S-14506 hydrochloride

Cat. No.: HY-110024

CAS No.: 286369-38-8

Molecular Formula: $C_{24}H_{27}ClFN_3O_2$

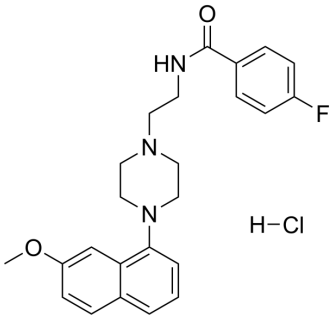
Molecular Weight: 443.94

Target: 5-HT Receptor; Dopamine Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: -20°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 (563.14 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2526 mL	11.2628 mL	22.5256 mL
	5 mM	0.4505 mL	2.2526 mL	4.5051 mL
	10 mM	0.2253 mL	1.1263 mL	2.2526 mL

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

BIOLOGICAL ACTIVITY

Description

S-14506 hydrochloride is a potent 5-HT1A agonist, as well as 5-$HT_{2A/2C}$ antagonist. S-14506 hydrochloride displays dopamine antagonist properties by blocking dopamine D2 receptors. S-14506 hydrochloride inhibits the in vivo binding of [3H]raclopride in striatum and olfactory bulbs. S-14506 hydrochloride has the potential for the research of anxiolytic agent[1][2][3].

IC_{50} & Target	5-HT_1 Receptor	5-HT_{2A} Receptor	5-HT_{2C} Receptor	D_2 Receptor

In Vitro

S-14506 hydrochloride serves as 5-HT_{1A} receptor agonist, appearing to be G(i) protein-dependent[4].

S-14506 hydrochloride (0.1 nM-100 μM; 10 min) shows high affinity for the G protein-uncoupled state of the 5-HT receptor in HeLa cells with pertussis toxin treatment[4].

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

In Vivo

S-14506 hydrochloride (0.2-3.38 mg/kg; IP; single dose) dose dependently antagonizes Apomorphine (0.75 mg/kg, s.c.) induced stereotyped climbing and sniffing in mice. S-14506 hydrochloride displays dopamine antagonist properties by blocking dopamine D2 receptors[2].

S-14506 hydrochloride (0.63 mg/kg; SC; single dose) is active in forced swimming test in rats. It induces imobility in rats[3].

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

Animal Model:	Male swiss albino mice (25-30 g) and male Wistar rats (170-230 g)[2]
Dosage:	0.2 mg/kg, 0.8 mg/kg, 3.2 mg/kg, 3.8 mg/kg
Administration:	IP; single dose, 30 min before test
Result:	Inhibited stereotyped climbing and sniffing behaviours induced by dopamine agonists in mice and on spontaneous behaviours.

Animal Model:	Male Wistar rats (200-220 g)[3]
Dosage:	0.01 mg/kg, 0.63 mg/kg
Administration:	SC; and gave antagonist 30 min after agonist
Result:	Induced a dose-dependent imobility in rats.

REFERENCES

[1]. Francis C. Colpaert, et al. S 14506: A novel, potent, high-efficacy 5-HT1A agonist and potential anxiolytic agent. 1992, 21-48.

[2]. Protais P, et al. Dopamine receptor antagonist properties of S 14506, 8-OH-DPAT, raclopride and clozapine in rodents. Eur J Pharmacol. 1994 Dec 12;271(1):167-77.

[3]. Schreiber R, et al. The potent activity of the 5-HT1A receptor agonists, S 14506 and S 14671, in the rat forced swim test is blocked by novel 5-HT1A receptor antagonists. Eur J Pharmacol. 1994 Dec 27;271(2-3):537-41.

[4]. Assié MB, et al. Correlation between low/high affinity ratios for 5-HT(1A) receptors and intrinsic activity. Eur J Pharmacol. 1999 Dec 10;386(1):97-103.

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