bio-techne
TOCRIS

Print Date: Aug 5th 2025

Certificate of Analysis

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Product Name: **(-)-Nicotine ditartrate** **Catalog No.: 3546** **Batch No.: 7**

CAS Number: 65-31-6 EC Number: 200-607-2

IUPAC Name: (*S*)-(-)-1-Methyl-2-(3-pyridyl)pyrrolidine (L-(+))-ditartrate salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{10}H_{14}N_2.2C_4H_6O_6.1½H_2O$

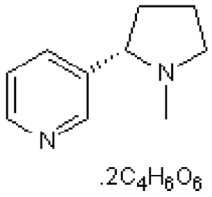
Batch Molecular Weight: 489.43

Physical Appearance: White solid

Solubility: water to 100 mM
DMSO to 75 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.6% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +23 (Concentration = 10, Solvent = Water)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	44.17	5.97	5.72
Found	43.6	5.99	5.63

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

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Description:

(-)-Nicotine ditartrate is a nicotinic acetylcholine receptor (nAChR) agonist (K_i values are 1, > 1000, 4000 and 7130 nM at α4β2, α1β1δγ, rat α7 and human α7 respectively). Exhibits vasoconstrictive, hypertensive and prothrombotic activity in vivo.

Physical and Chemical Properties:

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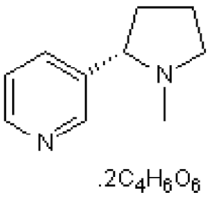
Batch Molecular Weight: 489.43

Physical Appearance: White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM
DMSO to 75 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Mayhan (1999) Acute infusion of nicotine potentiates NE-induced vasoconstriction in the hamster cheek pouch. J.Lab.Clin.Med. ***133*** 48. PMID: 10385481.

Donnelly-Roberts *et al* (1998) ABT-594 [(*R*)-5-(2-azetidinylmethoxy)-2-chloropyridine]: A novel, orally effective analgesic acting *via* neuronal nicotinic acetylcholine receptors: I *In vitro* characterization. J.Pharmacol.Exp.Ther. ***285*** 777. PMID: 9580626.

Xiao *et al* (1998) Rat α3/β4 subtype of neuronal nicotinic acetylcholine receptor stably expressed in a transfected cell line: Pharmacology of ligand binding and function. Mol.Pharmacol. ***54*** 322. PMID: 9687574.