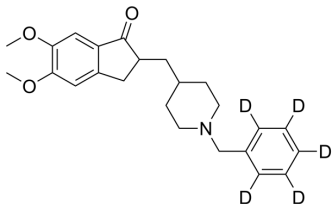
Donepezil-d_5

Cat. No.:	HY-14566S1
CAS No.:	1128086-25-8
Molecular Formula:	$C_{24}H_{24}D_5NO_3$
Molecular Weight:	384.52
Target:	Cholinesterase (ChE)
Pathway:	Neuronal Signaling
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



BIOLOGICAL ACTIVITY

Description	Donepezil-d_5 is deuterium labeled Donepezil. Donepezil (E2020 free base) is a specific and potent AChE inhibitor with IC50s of 8.12 nM and 11.6 nM for bovine AChE and human AChE, respectively[1].
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]. Huang, Z.H., et al., Donepezil protects endothelial cells against hydrogen peroxide-induced cell injury. CNS Neurosci Ther, 2012. 18(2): p. 185-7.

[3]. Ogura, H., et al., Comparison of inhibitory activities of donepezil and other cholinesterase inhibitors on acetylcholinesterase and butyrylcholinesterase in vitro. Methods Find Exp Clin Pharmacol, 2000. 22(8): p. 609-13.

[4]. Snape, M.F., et al., A comparative study in rats of the in vitro and in vivo pharmacology of the acetylcholinesterase inhibitors tacrine, donepezil and NXX-066. Neuropharmacology, 1999. 38(1): p. 181-93.

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