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Harman-d_3

Cat. No.: HY-W700834

CAS No.: 1216708-84-7

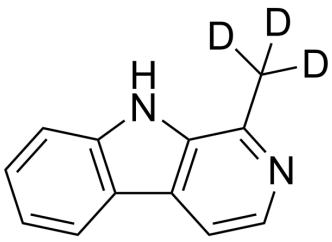
Molecular Formula: $C_{12}H_7D_3N_2$

Molecular Weight: 185.24

Target: Isotope-Labeled Compounds

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Harman-d_3 is deuterium labeled Harmane. Harmane is a benzodiazepine receptor inhibitor (IC_{50}=7 μM), with IC_{50} values for mACh, Opioid Receptor, MAO-A/B, and α2-adrenergic receptor of 24 μM, 2.8 μM, 0.5 μM, 5 μM, and 18 μM, respectively. Harmane also inhibits haloperidol and serotonin, with IC_{50} values of 163 μM and 101 μM, respectively. Harmane inhibits the I1 imidazoline receptor (IC_{50}=30 nM) to reduce blood pressure and has antidepressant, anti-anxiety, anticonvulsant, and analgesic effects. Harmane inhibits dopamine biosynthesis by decreasing tyrosine hydroxylase (TH) activity and enhancing L-DOPA-induced cytotoxicity in PC12 cells. Additionally, Harmane can increase the mutagenic effect induced by 2-acetylaminofluorene (AAF)[1][2][3][4][5][6].

REFERENCES

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

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[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.

[6]. E D Louis, et al. Harmane induces anxiolysis and antidepressant-like effects in rats. Ann N Y Acad Sci. 2005 Aug 9;65(3):391-6.

[7]. Yoo Jung Yang, et al. Effects of harman and norharman on dopamine biosynthesis and L-DOPA-induced cytotoxicity in PC12 cells. Eur J Pharmacol. 2008 Jun 10;587(1-3):57-64.

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