

Certificate of Analysis

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Product Name: Clemastine fumarate

Catalog No.: 1453

Batch No.: 5

CAS Number: 14976-57-9

EC Number: 239-055-2

IUPAC Name: (2*R*)-2-[2-[(1*R*)-1-(4-Chlorophenylethoxy)ethyl]-1-methyl-2-pyrrolidine fumarate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₁H₂₆ClNO.C₄H₄O₄

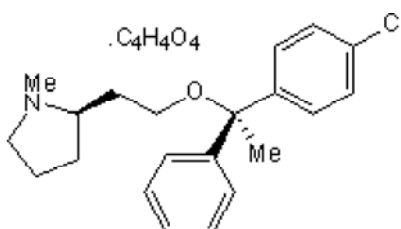
Batch Molecular Weight: 459.97

Physical Appearance: White solid

Solubility: DMSO to 20 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.7% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: [α]_D = +18.4 (Concentration = 1, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	65.28	6.57	3.05
Found	65.53	6.7	3.06

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Clemastine fumarate is a h₁-receptor antagonist. Enhances differentiation of oligodendrocyte progenitor cells into myelin basic protein-positive oligodendrocytes *in vitro* and promotes remyelination *in vivo*. Also displays antimuscarinic properties. Clinically-used antihistamine.

Physical and Chemical Properties:

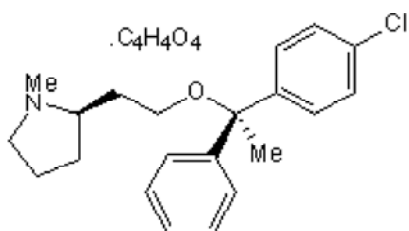
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Batch Molecular Weight: 459.97

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

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:

Nair and Schwartz (1983) Effect of histamine and histamine antagonists on natural and antibody-dependent cellular cytotoxicity of human lymphocytes *in vitro*. *Cell.Immunol.* **81** 45. PMID: 6225527.

Dorsch et al (1982) Histamine1-histamine2 antagonism: effect of combined clemastine and cimetidine pretreatment on allergen and histamine-induced reactions of the guinea pig lung *in vivo* and *in vitro*. *Agents Actions* **12** 113. PMID: 6177209.

Hartmann et al (1981) Modulation of histamine-induced bronchoconstriction with inhaled, oral, and intravenous clemastine in normal and asthmatic subjects. *Thorax* **36** 737. PMID: 7330790.

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