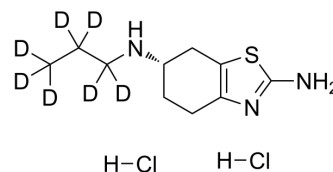


## Pramipexole-d<sub>7</sub> dihydrochloride

<b>Cat. No.:</b>	HY-17355S
<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>12</sub> D <sub>7</sub> Cl <sub>2</sub> N <sub>3</sub> S
<b>Molecular Weight:</b>	291.29
<b>Target:</b>	Dopamine Receptor; Isotope-Labeled Compounds
<b>Pathway:</b>	GPCR/G Protein; Neuronal Signaling; Others
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Pramipexole-d <sub>7</sub> (dihydrochloride) is the deuterium labeled Pramipexole dihydrochloride. Pramipexole dihydrochloride is a selective and blood-brain barrier (BBB) penetrant dopamine D <sub>2</sub> -type receptor agonist, with Kis of 2.2 nM, 3.9 nM, 0.5 nM and 1.3 nM for D <sub>2</sub> -type receptor, D <sub>2</sub> , D <sub>3</sub> and D <sub>4</sub> receptors, respectively. Pramipexole dihydrochloride can be used for the research of Parkinson's disease (PD) and restless legs syndrome (RLS)[1][2][3].		
<b>IC<sub>50</sub> &amp; Target</b>	D <sub>2</sub> Receptor	D <sub>3</sub> Receptor	D <sub>4</sub> Receptor
<b>In Vitro</b>	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 <sup>[1]</sup> . 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]. Kvernmo, T., et al. A review of the receptor-binding and pharmacokinetic properties of dopamine agonists. *Clin Ther*, 2006. 28(8): p. 1065-78.
- [3]. Takashi Okura, et al. Blood-brain barrier transport of pramipexole, a dopamine D<sub>2</sub> agonist. *Life Sci*. 2007 Apr 3;80(17):1564-71.
- [4]. 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.
- [5]. 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.
- [6]. 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.

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

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