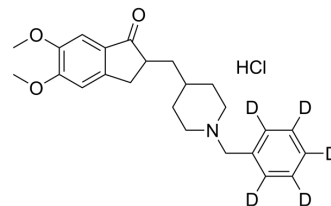


Donepezil-d₅ hydrochloride

Cat. No.:	HY-B0034S
CAS No.:	1883548-90-0
Molecular Formula:	C ₂₄ H ₂₅ D ₅ ClNO ₃
Molecular Weight:	420.98
Target:	Cholinesterase (ChE)
Pathway:	Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Donepezil-d ₅ (hydrochloride) is deuterium labeled Donepezil (Hydrochloride). Donepezil Hydrochloride (E2020) is a reversible, selective AChE inhibitor with an IC ₅₀ of 6.7 nM for AChE activity. Donepezil shows high selectivity for AChE over BuChE[1]. Donepezil exhibits neuroprotective effect on Aβ ₄₂ neurotoxicity[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] . 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]. Chang Yell Shin, et al. The Effects of Donepezil, an Acetylcholinesterase Inhibitor, on Impaired Learning and Memory in Rodents. *Biomol Ther (Seoul).* 2018 May 1;26(3):274-281.
- [3]. H Ogura, et al. Comparison of inhibitory activities of donepezil and other cholinesterase inhibitors on acetylcholinesterase and butyrylcholinesterase in vitro. *Methods Find Exp Clin Pharmacol.* 2000 Oct;22(8):609-13.
- [4]. Min-Young Noh, et al. Neuroprotective effects of donepezil through inhibition of GSK-3 activity in amyloid-beta-induced neuronal cell death. *J Neurochem.* 2009 Mar;108(5):1116-25.

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

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