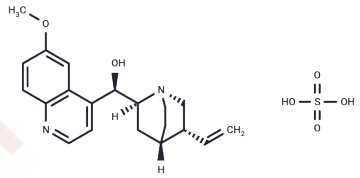
Data Sheet (Cat.No.T87289)

TargetMol

Quinine sulfate

Chemical Properties



CAS No. : 549-56-4

Formula: C20H26N2O6S

Molecular Weight: 422.49

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	Quinidine sulfate, an antiarrhythmic agent, is a potent, orally active, selective cytochrome P450db inhibitor and a K+ channel blocker with an IC50 of 19.9 μM. It can also be used for malaria research [1] [2] [3].
Targets(IC50)	Parasite,Cytochromes P450,Potassium Channel
In vitro	Quinidine sulfate is an anti-arrhythmic drug that influences ionic currents in heart muscle and acts as a potent blocker of several classes of K+ channels in various cell types [1]. Bath application of quinidine sulfate reduces the peak amplitude of I k in a dose-dependent manner, with a K d for blockade of I k at 0 mV estimated to be 41 μM [1]. Quinidine sulfate increases the rate of I k decay dose-dependently, an effect enhanced by membrane depolarization. It also causes a 5 mV hyperpolarizing shift of the steady-state inactivation curve and prolongs the half-time for recovery from inactivation, without affecting the onset of inactivation measured at -30 mV [1].
In vivo	Quinidine sulfate is rapidly absorbed, reaching peak plasma concentrations 60-90 minutes after oral administration. In contrast, other salts (gluconate, polygalacturonate) are absorbed more slowly with lower peak concentrations [2]. Approximately 70-90% of quinidine sulfate is bound to plasma proteins, and it undergoes hepatic oxidative metabolism to form an N-oxide, a 3-hydroxy form, an O-demethyl form, and 2'-quinidinone [2]. Quinidine sulfate inhibits amphetamine metabolism in rats, with pretreatment significantly decreasing p-hydroxyamphetamine excretion at 24 and 48 hours to 7.2% and 24.1% of control levels, respectively, and significantly increasing amphetamine excretion at 24-48 hours to 542% of control [3].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3669 mL	11.8346 mL	23.6692 mL
5 mM	0.4734 mL	2.3669 mL	4.7338 mL
10 mM	0.2367 mL	1.1835 mL	2.3669 mL
50 mM	0.0473 mL	0.2367 mL	0.4734 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.