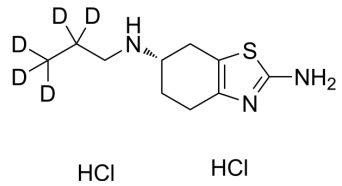
Pramipexole-d_5 dihydrochloride

Cat. No.:	HY-17355S1
CAS No.:	1217601-58-5
Molecular Formula:	$C_{10}H_{14}D_5Cl_2N_3S$
Molecular Weight:	289.28
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	Pramipexole-d_5 (dihydrochloride) is deuterium labeled Pramipexole (dihydrochloride). Pramipexole dihydrochloride is a selective and blood-brain barrier (BBB) penetrant dopamine D2-type receptor agonist, with Kis of 2.2 nM, 3.9 nM, 0.5 nM and 1.3 nM for D2-type receptor, D2, D3 and D4 receptors, respectively. Pramipexole dihydrochloride can be used for the research of Parkinson's disease (PD) and restless legs syndrome (RLS)[1][2][3].		
IC_{50} & Target	D_2 Receptor	D_3 Receptor	D_4 Receptor
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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.		

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Ginetta Collo, et al. Ropinirole and Pramipexole Promote Structural Plasticity in Human iPSC-Derived Dopaminergic Neurons via BDNF and mTOR Signaling. Neural Plast. 2018; 2018: 4196961.

[3]. Kvernmo, T., et al. A review of the receptor-binding and pharmacokinetic properties of dopamine agonists. Clin Ther, 2006. 28(8): p. 1065-78.

[4]. P M Carvey, et al. Attenuation of levodopa-induced toxicity in mesencephalic cultures by pramipexole. J Neural Transm (Vienna). 1997;104(2-3):209-28.

[5]. Syed Suhail Andrabi, et al. Pramipexole prevents ischemic cell death via mitochondrial pathways in ischemic stroke. Dis Model Mech. 2019 Aug 1; 12(8): dmm033860.

[6]. Takashi Okura, et al. Blood-brain barrier transport of pramipexole, a dopamine D2 agonist. Life Sci. 2007 Apr 3;80(17):1564-71.

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