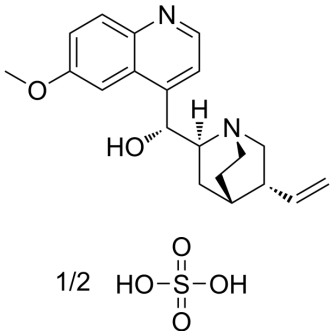
Quinine hemisulfate

Cat. No.:	HY-B0433B
CAS No.:	804-63-7
Molecular Formula:	$C_{20}H_{24}N_2O_2 \cdot 1/_2H_2SO_4$
Molecular Weight:	373.45
Target:	Parasite; Potassium Channel; Flavivirus; Dengue virus
Pathway:	Anti-infection; Membrane Transporter/Ion Channel
Storage:	4°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



BIOLOGICAL ACTIVITY

Description	Quinine hemisulfate is an orally active alkaloid extracted from cinchona bark and can be used in anti-malarial studies. Quinine hemisulfate is a potassium channel inhibitor that inhibits WT mouse Slo3 (K_{Ca}5.1) channel currents evoked by voltage pulses to +100 mV with an IC_{50} of 169 μM[1][2].
IC_{50} & Target	Plasmodium
In Vitro	Quinine hemisulfate (150 μM, 30 min) inhibits the proliferation and cytostatic effects of DENV (Dengue virus) in human hepatocarcinoma HepG2 cell line[1]. Quinine hemisulfate (37.5-150 μM, 24 hours) significantly reduces viral DENV RNA and protein levels in a dose-dependent manner in human hepatocarcinoma HepG2 cell line[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	Human hepatocarcinoma cell line(HepG2)
Concentration:	150 μM
Incubation Time:	30 min
Result:	Inhibited DENV virus replication with 19% yield compared to untreated. Reduced DENV-positive cells from 23.28% to 12.05% in a dose-dependent manner.

In Vivo

Quinine hemisulfate (oral gavage, 12 or 15 mg/kg, every week, 16 weeks) has some tumor suppressing effect on skin cancer in Swiss albino mice[2].
Quinine hemisulfate (oral gavage, 10 mg/kg, everyday, 8 weeks) causes a decrease in the antioxidant defense system of rat testicular tissue such as SOD, CAT and GSH enzyme activity in male adult albino rats[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Swiss albino mice 7-8-weeks (weighing 24 g)[2]
Dosage:	12 mg/kg, 15 mg/kg

Administration:	Oral gavage; every week; 16 weeks
Result:	Resulted in a significant reduction in tumor size and weight at 12 mg/kg and little effect at higher dose of 15 mg/kg.

CUSTOMER VALIDATION

- Mol Med Rep. 2021 Mar 2.
- Norwegian University of Science and Technology, Faculty of Medicine and Health sciences. 2019 Sep.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Shilu Malakar et al. Drug repurposing of quinine as antiviral against dengue virus infection. Virus Res. 2018 Aug 15;255:171-178. doi: 10.1016/j.virusres.2018.07.018. Epub 2018 Jul 25.

[2]. Ebenezer O Farombi, et al. Quercetin protects against testicular toxicity induced by chronic administration of therapeutic dose of quinine sulfate in rats. J Basic Clin Physiol Pharmacol. 2012 Feb 27;23(1):39-44.

[3]. Jhanwar, Deepika et al. Chemoprevention of DMBA induced skin carcinogenesis in swiss albino mice by quinine sulfate.(2016): 2636-2640.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA