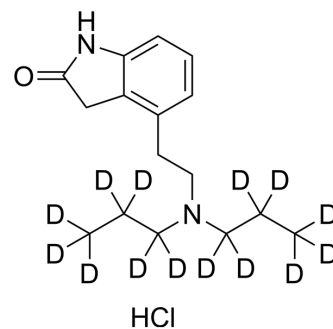


Ropinirole-d₁₄ hydrochloride

Cat. No.:	HY-B0623AS3
CAS No.:	1276197-10-4
Molecular Formula:	C ₁₆ H ₁₁ D ₁₄ ClN ₂ O
Molecular Weight:	310.92
Target:	Dopamine Receptor; Isotope-Labeled Compounds
Pathway:	GPCR/G Protein; Neuronal Signaling; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Ropinirole-d ₁₄ hydrochloride is deuterated labeled Ropinirole hydrochloride (HY-B0623A). Ropinirole (SKF 101468) hydrochloride is an orally active, 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]} .
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs ^[1] . 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 ^{[2][3]} . 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 ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Mavrikaki M, et al. Ropinirole regulates emotionality and neuronal activity markers in the limbic forebrain. *Int J Neuropsychopharmacol*. 2014 Dec;17(12):1981-93.
- [2]. 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.
- [3]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.

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

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