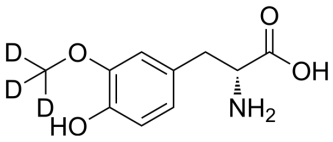
(R)-3-O-Methyldopa-d3

Cat. No.:	HY-W401531S
CAS No.:	1259947-39-1
Molecular Formula:	$C_{10}H_{10}D_3NO_4$
Molecular Weight:	214.23
Target:	Dopamine Receptor; Endogenous Metabolite
Pathway:	GPCR/G Protein; Neuronal Signaling; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	(R)-3-O-Methyldopa-d_3 is a deuterium labeled (R)-3-O-Methyldopa, and (R)-3-O-Methyldopa is an R-enantiomer of 3-O-Methyldopa. 3-O-Methyldopa is a metabolite of L-DOPA which is formed by catechol-O-methyltransferase (COMT). 3-O-Methyldopa competitively inhibits the pharmacodynamics of L-DOPA and dopamine[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 Feb;53(2):211-216.

[2]. Asanuma M, Miyazaki I. 3-O-Methyldopa inhibits astrocyte-mediated dopaminergic neuroprotective effects of L-DOPA. BMC Neurosci. 2016 Jul 25;17(1):52.

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