

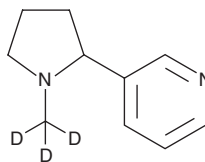
PRODUCT INFORMATION



(±)-Nicotine-d₃

Item No. 18256

CAS Registry No.: 69980-24-1
Formal Name: 3-[1-(methyl-d₃)-2-pyrrolidinyl]-pyridine
Synonyms: DL-Nicotine-d₃, (±)-Nicotine-methyl-d₃
MF: C₁₀H₁₁D₃N₂
FW: 165.3
Chemical Purity: ≥95% ((±)-Nicotine)
Deuterium
Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
UV/Vis.: λ_{max}: 262 nm
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

(±)-Nicotine-d₃ is intended for use as an internal standard for the quantification of (±)-nicotine (Item No. 16535) 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).

(±)-Nicotine-d₃ 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 DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of (±)-nicotine-d₃ in these solvents is approximately 30 and 50 mg/ml, respectively.

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).

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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