p-MPPI hydrochloride

Cat. No.: HY-120738

CAS No.: 220643-77-6

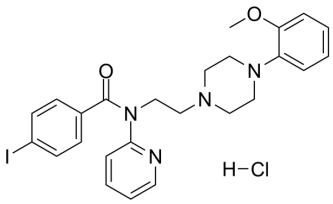
Molecular Formula: $C_{25}H_{28}ClIN_4O_2$

Molecular Weight: 578.87

Target: 5-HT Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

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 : 17.86 mg/mL (30.85 mM; Need ultrasonic)
H_2O : 3.33 mg/mL (5.75 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.7275 mL	8.6375 mL	17.2750 mL
	5 mM	0.3455 mL	1.7275 mL	3.4550 mL
	10 mM	0.1728 mL	0.8638 mL	1.7275 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: ≥ 1.79 mg/mL (3.09 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.79 mg/mL (3.09 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.79 mg/mL (3.09 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

p-MPPI hydrochloride is a selective 5-HT1A receptor antagonist with high affinity for 5-HT1A receptors. p-MPPI hydrochloride can crosses the blood-brain barrier, and has clear antidepressant and anxiolytic-like effects[1][2].

IC_{50} & Target

$5\text{-}HT_{1A}$ Receptor

In Vitro

p-MPPI hydrochloride has no agonist activity in both in vitro and in vivo tests of pre- and post-synaptic 5-HT1A receptor activity[1].

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

In Vivo

p-MPPI hydrochloride (0.5-4.5 mg/kg; i.p.) shows anxiolytic-like profile in the murine elevated plus-maze[2].

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

Animal Model:	Adult male Swiss Webster mice (aged 8-9 weeks)[2]
Dosage:	0.5, 1.5, 4.5 mg/kg
Administration:	i.p.
Result:	Produced a significant and dose-related anxiolytic profile on both conventional (open arm avoidance) and ethological (risk assessment) measures.

CUSTOMER VALIDATION

- Authorea. September 19, 2022.

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REFERENCES

[1]. Sørensen E, et al. The selective 5-HT(1A) receptor antagonist p-MPPI antagonizes sleep--waking and behavioural effects of 8-OH-DPAT in rats. Behav Brain Res. 2001 Jun;121(1-2):181-7.

[2]. Cao BJ, et al. Anxiolytic-like profile of p-MPPI, a novel 5HT1A receptor antagonist, in the murine elevated plus-maze. Psychopharmacology (Berl). 1997 Feb;129(4):365-71.

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