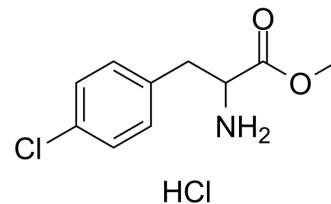


PCPA methyl ester hydrochloride

Cat. No.:	HY-101456
CAS No.:	14173-40-1
Molecular Formula:	C ₁₀ H ₁₃ Cl ₂ NO ₂
Molecular Weight:	250.12
Target:	Tryptophan Hydroxylase; 5-HT Receptor
Pathway:	Metabolic Enzyme/Protease; 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 (199.90 mM; Need ultrasonic)					
	H ₂ O : 50 mg/mL (199.90 mM; ultrasonic and warming and heat to 60°C)					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		3.9981 mL	19.9904 mL	39.9808 mL
5 mM			0.7996 mL	3.9981 mL	7.9962 mL	
	10 mM		0.3998 mL	1.9990 mL	3.9981 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (399.81 mM); Clear solution; Need ultrasonic					
	2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 5 mg/mL (19.99 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 5 mg/mL (19.99 mM); Clear solution					
	4. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 5 mg/mL (19.99 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	PCPA methyl ester hydrochloride (4-Chloro-DL-phenylalanine methyl ester hydrochloride), a reversible tryptophan hydroxylase inhibitor, is a serotonin (5-HT) synthesis inhibitor. PCPA methyl ester hydrochloride crosses the blood brain barrier and reduces 5-HT central availability ^{[1][2]} .	
IC₅₀ & Target	serotonin	Tryptophan Hydroxylase

In Vivo

PCPA methyl ester hydrochloride (250-500 mg/kg; oral administration; daily; for 8 weeks) treatment significantly decreases serotonin levels in both hippocampus and cortex^[3].

In C57BL/6 elite male mice, 5-HT levels decreased by 85% and 55% in the hippocampus of mice treated with oral or ip PCPA methyl ester hydrochloride, respectively, whereas in the prefrontal cortex, 5-HT levels decreased by 65% (oral) and 50% (ip) [3].

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

Animal Model:	C57BL/6 elite male mice (3 months old) ^[3]
Dosage:	500 mg/kg per day for the first 2 days and 250 mg/kg for the rest of the treatment
Administration:	Oral administration; daily; for 8 weeks
Result:	Serotonin levels were significantly decreased in both hippocampus and cortex.

CUSTOMER VALIDATION

- Cell Res. 2022 Apr 4.

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REFERENCES

- [1]. Dool-Ri Oh, et al. Sedative and hypnotic effects of Vaccinium bracteatum Thunb. through the regulation of serotonergic and GABA A-ergic systems: Involvement of 5-HT 1A receptor agonistic activity. Biomed Pharmacother. 2019 Jan;109:2218-2227.
- [2]. Fabio Bellia, et al. Transient serotonin depletion at adolescence, but not at early infancy, reduced subsequent anxiety-like behavior and alcohol intake in female mice. Psychopharmacology (Berl). 2021 Jan;238(1):215-225.
- [3]. ocío B Foltran, et al. Neurochemical, Behavioral, and Neurogenic Validation of a Hyposerotonergic Animal Model by Voluntary Oral Consumption of para-Chlorophenylalanine. ACS Chem Neurosci. 2020 Mar 18;11(6):952-959.

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

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