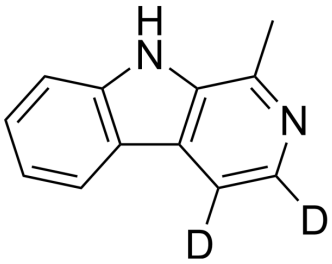
Harmane-d_2

Cat. No.:	HY-101392S1
Molecular Formula:	$C_{12}H_8D_2N_2$
Molecular Weight:	184.23
Target:	Imidazoline Receptor; Adrenergic Receptor; Monoamine Oxidase; Isotope-Labeled Compounds
Pathway:	Neuronal Signaling; GPCR/G Protein; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Harmane-d_2 is the deuterium labeled Harmane. Harmane, a β-Carboline alkaloid (BCA), is a potent neurotoxin that causes severe action tremors and psychiatric manifestations. Harmane shows 1000-fold selectivity for I1-Imidazoline receptor (IC50=30 nM) over α2-adrenoceptor (IC50=18 μM). Harmane is also a potent and selective inhibitor of monoamine oxidase (MAO) (IC50s=0.5 and 5 μM for human MAO A/B, respectively)[1][2][3][4].
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]. Louis ED, et, al. Blood harmane concentrations and dietary protein consumption in essential tremor. Neurology. 2005 Aug 9;65(3):391-6.

[3]. Musgrave IF, et, al. Harmane produces hypotension following microinjection into the RVLM: possible role of I(1)-imidazoline receptors. Br J Pharmacol. 2000 Mar;129(6):1057-9.

[4]. Glover V, et, al. β-Carbolines as selective monoamine oxidase inhibitors:In vivo implications

[5]. Umezawa K, et, al. Comutagenic effect of norharman and harman with 2-acetylaminofluorene derivatives. Proc Natl Acad Sci U S A. 1978 Feb;75(2):928-30.

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