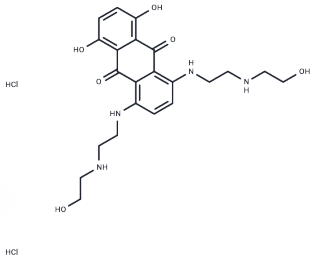
Data Sheet (Cat.No.T0158)

TargetMol

Mitoxantrone dihydrochloride

Chemical Properties



CAS No. : 70476-82-3

Formula: C22H30Cl2N4O6

Molecular Weight: 517.4

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Mitoxantrone dihydrochloride (NSC-301739) is the hydrochloride salt of an anthracenedione antibiotic with antineoplastic activity. It is a type II topoisomerase inhibitor.
Targets(IC50)	Apoptosis,Endogenous Metabolite,PKC,Topoisomerase,Virus Protease
In vitro	In a murine air pouch model of inflammation, methotrexate demonstrated an inhibitory concentration 50 (IC50) of 0.08 mg/kg per week.
In vivo	Methotrexate inhibits the de novo synthesis of purines and pyrimidines, the formation of polyamines, and the transmethylation reactions of DNA, RNA, phospholipids, and proteins. It suppresses the enzyme thymidylate synthase, leading to a deficiency of thymidylate inside cells, which ultimately results in antiproliferative cytotoxicity. Methotrexate enters cells either through active transport or facilitated diffusion and, once inside, polyglutamation inhibits dihydrofolate reductase, preventing the conversion of dihydrofolate to tetrahydrofolate.
Cell Research	The human breast carcinoma cell lines MDA-MB-231 and MCF-7 are seeded in standard 96-well plates. One day after seeding, the culture medium is changed and replaced by medium containing different concentration of Mitoxantrone (10-5 to 5 μM) with or without DHA (30 μM) during 7 days. Viability of cells are measured as a whole by the tetrazolium salt assay[3].

Solubility Information

Solubility	DMSO: 38.8 mg/mL (74.99 mM),Sonication is recommended. H2O: 2.6 mg/mL (5.03 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (3.87 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9327 mL	9.6637 mL	19.3274 mL
5 mM	0.3865 mL	1.9327 mL	3.8655 mL
10 mM	0.1933 mL	0.9664 mL	1.9327 mL
50 mM	0.0387 mL	0.1933 mL	0.3865 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Seitz M. Curr Opin Rheumatol, 1999, 11(3), 226-232.
Hirata S, et al. Arthritis Rheum, 1989, 32(9), 1065-1073.
Segal R, et al. Semin Arthritis Rheum, 1990, 20(3), 190-200.
Genestier L, et al. J Clin Invest, 1998, 102(2), 322-328.
Cronstein BN, et al. J Clin Invest, 1993, 92(6):2675-2682.