Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Mitoxantrone (dihydrochloride)

Catalog No: tcsc2525

Available Sizes

Size: 50mg

Size: 100mg

Specifications

CAS No:
70476-82-3

Formula:
$C_{22}H_{30}Cl_2N_4O_6$

Pathway:
TGF-beta/Smad;Epigenetics;Cell Cycle/DNA Damage

Target:
PKC;PKC;Topoisomerase

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 43 mg/mL (83.11 mM)

Alternative Names:
mitozantrone dihydrochloride

Observed Molecular Weight:
517.4

Product Description

Mitoxantrone dihydrochloride is a **topoisomerase II** inhibitor; also inhibits protein kinase C (**PKC**) activity with an **IC_{50}** of 8.5 μM.

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IC50 & Target: IC50: 8.5 μM (PKC)[1]

In Vitro: Mitoxantrone inhibits PKC in a competitive manner with respect to histone H1, and its K_i value is 6.3 μM and in a non-competitive manner with respect to phosphatidylserine and ATP[1]. Treatment of B-CLL cells for 48 h with mitoxantrone (0.5 μg/mL) induces a decrease in cell viability. Mitoxantrone induces DNA fragmentation and the proteolytic cleavage of poly(ADP-ribose) polymerase (PARP), demonstrating that the cytotoxic effect of mitoxantrone is due to induction of apoptosis[2]. Mitoxantrone shows cytotoxicity to human breast carcinoma cell lines MDA-MB-231 and MCF-7 with IC_{50} values of 18 and 196 nM, respectively[3].

In Vivo: Mitoxantrone given IP at the optimal dose (1.6 mg/kg/day; as a free base) produces a statistically significant number of 60-day survivors (curative effect) in mice with IP implanted L1210 leukemia. In SC implanted Lewis lung carcinoma, mitoxantrone and ADM administered IV also shows effective antitumor activities and produces a 60% and a 45% ILS, respectively.[4].