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Produktinformation

- Forschungsprodukte & Biochemikalien
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- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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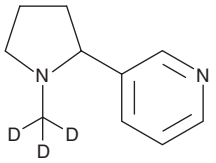
PRODUCT INFORMATION

(±)-Nicotine-d_3

Item No. 18256

CAS Registry No.: 69980-24-1
Formal Name: 3-[1-(methyl-d_3)-2-pyrrolidinyl]-pyridine
Synonyms: DL-Nicotine-d_3, (±)-Nicotine-methyl-d_3
MF: $C_{10}H_{11}D_3N_2$
FW: 165.3
Chemical Purity: ≥95% ((±)-Nicotine)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
UV/Vis.: λ_{max}: 262 nm
Supplied as: A solution in ethanol
Storage: -20°C
Stability: As supplied, 1 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

(±)-Nicotine-d_3 contains three deuterium atoms located on the methyl group. It is intended for use as an internal standard for the quantification of (±)-nicotine (Item No. 16535) by GC- or LC-mass spectrometry (MS).

(±)-Nicotine-d_3 is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of (±)-nicotine-d_3 in ethanol and DMF is approximately 50 mg/ml and approximately 30 mg/ml in DMSO.

(±)-Nicotine-d_3 is used as an internal standard for the quantification of (±)-nicotine by stable isotope dilution 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).

Description

(±)-Nicotine is the racemic mixture of the dominant alkaloid found in tobacco plants. It acts as an agonist at neuronal nicotinic acetylcholine receptors (nAChRs; K_is = 481 and 11.1 nM for α3β4 and α4β2 subtypes, respectively) and possesses addictive and teratogenic properties.[1] (−)-(S)-Nicotine is significantly more active at binding nAChRs compared to the (+)-(R) antipode, thus nicotine is typically synthesized as (−)-(S)-nicotine with only 0.2-1% of the (+)-(R) isomer present.[2]

References

1. Zaveri, N., Jiang, F., Olsen, C., *et al*. Novel α3β4 nicotinic acetylcholine receptor-selective ligands. Discovery, structure-activity studies, and pharmacological evaluation. *J. Med. Chem*. **53**, 8187-8191 (2010).
2. Clayton, P., Lu, A., and Bishop, L. The pyrolysis of (−)-(S)-nicotine: Racemization and decomposition. *Chirality* **22(4)**, 442-446 (2010).

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