TOCRIS
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Print Date: Jan 15th 2016

Certificate of Analysis

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Product Name: **(+)-Anabasine hydrochloride** **Catalog No.: 1971** **Batch No.: 1**

CAS Number: 53912-89-3

IUPAC Name: (*S*)-(+)-3-(2-Piperidinyl)pyridine hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{10}H_{14}N_2.HCl.0.1H_2O$

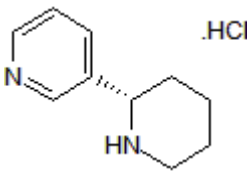
Batch Molecular Weight: 200.49

Physical Appearance: Off-white solid

Solubility: water to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.45 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])

HPLC: Shows 100% purity

^{1}H NMR: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +14 (Concentration = 1, Solvent = Water)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	59.91	7.64	13.97
Found	59.98	7.68	14.07

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IUPAC Name: (*S*)-(+)-3-(2-Piperidinyl)pyridine hydrochloride

Description:

High affinity neuronal nicotinic ACh receptor partial agonist (K_i values are 0.058, 0.26 and 7.2 µM for rat α7, rat α4β2 and fish skeletal muscle nAChRs respectively). Also stimulates Ca^{2+}-dependent catecholamine release from rat adrenomedullary cells in vitro.

Physical and Chemical Properties:

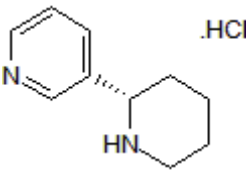
Batch Molecular Formula: $C_{10}H_{14}N_2.HCl.0.1H_2O$

Batch Molecular Weight: 200.49

Physical Appearance: Off-white solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 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. Our standard recommendations are:

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:

Kem *et al* (1997) Anabaseine is a potent agonist on muscle and neuronal alpha-bungarotoxin-sensitive nicotinic receptors. J.Pharmacol.Exp.Ther. ***283*** 979. PMID: 9399967.

Parker *et al* (1998) Neuronal nicotinic receptor β2 and β4 subunits confer large differences in agonist binding affinity. Mol.Pharmacol. ***54*** 1132. PMID: 9855644.

Lu *et al* (1999) Desensitization of nicotinic agonist-induced [^{3}H]γ-aminobutyric acid release from mouse brain synaptosomes is produced by subactivating concentrations of agonists. J.Pharmacol.Exp.Ther. ***291*** 1127. PMID: 10565833.

Hong *et al* (2007) Effect of anabasine on catecholamine secreation from the perfused rat adrenal medulla. J.Cardiol. ***50*** 351. PMID: 18186309.