PRODUCT INFORMATION

Clemastine (fumarate)
Item No. 14637

CAS Registry No.: 14976-57-9
Formal Name: (2R)-2-[(1R)-1-(4-chlorophenyl)-1-phenylethoxy]ethyl]-1-methyl-pyrrolidin-2-yl butenedioate
MF: C_{21}H_{26}ClNO • C_{4}H_{4}O_{4}
FW: 460.0
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

Clemastine (fumarate) is supplied as a crystalline solid. A stock solution may be made by dissolving the clemastine (fumarate) in the solvent of choice. Clemastine (fumarate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of clemastine (fumarate) in these solvents is approximately 0.1, 2.5, and 1.6 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of clemastine (fumarate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of clemastine (fumarate) in PBS, pH 7.2, is approximately 0.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Clemastine is a selective histamine H\textsubscript{1} receptor antagonist (K\textsubscript{i} = 0.26 nM) that also displays high affinity for muscarinic receptors (K\textsubscript{i} = 16 nM).\textsuperscript{1} It has also recently been identified as a positive allosteric modulator of P2X\textsubscript{7} receptor signaling.\textsuperscript{2} Clemastine has long been used to inhibit histamine-induced bronchoconstriction in asthma and airway hyperresponsive studies.\textsuperscript{3}

References