Data Sheet (Cat.No.T0979)

TargetMol

Dequalinium chloride

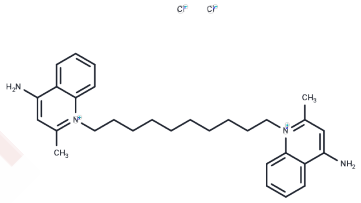
Chemical Properties

CAS No. : 522-51-0

Formula: C30H40Cl2N4

Molecular Weight: 527.59

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	Dequalinium chloride (Decabis) , a topical bacteriostat, is a selective blocker of apamin-sensitive K+ channels. It is used in wound dressings and mouth infections and may also have antifungal action, but may cause skin ulceration.
Targets(IC50)	Apoptosis,Antibacterial,AChR,Parasite,PKC,Potassium Channel
In vitro	Dequalinium chloride effectively inhibits nicotinic responses in skeletal muscles and potassium ion channels sensitive to apamin in bee venom in hepatocytes. It also acts as a ganglionic blocking agent (EC50: 2 μM) and, as a cationic lipophilic PKC inhibitor, shares a similar structure with the dye Rhodamine 123. Dequalinium chloride irreversibly inhibits PKCα/β through covalent binding under UV irradiation. It selectively accumulates in the mitochondria of tumor cells, inducing mitochondrial toxicity by blocking mitochondrial enzymes, thereby disrupting cellular energy production and leading to cell death. Dequalinium inhibits the binding of 125I-monoiodoapamin (Ki: 1.1 μM) and prevents potassium ion loss (induced by angiotensin II, IC50: 1.5 μM). In cultured rat sympathetic neurons, Dequalinium reversibly inhibits the slow component of the afterhyperpolarization (AHP) sensitive to apamin, subsequently generating a single action potential.
In vivo	In mice bearing MB49 bladder tumor xenografts, Dequalinium chloride (2 mg/kg/day i.p.) exhibited anticancer activity with a T/C value of 210%.

Solubility Information

Solubility	DMSO: Insoluble, H2O: 3.3 mg/mL (6.25 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8954 mL	9.4771 mL	18.9541 mL
5 mM	0.3791 mL	1.8954 mL	3.7908 mL
10 mM	0.1895 mL	0.9477 mL	1.8954 mL
50 mM	0.0379 mL	0.1895 mL	0.3791 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

Manetta A, et al. Gynecol Oncol, 1993, 50(1), 38-44.
Castle NA, et al. Eur J Pharmacol, 1993, 236(2), 201-207.
Dunn PM, et al. Eur J Pharmacol, 1994, 252(2), 189-194.
Rotenberg SA, et al. J Biol Chem, 1998, 273(4), 2390-2395.
Weiss MJ, et al. Proc Natl Acad Sci U S A. 1987, 84(15), 5444-5448.