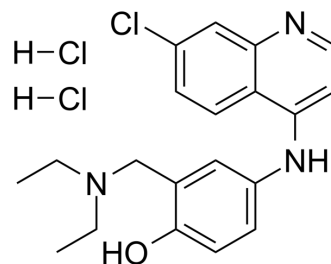


Amodiaquine dihydrochloride

Cat. No.:	HY-B1322B
CAS No.:	69-44-3
Molecular Formula:	C ₂₀ H ₂₄ Cl ₃ N ₃ O
Molecular Weight:	428.78
Target:	Parasite; Histone Methyltransferase
Pathway:	Anti-infection; Epigenetics
Storage:	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

In Vitro	DMSO : 125 mg/mL (291.52 mM; Need ultrasonic)				
	H ₂ O : 50 mg/mL (116.61 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	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.					
In Vivo	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

Description	Amodiaquine dihydrochloride (Amodiaquin dihydrochloride), a 4-aminoquinoline class of antimalarial agent, is a potent and orally active histamine N-methyltransferase inhibitor with a K _i of 18.6 nM. Amodiaquine dihydrochloride is also a Nurr1 agonist and specifically binds to Nurr1-LBD (ligand binding domain) with an EC ₅₀ of ~20 μM. Anti-inflammatory effect ^{[1][2][3][4][5]} .
IC₅₀ & Target	EC ₅₀ : ~20 μM (Nurr1-LBD (ligand binding domain)) ^[1] Histamine N-methyltransferase ^[3]
In Vitro	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 ^[1] .

Amodiaquine (5 μ M; 24 hours) significantly inhibits neurotoxin (6-OHDA-induced cell death in primary dopamine cells as examined by the number of TH⁺ neurons and dopamine uptake. The neuroprotective effect of Amodiaquine is also observed in rat PC12 cells^[1].

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

RT-PCR^[1]

Cell Line:	Primary microglia
Concentration:	10 μ M, 15 μ M, 20 μ M
Incubation Time:	4 hours
Result:	Suppressed LPS-induced expression of proinflammatory cytokines (IL-1 β , 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-1 β , CCL2 and CXCL2, and ameliorated motor dysfunction of mice^[2].

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) ^[2]
Dosage:	40 mg/kg
Administration:	Intraperitoneal injection; daily; for 3 days
Result:	Diminished perihematomal activation of microglia/macrophages and astrocytes.

CUSTOMER VALIDATION

- Cell Rep. 2021, 108959.
- Oxid Med Cell Longev. 2021 Feb 10.
- Biochem Biophys Res Commun. 2020 Feb 19;522(4):862-868.
- Metab Brain Dis. 2021 Jan 28.
- Biol Pharm Bull. 2022 Feb 3.

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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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