Certificate of Analysis

Product Name: **ABT 089 dihydrochloride** **Catalog No.: 5079** **Batch No.: 1**

CAS Number: 161416-61-1

IUPAC Name: 2-Methyl-3-[(2*S*)-pyrrolidinylmethoxy]pyridine dihydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{11}H_{16}N_2O.2HCl.H_2O$

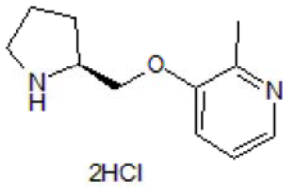
Batch Molecular Weight: 283.2

Physical Appearance: White solid

Solubility: water to 100 mM
DMSO to 20 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.31 (Dichloromethane / 2M Ammonia in Methanol 19:1)

HPLC: Shows 99.6% purity

Chiral HPLC: Shows 100% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +20.4 (Concentration = 1, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	46.65	7.12	9.89
Found	46.69	6.85	9.76

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Product Name: **ABT 089 dihydrochloride** **Catalog No.: 5079** **Batch No.: 1**

CAS Number: 161416-61-1

IUPAC Name: 2-Methyl-3-[(2*S*)-pyrrolidinylmethoxy]pyridine dihydrochloride

Description:

High affinity and selective α4β2 partial agonist (K_i = 16 nM). Exhibits >1000-fold and >10,000-fold selectivity for α4β2 over α1β1γ1 and α7 receptors respectively. Neuroprotective against glutamate-induced toxicity in rat cortical neurons in vitro. Enhances cognitive performance in vivo. Orally bioavailable and brain penetrant.

Physical and Chemical Properties:

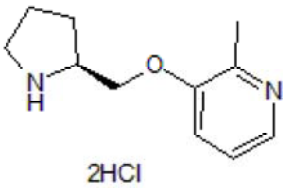
Batch Molecular Formula: $C_{11}H_{16}N_2O.2HCl.H_2O$

Batch Molecular Weight: 283.2

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM
DMSO to 20 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:

Rueter *et al* (2004) ABT-089: pharmacological properties of a neuronal nicotinic acetylcholine receptor agonist for the potential treatment of cognitive disorders. CNS Drug Rev. ***10*** 167. PMID: 15179445.

Decker *et al* (1997) ABT-089 [2-methyl-3-(2-(*S*)-pyrrolidinylmethoxy)pyridine dihydrochloride]: II. A novel cholinergic channel modulator with effects on cognitive performance in rats and monkeys. J.Pharmacol.Exp.Ther. ***283*** 247. PMID: 9336330.

Sullivan *et al* (1997) ABT-089 [2-methyl-3-(2-(*S*)-pyrrolidinylmethoxy)pyridine]: I. A potent and selective cholinergic channel modulator with neuroprotective properties. J.Pharmacol.Exp.Ther. ***283*** 235. PMID: 9336329.