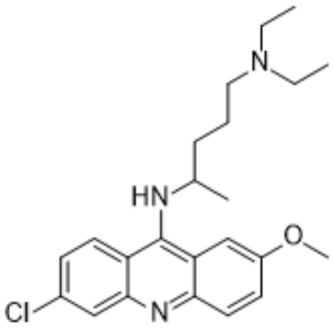
Quinacrine

Cat. No.:	HY-13735
CAS No.:	83-89-6
Molecular Formula:	$C_{23}H_{30}ClN_3O$
Molecular Weight:	399.96
Target:	Parasite; Sodium Channel; DNA Stain; Apoptosis
Pathway:	Anti-infection; Membrane Transporter/Ion Channel; Cell Cycle/DNA Damage; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Quinacrine (Acriquine) is an antimalarial and anti-cancer agent. Quinacrine also inhibits human aldehyde oxidase (IC_{50}: 3.3 μM). Quinacrine has affinity for nucleic acids, and stains DNA and RNA in fixed cells (Ex/Em: 436/525 nm)[1][2][3][4][7].

In Vitro

Quinacrine inhibits human and rabbit aldehyde oxidase, with IC_{50}s of 3.3 μM and 10 μM respectively[2].
Quinacrine blocks voltage-dependent sodium channels (IC_{50}: 3.3 μM)[3].
Quinacrine (100 μM) is also a PLA2 inhibitor[4].
Quinacrine (0-20 μM, 24 h) inhibits the growth of SGC-7901 cells, and induces cell apoptosis[7].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[7]

Cell Line:	SGC-7901 cell
Concentration:	0, 5, 10, 15, 20 μM
Incubation Time:	24 h
Result:	Inhibited cell growth with an IC_{50} value of 16.18 μM.

In Vivo

Quinacrine (3-30 mg/kg, i.p., once daily for three days) has protective effect against glycerol-induced acute kidney injury in rats[5].
Quinacrine (2.5-10 mg/kg, i.p., once daily for eight weeks) has protective effect against Cyclosporine-induced nephrotoxicity in rats[6].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Acute kidney injury rat model[5]
Dosage:	3-30 mg/kg
Administration:	i.p.
Result:	Attenuated glycerol induced structural and functional changes in kidney.

CUSTOMER VALIDATION

- ACS Nano. 2020 Jun 23;14(6):7639-7650.
- Pharmaceutics. 2022, 14(1), 176.

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REFERENCES

[1]. Vogtherr M, et al. Antimalarial drug quinacrine binds to C-terminal helix of cellular prion protein. J Med Chem. 2003 Aug 14;46(17):3563-4.

[2]. Pryde DC, et al. Aldehyde oxidase: an enzyme of emerging importance in drug discovery. J Med Chem. 2010 Dec 23;53(24):8441-60.

[3]. McNeal ET, et al. [3H]Batrachotoxinin A 20 alpha-benzoate binding to voltage-sensitive sodium channels: a rapid and quantitative assay for local anesthetic activity in a variety of drugs. J Med Chem. 1985 Mar;28(3):381-8.

[4]. Caro AA,et al. Role of phospholipase A2 activation and calcium in CYP2E1-dependent toxicity in HepG2 cells. J Biol Chem. 2003 Sep 5;278(36):33866-77.

[5]. Al Asmari AK, et al. Protective effect of quinacrine against glycerol-induced acute kidney injury in rats. BMC Nephrol. 2017 Jan 28;18(1):41.

[6]. al Khader A, et al. Quinacrine attenuates cyclosporine-induced nephrotoxicity in rats. Transplantation. 1996 Aug 27;62(4):427-35.

[7]. Wu X, et al. Quinacrine Inhibits Cell Growth and Induces Apoptosis in Human Gastric Cancer Cell Line SGC-7901. Curr Ther Res Clin Exp. 2012 Feb;73(1-2):52-64.

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