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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

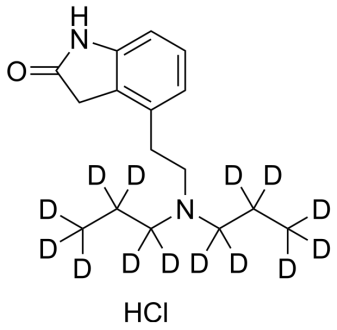
mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Ropinirole-d_{14} hydrochloride

Cat. No.:	HY-B0623AS3
CAS No.:	1276197-10-4
Molecular Formula:	$C_{16}H_{11}D_{14}ClN_2O$
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.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA