Clemizole (hydrochloride)
Item No. 17695

CAS Registry No.: 1163-36-6
Formal Name: 1-[(4-chlorophenyl)methyl]-2-(1-pyrrolidinylmethyl)-1H-benimidazole, monohydrochloride

Synonyms: AL 20, Allercur
MF: C_{19}H_{20}ClN_{3} • HCl
FW: 362.3
Purity: ≥98%
UV/Vis.: λ_{max}: 205, 252, 276, 283 nm

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

Clemizole (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the clemizole (hydrochloride) in the solvent of choice. Clemizole (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of clemizole (hydrochloride) in these solvents is approximately 2, 10, and 5 mg/ml, respectively.

Clemizole (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, clemizole (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Clemizole (hydrochloride) has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Clemizole is an antihistamine that antagonizes the histamine 1 receptor at high nanomolar concentrations.\(^1,2\) It less potently blocks transient receptor potential canonical channel 5 (TRPC5; IC_{50} = 1.0-1.3 µM), with at least 6-fold selectivity for TRPC5 over other TRP channels.\(^3\) Clemizole also has hepatitis C antiviral action through inhibition of NS4B function, showing synergy with boceprevir (Item No. 18379), and it inhibits seizures in a zebrafish model of Dravet Syndrome.\(^4,5\)

References