Escitalopram-d_4 oxalate

Cat. No.: HY-14258AS1

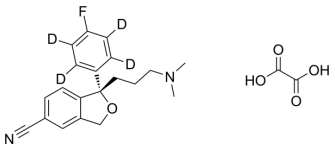
Molecular Formula: $C_{22}H_{19}D_4FN_2O_5$

Molecular Weight: 418.45

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	Escitalopram-d_4 (oxalate) is deuterium labeled Escitalopram (oxalate). Escitalopram ((S)-Citalopram) oxalate, the S-enantiomer of racemic Citalopram, is a selective serotonin reuptake inhibitor (SSRI) with a Ki of 0.89 nM. Escitalopram oxalate has ~30 fold higher binding affinity than its R(-)-enantiomer and shows selectivity over both dopamine transporter (DAT) and norepinephrine transporter (NET). Escitalopram oxalate is an antidepressant for the research of major depression[1][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]. Cirrito JR, et al. Effect of escitalopram on Aβ levels and plaque load in an Alzheimer mouse model. Neurology. 2020;95(19):e2666-e2674.

[3]. Pastoor, D. and J. Gobburu, Clinical pharmacology review of escitalopram for the treatment of depression. Expert Opin Drug Metab Toxicol, 2014. 10(1): p. 121-8.

[4]. Wu C , et al. Escitalopram alleviates stress-induced Alzheimer's disease-like tau pathologies and cognitive deficits by reducing hypothalamic-pituitary-adrenal axis reactivity and insulin/GSK-3β signal pathway activity. Neurobiol Aging. 2018;67:137-147.

[5]. Zhang, P., et al., Structure-activity relationships for a novel series of citalopram (1-(3-(dimethylamino)propyl)-1-(4-fluorophenyl)-1,3-dihydroisobenzofuran-5-carbon itrile) analogues at monoamine transporters. J Med Chem, 2010. 53(16): p. 6112-21.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA