4-PPBP maleate

Cat. No.: HY-101043

CAS No.: 201216-39-9

Molecular Formula: $C_{25}H_{31}NO_4$

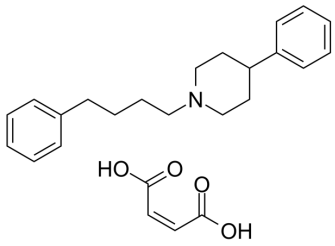
Molecular Weight: 409.52

Target: Sigma Receptor; iGluR

Pathway: Neuronal Signaling; Membrane Transporter/Ion Channel

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 : 250 mg/mL (610.47 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4419 mL	12.2094 mL	24.4188 mL
	5 mM	0.4884 mL	2.4419 mL	4.8838 mL
	10 mM	0.2442 mL	1.2209 mL	2.4419 mL

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

BIOLOGICAL ACTIVITY

Description

4-PPBP maleate is a potent σ 1 receptor ligand and agonist. 4-PPBP maleate is a non-competitive, selective NR1a/2B NMDA receptors (expressed in Xenopus oocytes) antagonist. 4-PPBP maleate provides neuroprotection[1][2][3].

In Vitro

4-PPBP maleate elicits ERK1/2 phosphorylation in primary neurons[3].

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

In Vivo

4-PPBP maleate (1 μmol/kg; i.v.) decreases brain injury after transient focal ischemia in rats[2].

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Animal Model:	Male rats weighing 300 to 385 g (Transient focal ischemia model)[2]
Dosage:	1 μmol/kg
Administration:	Per hour by continuous intravenous infusion starting 1 hour after the initiation of ischemia and continuing through 22 hours of reperfusion.

Result:	Decreased brain injury after transient focal ischemia in rats.

REFERENCES

[1]. Whittemore ER, et al. Antagonism of N-methyl-D-aspartate receptors by sigma site ligands: potency, subtype-selectivity and mechanisms of inhibition. J Pharmacol Exp Ther. 1997;282(1):326-338.

[2]. Takahashi H, et al. PPBP [4-phenyl-1-(4-phenylbutyl) piperidine] decreases brain injury after transient focal ischemia in rats. Stroke. 1996;27(11):2120-2123.

[3]. Tan F, et al. The σ 1 receptor agonist 4-PPBP elicits ERK1/2 phosphorylation in primary neurons: a possible mechanism of neuroprotective action. Neuropharmacology. 2010;59(6):416-424.

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