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**Product Data Sheet**


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Product Name: Cetirizine D8 dihydrochloride

Cat. No.: GC35656

**Chemical Properties**

Cas. No. 2070015-04-0

SMILES C1C=CC=C(C(N2C([2H])([2H])C([2H])([2H])N(CCOCC(O)=O)C([2H])([2H])C2([2H])[2H])C3=CC=CC=C3)C=C1.Cl.ClFormula  $C_{21}H_{19}D_8Cl_3N_2O_3$  M.Wt 469.86

Solubility Methanol: slightly soluble, Water: slightly soluble Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure **Background**

Cetirizine-d<sub>8</sub> (hydrochloride) is intended for use as an internal standard for the quantification of cetirizine, (R)-cetirizine, and (S)-cetirizine by GC- or LC-MS. Cetirizine is a bioactive carboxylated metabolite of hydroxyzine that acts as a selective histamine H<sub>1</sub> receptor antagonist (K<sub>i</sub> = 10 nM).<sup>1,2</sup> As a second generation antihistamine, it is non-sedating due to low lipophilicity, which prevents blood-brain barrier transit.<sup>3</sup> Cetirizine is a racemic mixture composed of equal amounts of two enantiomers, (R)-cetirizine and (S)-cetirizine, with pharmacological activity residing primarily in the (R) isomer.<sup>2</sup> Cetirizine inhibits eosinophil chemotaxis and leukotriene B<sub>4</sub> release independent from H<sub>1</sub> antagonism.<sup>4</sup> It inhibits aerosol histamine-induced bronchospasm in guinea pigs (ED<sub>50</sub> = 100 µg/kg, p.o.).<sup>5</sup> Formulations containing cetirizine have been used in the treatment of allergic rhinitis and chronic urticaria.

1. Thurmond, R.L., Gelfand, E.W., and Dunford, P.J. The role of histamine H<sub>1</sub> and H<sub>4</sub> receptors in allergic inflammation: The search for new antihistamines. *Nat. Rev. Drug*

**Caution: Product has not been fully validated for medical applications. For research use only.**

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Discov.7(1)41-53(2008) 2.Zhang, L., Cheng, L., and Hong, J.The clinical use of cetirizine in the treatment of allergic rhinitisPharmacology92(1-2)14-25(2013) 3.Tillement, J.P.The advantages for an H1 antihistamine of a low volume of distributionAllergy55(suppl 60)17-21(2000) 4.K?ller, M., Hilger, R.A., Rihoux, J.P., et al.Cetirizine exerts anti-inflammatory effects on human neutrophilsInt. Arch. Allergy. Immunol.110(1)52-56(1996) 5.Llupià, J., Gras, J., and Llenas, J.Comparative antiallergic effects of second-generation H1-antihistamines ebastine, cetirizine and loratadine in preclinical modelsArzneimittelforschung53(2)93-97(2003)

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