Cetirizine (hydrochloride)

Item No. 19686

CAS Registry No.: 83881-52-1
Formal Name: 2-[2-[4-[[4-chlorophenyl]phenylmethyl]-1-piperazinyl]ethoxy]-acetic acid, dihydrochloride

Synonym: UCB-P 071
MF: C$_{21}$H$_{25}$ClN$_2$O$_3$ • 2HCl
FW: 461.8
Purity: ≥98%

UV/Vis.: λ$_{\text{max}}$: 229 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

Cetirizine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the cetirizine (hydrochloride) in the solvent of choice. Cetirizine (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of cetirizine (hydrochloride) in these solvents is approximately 12 and 3 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 cetirizine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cetirizine (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Cetirizine is a bioactive carboxylated metabolite of hydroxyzine that acts as a selective histamine H$_1$ receptor antagonist (pK$_i$ = 8). As a second generation antihistamine, it is non-sedating due to low lipophilicity, which prevents blood-brain barrier transit. Cetirizine is a racemic mixture composed of equal amounts of two enantiomers, R-levocetirizine and S-dextrocetirizine, with pharmacological activity residing primarily in the (R)-isomer. Cetirizine has also been shown to inhibit eosinophil chemotaxis and leukotriene B$_4$ release independent from H$_1$ antagonism.

References