Clomipramine-$^{13}C,d_3$ hydrochloride

Cat. No.: HY-B0457S2

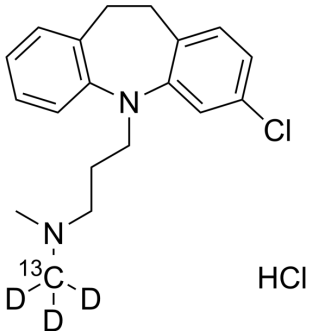
Molecular Formula: $C_{18}{}^{13}CH_{21}D_3Cl_2N_2$

Molecular Weight: 355.32

Target: Serotonin Transporter; Isotope-Labeled Compounds

Pathway: Neuronal Signaling; Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Clomipramine-$^{13}C,d_3$ (hydrochloride) is the ^{13}C- and deuterium labeled Clomipramine (hydrochloride). Clomipramine (Chlorimipramine) hydrochloride is a potent 5-HT reuptake blocker with the IC50 value of 1.5 nM. Clomipramine hydrochloride is a tricyclic antidepressant that can be used for the research of depression and obsessive compulsive disorder (OCD)[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[62]. 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):211-223.

[2]. Federica Cavaliere,The tricyclic antidepressant Clomipramine inhibits neuronal autophagic flux. Sci Rep. 2019 Mar 19;9(1):4881.

[3]. Mushtaq Ahmed, et al. Comparative study of the inhibitory effect of antidepressants on cholinesterase activity in Bungarus sindanus (krait) venom, human serum and rat striatum. J Enzyme Inhib Med Chem. 2008 Dec;23(6):912-7.

[4]. Yumi Sugimoto, et al. The tricyclic antidepressant Clomipramine increases plasma glucose levels of mice. J Pharmacol Sci. 2003 Sep;93(1):74-9.

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

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