bio-techne
TOCRIS

Print Date: Feb 25th 2025

Certificate of Analysis

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Product Name: **(+)-Tubocurarine chloride** **Catalog No.: 2820** **Batch No.: 6**

CAS Number: 57-94-3 EC Number: 200-356-9

IUPAC Name: 2,3,13a,14,15,16,25,25a,-Octahydro-9,19-dihydroxy-18,29-dimethoxy-1,14,14-trimethyl-13*H*-4,6:21,24-dietheno-8,12-metheno-1*H*-pyrido[3',2':14,15][1,11]dioxacycloeicosino[2,3,4-*ij*]isoquinolinium chloride hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{37}H_{41}ClN_2O_6.HCl.3½H_2O$

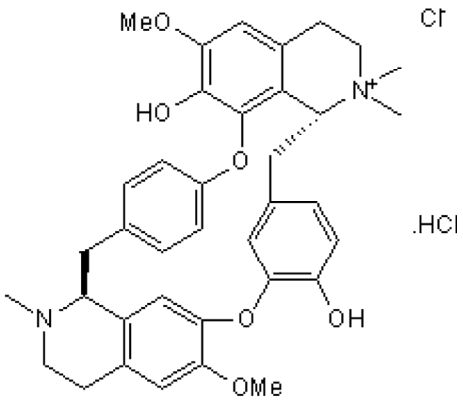
Batch Molecular Weight: 744.7

Physical Appearance: White solid

Solubility: water to 25 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.0% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +215 (Concentration = 0.78, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen	Chlorine
Theoretical	59.68	6.63	3.76	9.52
Found	58.81	6.62	3.7	9.46

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Description:

(+)-Tubocurarine chloride is a competitive, non-selective nicotinic acetylcholine receptor antagonist; causes skeletal muscle relaxation. Also a 5-HT_3 and $GABA_A$ receptor antagonist.

Physical and Chemical Properties:

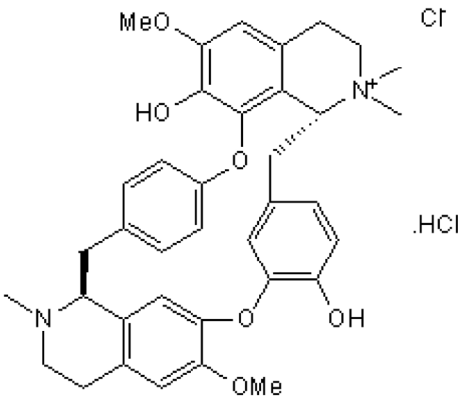
Batch Molecular Formula: $C_{37}H_{41}ClN_2O_6.HCl.3½H_2O$

Batch Molecular Weight: 744.7

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

water to 25 mM

This compound is hygroscopic and may absorb atmospheric moisture during prolonged storage, causing the solid to become sticky and/or collapse into a gel or glass-like form. Although purity is unaffected, it may be difficult to extract the full quantity from the vial. In such a situation, we recommend that solutions are made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

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:

Wotring and Yoon (1995) The inhibitory effects of nicotinic antagonists on currents elicited by GABA in rat hippocampal neurons. Neurosci. ***67*** 293.

Pederson and Cohen (1990) *d*-Tucocurarine binding sites are located at α-γ and α-δ subunit interfaces of the nicotinic acetylcholine receptor. Proc.Natl.Acad.Sci.USA ***87*** 2785.

Peters *et al* (1990) Antagonism of 5-HT_3 receptor mediated currents in murine N1E-115 neuroblastoma cells by (+)-tubocurarine. Neurosci.Letts. ***110*** 107.