# Citalopram-$d_3$ hydrochloride

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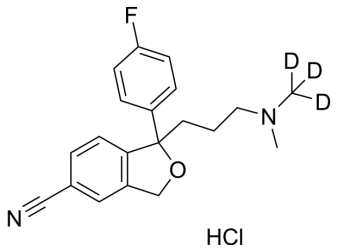
| **Cat. No.:** | HY-121203S4 |
| **Molecular Formula:** | $C_{20}H_{19}D_3ClFN_2O$ |
| **Molecular Weight:** | 363.87 |
| **Target:** | Serotonin Transporter; Isotope-Labeled Compounds |
| **Pathway:** | Neuronal Signaling; Others |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |




## BIOLOGICAL ACTIVITY

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| **Description** | Citalopram-$d_3$ hydrochloride is deuterated labeled Citalopram (HY-121203). Citalopram is a racemate mixture of the active S(+)-enantiomer (Escitalopram; HY-14258) and R(-)-enantiomer. Citalopram is an orally active selective serotonin reuptake inhibitor (SSRI). Citalopram is an antidepressant and enhances serotoninergic neurotransmission[1][2][3]. |
| **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].<br>Citalopram (25-175 μM; 24 h) shows a concentration-dependent cytotoxicity[4].<br>Citalopram (100 μM; 24 h) strongly down-regulates MYBL2, BIRC5, BARD1, AURKA, CCNA2 and CCNE1 in B104 cells[4].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Citalopram (5-40?mg/kg; i.p.) reduces immobility time in DBA/2J mice but not in C57BL/6J mice[5].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## REFERENCES

[1]. Carlsson B, et al. Enantioselective analysis of citalopram and escitalopram in postmortem blood together with genotyping for CYP2D6 and CYP2C19. J Anal Toxicol. 2009;33(2):65-76.

[2]. Laurent Sakka, et al. Assessment of citalopram and escitalopram on neuroblastoma cell lines. Cell toxicity and gene modulation. Oncotarget. 2017 Jun 27;8(26):42789-42807.

[3]. Milne RJ, et al. Citalopram. A review of its pharmacodynamic and pharmacokinetic properties, and therapeutic potential in depressive illness. Drugs. 1991;41(3):450-477.

[4]. Zeng-Liang Jin, et al. Mouse strain differences in SSRI sensitivity correlate with serotonin transporter binding and function. Sci Rep. 2017 Aug 17;7(1):8631.

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

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

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