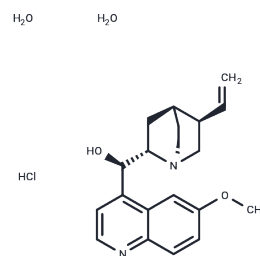


Quinine hydrochloride dihydrate

Chemical Properties

CAS No. :	6119-47-7
Formula:	C ₂₀ H ₂₄ N ₂ O ₂ ·HCl·2H ₂ O
Molecular Weight:	396.91
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Quinine hydrochloride dihydrate (Quinine HCl Dihydrate) is a white crystalline K ⁺ channel blocker, used to treat malaria.
Targets(IC50)	Potassium Channel,Parasite
In vitro	Quinine blocks Cx36 and Cx50 junctional currents in a reversible and concentration-dependent manner with half maximal blocking concentrations of 32 mM and 73 mM, respectively. Quinine induces slow transitions between open and fully closed states that decreased open probability of the channel. Quinine thus offers a potentially useful method to block certain types of gap junction channels, including those between neurons that are formed by Cx36. [1] Quinine, a K ⁺ channel blocker, prevents formation of tumor necrosis factor (TNF) as well as the subsequent hepatic DNA fragmentation and liver enzyme leakage. [2] Quinine elicits Fos-like immunoreactivity (FLI) concentrated in the medial third of the nucleus; acid elicited more broadly distributed FLI concentrated farther laterally. [3] Quinine has a relatively weak effect on doxorubicin accumulation but was able to completely restore doxorubicin sensitivity in the resistant cells. Quinine also modifies the intracellular tolerance to doxorubicin, which suggests that it is able to modify drug distribution within the cells. [4] Quinine primarily blocks the whole cell potassium currents (I _K) in a voltage-dependent manner. Quinine also reduces the size of sodium currents (I _{Na}) in a use-dependent manner, while leaving calcium currents (I _{Ca}) relatively unaffected. [5]

Solubility Information

Solubility	DMSO: 50 mg/mL (125.97 mM), Ethanol: 79 mg/mL (199.03 mM), H ₂ O: 43 mg/mL (108.33 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)
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A DRUG SCREENING EXPERT

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5195 mL	12.5973 mL	25.1946 mL
5 mM	0.5039 mL	2.5195 mL	5.0389 mL
10 mM	0.2519 mL	1.2597 mL	2.5195 mL
50 mM	0.0504 mL	0.2519 mL	0.5039 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.

Reference

Srinivas M, et al. Proc Natl Acad Sci U S A, 2001, 98(19), 10942-10947.

Gantner F, et al. Eur J Pharmacol, 1995, 294(1), 353-355.

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Tel: 781-999-4286 E_mail: info@targetmol.com Address: 36 Washington Street, Wellesley Hills, MA 02481