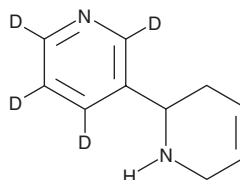


PRODUCT INFORMATION

(R,S)-Anatabine-d₄

Item No. 37198

CAS Registry No.: 1020719-11-2
Formal Name: 1,2,3,6-tetrahydro-2,3'-bipyridine-2',4',5',6'-d₄
Synonym: (±)-Anatabine-d₄
MF: C₁₀H₈D₄N₂
FW: 164.2
Chemical Purity: ≥95% ((R,S)-Anatabine)
Deuterium
Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Supplied as: A neat oil
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

(R,S)-Anatabine-d₄ is intended for use as an internal standard for the quantification of (R,S)-anatabine (Item Nos. 11001 | 15132) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

(R,S)-Anatabine-d₄ is supplied as a neat oil. A stock solution may be made by dissolving the (R,S)-anatabine-d₄ in the solvent of choice, which should be purged with an inert gas. (R,S)-Anatabine-d₄ is soluble in organic solvents such as chloroform and methanol.

Description

(R,S)-Anatabine is an alkaloid that has been found as a minor component in tobacco (*Nicotiana*).¹ It is an agonist of α4β2 and α6/α3β2β4 subunit-containing nicotinic acetylcholine receptors (nAChRs; EC₅₀s = 6.1 and 3.6 μM, respectively). It is selective for α4β2 and α6/α3β2β4 subunit-containing nAChRs over α3β4 subunit-containing nAChRs or α7 nAChRs (EC₅₀s = 70.6 and 158.5 μM, respectively).² (R,S)-Anatabine stimulates dopamine, but not norepinephrine, release from isolated rat brain synaptosomes (EC₅₀s = 1.76 and >100 μM, respectively). It increases the time spent at the top of the tank in a novel tank test, indicating anxiolytic-like activity, in zebrafish when used at a concentration of 10 mg/L. (R,S)-Anatabine (0.05 mg/ml in the drinking water) decreases disease severity in a mouse model of moderate, but not low or severe, experimental autoimmune thyroiditis induced by immunization with thyroglobulin, complete Freund's adjuvant (CFA), and *M. tuberculosis*.³ It decreases food and nicotine self-administration in monkeys (ED₅₀s = 2.085 and 0.854 mg/kg, respectively).⁴ (R,S)-Anatabine has been used as a biomarker of tobacco use.^{5,6}

References

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3. Caturegli, P., De Remigis, A., Ferlito, M., et al. *Endocrinology* **153**(9), 4580-4587 (2012).
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5. Jacob, P., III, Yu, L., Shulgin, A.T., et al. *Am. J. Public Health* **89**(5), 731-736 (1999).
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WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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