Cyproheptadine hydrochloride

Cat. No.: HY-B0366A

CAS No.: 969-33-5

Molecular Formula: $C_{21}H_{22}ClN$

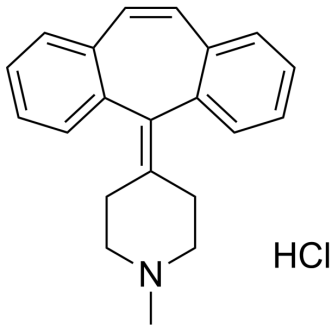
Molecular Weight: 323.86

Target: 5-HT Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: 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

DMSO : 50 mg/mL (154.39 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.0878 mL	15.4388 mL	30.8775 mL
5 mM	0.6176 mL	3.0878 mL	6.1755 mL
10 mM	0.3088 mL	1.5439 mL	3.0878 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: ≥ 2.5 mg/mL (7.72 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.72 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.72 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cyproheptadine hydrochloride is a potent and orally active 5-HT_{2A} receptor antagonist, with antidepressant and antiserotonergic effects. Cyproheptadine hydrochloride has antiplatelet and thromboprotective activities. Cyproheptadine hydrochloride can be used for the research of thromboembolic disorders[1][2].

IC_{50} & Target

5-HT_2 Receptor

In Vitro

Cyproheptadine hydrochloride (0.01-100 nM; 1 minute) dose-dependently inhibits serotonin-enhanced ADP-induced mouse platelet aggregation in vitro[2].

	Cyproheptadine hydrochloride (10 nM) has the ability to inhibit 15 μM serotonin-enhanced ADP-induced (1 μM) tyrosine phosphorylation in platelets in vitro[2]. Cyproheptadine hydrochloride inhibits human platelet PS exposure (Annexin V), P-selectin, and GPIIb-IIIa (PAC-1 binding) activation in vitro[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Cyproheptadine hydrochloride can be used in animal modeling to construct diabetes models. Cyproheptadine hydrochloride (1 mg/kg; i.p.; daily, for 5 days; C57BL/6 mice) exerts thromboprotective properties in vivo[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL/6 mice (8-10 weeks old)[2]
Dosage:	1 mg/kg
Administration:	Intraperitoneal injection, daily, for 5 days
Result:	Prolonged occlusion times and tail bleeding times in mice.

CUSTOMER VALIDATION

- Front Pharmacol. 2021 Apr 12;12:634097.
- PLoS Negl Trop Dis. 2019 Aug 20;13(8):e0007681.
- Cureus. 2023 Nov 27;15(11):e49530.

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REFERENCES

[1]. Calka O, et, al. Effect of cyproheptadine on serum leptin levels. Adv Ther, 2005. 22(5): p. 424-8.

[2]. Olivia A Lin, et al. The Antidepressant 5-HT2A Receptor Antagonists Pizotifen and Cyproheptadine Inhibit Serotonin-Enhanced Platelet Function. PLoS One. 2014; 9(1): e87026.

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