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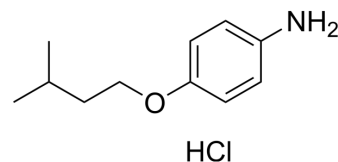
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CP-24879 hydrochloride

Cat. No.:	HY-115319
CAS No.:	10141-51-2
Molecular Formula:	C ₁₁ H ₁₈ ClNO
Molecular Weight:	215.72
Target:	Ferroptosis
Pathway:	Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (463.56 mM)
 * "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		4.6356 mL	23.1782 mL	46.3564 mL
	5 mM		0.9271 mL	4.6356 mL	9.2713 mL
	10 mM		0.4636 mL	2.3178 mL	4.6356 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (11.59 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.08 mg/mL (9.64 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CP-24879 (hydrochloride) is a potent, selective and combined delta5D/delta6D inhibitor. CP-24879 (hydrochloride) can significantly reduce intracellular lipid accumulation and inflammatory injury in hepatocytes. CP-24879 (hydrochloride) exhibits superior antisteatotic and anti-inflammatory actions in fat-1 and ω-3-treated hepatocytes, and can be used for non-alcoholic steatohepatitis research^{[1][2]}.

IC₅₀ & Target

IC₅₀: 0.015 μM (delta6D in ABMC-7 cells), 0.56 μM (delta6D in Liver microsomes), 0.67 μM (delta5D in ABMC-7 cells), 3.4 μM (delta5D in ABMC-7 cells)^[1]

In Vitro

CP-24879 (hydrochloride) (0-10 μM, 4 days) inhibits Δ6 + Δ5 desaturase activities in a concentration-dependent manner, with

a concentration-dependent depletion of AA and decrease in LTC₄ production^[1].

CP-24879 (hydrochloride) (0-10 μM, 16 h) shows the inhibitory responses on oleic acid-induced triglyceride accumulation in hepatocytes^[2].

CP-24879 (hydrochloride) (0-10 μM, 16 h) blocks LPS-induced expression of inflammatory cytokines in a concentration-dependent manner^[2].

CP-24879 (hydrochloride) (0-2 μM, 4 h) inhibits desaturase activity and ameliorates ferroptosis^[3].

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

Cell Viability Assay

Cell Line:	Mouse mastocytoma ABMC-7 cells ^[1]
Concentration:	0, 100 nM, 300 nM, 1 μM, 3 μM, and 10 μM
Incubation Time:	4 days
Result:	Inhibited Δ6 + Δ5 desaturase activities in a concentration-dependent manner, with a concentration-dependent depletion of AA and decrease in LTC ₄ (Leukotriene C ₄) production, and did not inhibit either 5-lipoxygenase or LTC ₄ synthase activity.

In Vivo

CP-24879 (hydrochloride) (3 mg/kg, IP, three times a day, for 6 or 4 days) inhibits Δ6 + Δ5 desaturase activities in vivo, causing depletion of AA in the livers of chow-fed mice and preventing repletion of AA in the livers of EFAD mice^[1].

CP-24879 (hydrochloride) (33 mg/kg, IV, once) is cleared quite rapidly and has a relatively short half-life^[1].

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

Animal Model:	Chow-fed and EFAD Balb/C mice (N = 5/group) ^[1]
Dosage:	3 mg/kg
Administration:	IP, three times a day, for 6 or 4 days
Result:	Inhibited approximately 80% combined Δ6 + Δ5 desaturase activities, causing depletion of AA in the livers of chow-fed mice and preventing repletion of AA in the livers of EFAD mice, and increased OA and LA, with a higher ratio of LA/AA in the livers of mice injected with CP-24879 versus saline (4.70 vs 2.00, Chow-fed mice; 2.46 vs 1.40, EFAD mice; respectively).

Animal Model:	Swiss-Webster mice (male, 25 g) ^[1]
Dosage:	33 mg/kg
Administration:	IV in the tail vein, once (Pharmacokinetic Analysis)
Result:	Was readily distributed to the peripheral tissues, with the volume of distribution (V) of 1.9 mL/g, was cleared quite rapidly (CL = 0.56 mL/min) and had a relatively short half-life (T _{1/2} = 59 min).

REFERENCES

[1]. Obukowicz MG, et al. Identification and characterization of a novel delta6/delta5 fatty acid desaturase inhibitor as a potential anti-inflammatory agent. *Biochem Pharmacol.* 1998 Apr 1;55(7):1045-58.

[2]. [2]López-Vicario C, et al. Molecular interplay between Δ5/Δ6 desaturases and long-chain fatty acids in the pathogenesis of non-alcoholic steatohepatitis. *Gut.* 2014 Feb;63(2):344-55.

[3]. [3]Lee JY, Nam M, Son HY, et al. Polyunsaturated fatty acid biosynthesis pathway determines ferroptosis sensitivity in gastric cancer. Proc Natl Acad Sci U S A. 2020;117(51):32433-32442.

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

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