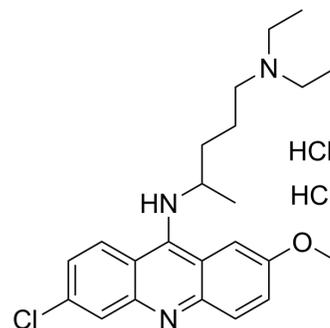


## Quinacrine dihydrochloride

<b>Cat. No.:</b>	HY-13735A
<b>CAS No.:</b>	69-05-6
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>32</sub> Cl <sub>3</sub> N <sub>3</sub> O
<b>Molecular Weight:</b>	472.88
<b>Target:</b>	Autophagy; Mitophagy; Parasite; Apoptosis
<b>Pathway:</b>	Autophagy; Anti-infection; Apoptosis
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 13.89 mg/mL (29.37 mM; Need ultrasonic)  
DMSO : < 1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble or slightly soluble)

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM	2.1147 mL	10.5735 mL	21.1470 mL
	5 mM	0.4229 mL	2.1147 mL	4.2294 mL	
	10 mM	0.2115 mL	1.0574 mL	2.1147 mL	

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

Quinacrine (Mepacrine) dihydrochloride is an orally bioavailable antimalarial agent, which possess anticancer effect both in vitro and vivo. Quinacrine dihydrochloride suppresses NF-κB and activate p53 signaling, which results in the induction of the apoptosis<sup>[1]</sup>.

#### IC<sub>50</sub> & Target

Plasmodium

#### In Vitro

Quinacrine (5-20 μM; 24 hours) inhibits the growth of SGC-7901 cells<sup>[1]</sup>.  
 ?Quinacrine (7.5 and 15 μM; 24 hours) induces apoptosis in SGC-7901 cells, which is associated with mitochondria-dependent signal pathway and involves p53 upregulation and caspase-3 activation pathway<sup>[1]</sup>.  
 ?Quinacrine (15 μM; 24 hours) treatment significantly increased the levels of proapoptotic proteins, including cytochrome c, Bax, and p53, and decreased the levels of antiapoptotic protein Bcl-2, thus shifting the ratio of Bax/Bcl-2 in favor of apoptosis<sup>[1]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.  
 Cell Viability Assay<sup>[1]</sup>

Cell Line:	SGC-7901 cells
Concentration:	0, 5, 10, 15, and 20 $\mu$ M
Incubation Time:	24 hours
Result:	Cell viability was inhibited in a dose-dependent manner, and the mean IC <sub>50</sub> value is 16.18 $\mu$ M.

#### Apoptosis Analysis<sup>[1]</sup>

Cell Line:	SGC-7901 cells
Concentration:	7.5 and 15 $\mu$ M
Incubation Time:	24 hours
Result:	The percentage of apoptotic cells, including the early phase and late phase apoptosis, increased to 26.30%, compared with control group of 3.37%.

#### Western Blot Analysis<sup>[1]</sup>

Cell Line:	SGC-7901 cells
Concentration:	15 $\mu$ M
Incubation Time:	24 hours
Result:	The relative quantity of cytochrome c protein was upregulated, increased from 0.10 to 0.24. The relative quantity of p53 protein was dramatically increased, from 0.06 to 0.19. The Bax/Bcl-2 ratio was dramatically elevated from 1.21 to 2.59.

#### In Vivo

Quinacrine (100 mg/kg three times per week for two consecutive weeks) significantly suppresses circulating blast cells at days 30/31 and increases the median survival time (MST). Quinacrine does not decrease the body weight of treated animals at the tested dose<sup>[2]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female SCID mice with acute myeloid leukemia (AML)-PS model <sup>[2]</sup>
Dosage:	100 mg/kg
Administration:	Administered by oral gavage (po); three times a week for two consecutive weeks
Result:	In the first AML mouse in vivo study, evaluation of circulating leukemic cells detected in blood samples (in percent of white blood cells (WBC)) at day 30/31 showed 72% human tumor cells in the control mice, whereas in mice treated with Quinacrine, this was only 2.2%. The MST of control mice was 34 days whereas it was 46 days in Quinacrine-treated mice.

#### CUSTOMER VALIDATION

- ACS Nano. 2020 Jun 23;14(6):7639-7650.

- Pharmaceuticals. 2022, 14(1), 176.
- University of Saskatchewan. 2020 Jun 22.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

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- [1]. Xiaoyang Wu, 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.
- [2]. Anna Eriksson, et al. Towards repositioning of quinacrine for treatment of acute myeloid leukemia - Promising synergies and in vivo effects. *Leuk Res.* 2017 Dec;63:41-46.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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