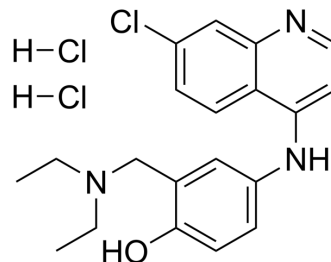


## Amodiaquine dihydrochloride

<b>Cat. No.:</b>	HY-B1322B
<b>CAS No.:</b>	69-44-3
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>24</sub> Cl <sub>3</sub> N <sub>3</sub> O
<b>Molecular Weight:</b>	428.78
<b>Target:</b>	Histone Methyltransferase; Parasite; Nuclear Hormone Receptor 4A/NR4A
<b>Pathway:</b>	Epigenetics; Anti-infection; Vitamin D Related/Nuclear Receptor
<b>Storage:</b>	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 125 mg/mL (291.52 mM; Need ultrasonic)				
	H <sub>2</sub> O : 50 mg/mL (116.61 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	2.3322 mL	11.6610 mL	23.3220 mL
	5 mM	0.4664 mL	2.3322 mL	4.6644 mL	
	10 mM	0.2332 mL	1.1661 mL	2.3322 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (4.85 mM); Clear solution  2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (4.85 mM); Clear solution				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Amodiaquine dihydrochloride (Amodiaquin dihydrochloride), a 4-aminoquinoline class of antimalarial agent, is a potent and orally active histamine N-methyltransferase inhibitor with a K <sub>i</sub> of 18.6 nM. Amodiaquine dihydrochloride is also a Nurr1 agonist and specifically binds to Nurr1-LBD (ligand binding domain) with an EC <sub>50</sub> of ~20 μM. Anti-inflammatory effect <sup>[1][2][3][4][5]</sup> .	
<b>IC<sub>50</sub> &amp; Target</b>	Plasmodium	Nurr1/NR4A2
<b>In Vitro</b>	Amodiaquine (10-20 μM; 4 hours) treatment suppresses LPS-induced expression of proinflammatory cytokines (IL-1β, interleukin-6, TNF-α and iNOS) in a dose-dependent manner <sup>[1]</sup> . ?Amodiaquine (5 μM; 24 hours) significantly inhibits neurotoxin (6-OHDA-induced cell death in primary dopamine cells as	

examined by the number of TH<sup>+</sup> neurons and dopamine uptake. The neuroprotective effect of Amodiaquine is also observed in rat PC12 cells<sup>[1]</sup>.

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

#### RT-PCR<sup>[1]</sup>

Cell Line:	Primary microglia
Concentration:	10 μM, 15 μM, 20 μM
Incubation Time:	4 hours
Result:	Suppressed LPS-induced expression of proinflammatory cytokines (IL-1β, interleukin-6, TNF-α and iNOS) in a dose-dependent manner.

#### In Vivo

Amodiaquine (40 mg/kg; intraperitoneal injection; daily; for 3 days; male ICR mice) treatment diminishes perihematomal activation of microglia/macrophages and astrocytes. Amodiaquine also suppresses ICH-induced mRNA expression of IL-1β, CCL2 and CXCL2, and ameliorated motor dysfunction of mice<sup>[2]</sup>.

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

Animal Model:	Male ICR mice (8-10 weeks of age) induced intracerebral hemorrhage (ICH) <sup>[2]</sup>
Dosage:	40 mg/kg
Administration:	Intraperitoneal injection; daily; for 3 days
Result:	Diminished perihematomal activation of microglia/macrophages and astrocytes.

## CUSTOMER VALIDATION

- Pharmacol Res. 2023 Mar 20;106717.
- Cell Rep. 2021 Apr 6;35(1):108959.
- J Virol. 2024 Jan 18:e0121623.
- Metab Brain Dis. 2021 Jan 28.
- Biochem Biophys Res Commun. 2020 Feb 19;522(4):862-868.

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## REFERENCES

[1]. Chun-Hyung Kim, et al. Nuclear receptor Nurr1 agonists enhance its dual functions and improve behavioral deficits in an animal model of Parkinson's disease. Proc Natl Acad Sci U S A. 2015 Jul 14;112(28):8756-61.

[2]. Keita Kinoshita, et al. A Nurr1 agonist amodiaquine attenuates inflammatory events and neurological deficits in a mouse model of intracerebral hemorrhage. J Neuroimmunol. 2019 May 15;330:48-54.

[3]. Akira Yokoyama, et al. Effect of amodiaquine, a histamine N-methyltransferase inhibitor, on, Propionibacterium acnes and lipopolysaccharide-induced hepatitis in mice. Eur J Pharmacol. 2007 Mar 8;558(1-3):179-84.

[4]. M T HOEKENGA. The treatment of acute malaria with single oral doses of amodiaquin, chloroquine, hydroxychloroquine and pyrimethamine. Am J Trop Med Hyg. 1954 Sep;3(5):833-8.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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