Ropinirole hydrochloride

Cat. No.: HY-B0623A

CAS No.: 91374-20-8

Molecular Formula: $C_{16}H_{25}ClN_2O$

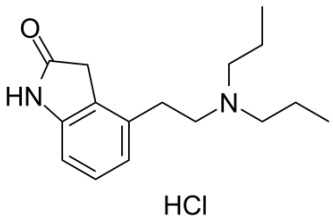
Molecular Weight: 296.84

Target: Dopamine Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

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 : 16.67 mg/mL (56.16 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3688 mL	16.8441 mL	33.6882 mL
	5 mM	0.6738 mL	3.3688 mL	6.7376 mL
	10 mM	0.3369 mL	1.6844 mL	3.3688 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: ≥ 1.67 mg/mL (5.63 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.67 mg/mL (5.63 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (5.63 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ropinirole hydrochloride is a potent D_3/D_2 receptor agonist with a K_i of 29 nM for D_2 receptor. Ropinirole hydrochloride has pEC_{50}s of 7.4, 8.4 and 6.8 for hD_2, hD_3 and hD_4 receptors, respectively. Ropinirole hydrochloride has no affinity for the D_1 receptors. Ropinirole hydrochloride has the potential for Parkinson's disease[1][2].

IC_{50} & Target

Ki: D_3 and 29 nM (D_2)[1]

In Vitro

Ropinirole hydrochloride has affinity for D_3 receptors of 10-20 fold higher than the D_2 and D_4 receptors. Ropinirole

	hydrochloride is weakly active at alpha 2-adrenoceptors and 5-HT_2 receptors but inactive at 5-HT_1, benzodiazepine and gamma-aminobutyric acid receptors or alpha 1 and beta-adrenoceptors[1][2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Ropinirole (0.1-10 mg/kg; i.p.) decreases intracranial self-stimulation (ICSS) thresholds and induces anxiolytic- and antidepressive-like effects without affecting motor activity or spatial memory[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague–Dawley rats weighing 220-350 g[2]
Dosage:	0.1, 1 or 10 mg/kg
Administration:	i.p.
Result:	Decreased ICSS thresholds and induced anxiolytic- and antidepressive-like effects without affecting motor activity or spatial memory.

REFERENCES

[1]. Eden, R.J., et al., Preclinical pharmacology of ropinirole (SK&F 101468-A) a novel dopamine D2 agonist. Pharmacol Biochem Behav, 1991. 38(1): p. 147-54.

[2]. Mavrikaki M, et al. Ropinirole regulates emotionality and neuronal activity markers in the limbic forebrain. Int J Neuropsychopharmacol. 2014 Dec;17(12):1981-93.

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