Alberts DS, Van Daalen Wetters T. Rubidazone vs adriamycin: an evaluation of their differential toxicity in the spleen colony assay system. Br J Cancer. 1976 Jul;34(1):64-8.

[2]. Barlogie B, et al. Kinetic response to cultured human lymphoid cells to rubidazone. J Natl Cancer Inst. 1978 Feb;60(2):279-82.

[3]. Herman EH, Young RS. Acute cardiovascular alterations induced by low doses of adriamycin, rubidazone, and daunorubicin in the anesthetized beagle dog. Cancer Treat Rep.

[4]. Sartiano GP, et al. Mechanism of action of the anthracycline anti-tumor antibiotics, doxorubicin, daunomycin and rubidazone: preferential inhibition of DNA polymerase alpha. J Antibiot (Tokyo). 1979 Oct;32(10):1038-45.

[5]. Akerman KJ, et al. Gold(III) macrocycles: nucleotide-specific unconventional catalytic inhibitors of human topoisomerase I. J Am Chem Soc. 2014 Apr 16;136(15):5670-82.

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