

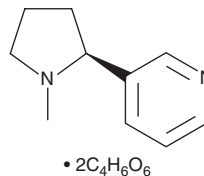
PRODUCT INFORMATION



(-)-Nicotine (tartrate)

Item No. 20887

CAS Registry No.: 65-31-6
Formal Name: 3-[(2S)-1-methyl-2-pyrrolidinyl]-pyridine
(2R,3R)-2,3-dihydroxybutanedioate
Synonym: NSC 97238
MF: C₁₀H₁₄N₂ • 2C₄H₆O₆
FW: 462.4
Purity: ≥95%
UV/Vis.: λ_{max}: 259 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

(-)-Nicotine (tartrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the (-)-nicotine (tartrate) in the solvent of choice, which should be purged with an inert gas. (-)-Nicotine (tartrate) is soluble in organic solvents such as ethanol and DMSO. It is also soluble in water. The solubility of (-)-nicotine (tartrate) in DMSO and water is approximately 75 nM and 50 mg/ml, respectively. We do not recommend storing the aqueous solution for more than one day.

Description

(-)-Nicotine is an alkaloid that has been found in tobacco.¹ It is an agonist at neuronal nicotinic acetylcholine receptors (nAChRs) and binds to α3β4 and α4β2 subunit-containing nAChRs with K_i values of 481 and 11.1 nM, respectively.^{1,2} Chronic exposure to (-)-nicotine results in increased expression of certain nAChRs, particularly α4β2 subunit-containing nAChRs.³ (-)-Nicotine has addictive properties.^{2,3} Formulations containing (-)-nicotine have been used as smoking cessation aids for the relief of nicotine withdrawal symptoms.

References

1. Clayton, P., Lu, A., and Bishop, L. The pyrolysis of (-)-nicotine: Racemization and decomposition. *Chirality* **22**(4), 442-446 (2010).
2. 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**(22), 8187-8191 (2010).
3. Albuquerque, E.X., Pereira, E.F.R., Alkondon, M., *et al.* Mammalian nicotinic acetylcholine receptors: From structure to function. *Physiol. Rev.* **89**(1), 73-120 (2009).

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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