Harmane-d

Cat. No.: HY-101392S

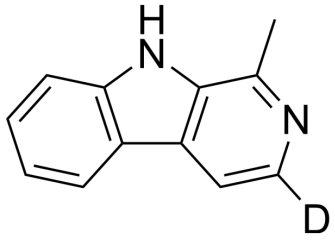
Molecular Formula: $C_{12}H_9DN_2$

Molecular Weight: 183.23

Target: Imidazoline Receptor; Adrenergic Receptor; Monoamine Oxidase

Pathway: Neuronal Signaling; GPCR/G Protein

Storage: -20°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (272.88 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	5.4576 mL	27.2881 mL	54.5762 mL
	5 mM	1.0915 mL	5.4576 mL	10.9152 mL
	10 mM	0.5458 mL	2.7288 mL	5.4576 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Harmane-d 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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