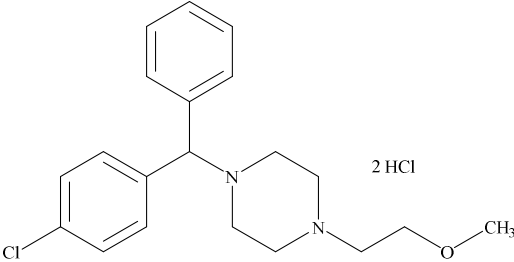


Certificate of Analysis

Certificate No.: 20200304012

Date: March 4, 2020

Retest date: February 26, 2023

Compound Name:	Cetirizine Impurity 22 DiHCl	
Synonyms:	1-((4-chlorophenyl)(phenyl)methyl)-4-(2-methoxyethyl)piperazine, hydrochloride (1:2)	
TLC Catalogue Number:	C-2047	
CAS Number:	N/A	
Molecular Weight:	344.89 2*36.46	
Molecular Formula:	C ₂₀ H ₂₅ ClN ₂ O · 2 HCl	
Source:	TLC Pharmaceutical Standards	
Source Lot No.:	3786-013A4	
Storage Conditions:	Store at 2-8 °C	
Solubility:	Methanol, DMSO, Water, DMF	

Test Description	Specifications	Results
Visual Description	White to off-white solid	Conforms
Identification		
IR	Conforms to structure	Conforms
MS	Conforms to structure	Conforms
¹ H NMR	Conforms to structure	Conforms
Elemental Analysis	Conforms to structure	Conforms
Purity (HPLC)	Not less than 95.0%	99.0%
Impurity (HPLC)	RT 6.87, 0.56%; RT 9.90, 0.10%	
Water Content (KF)	N/A	1.4%
Residual Solvents (NMR)	No residual solvent	
Assay (%)	Not less than 90.0%	97.6%
Recommendation:	Released.	

Name	Department	Signature	Date
Reviewed and approved by:	Analytical Services		
Approved by:	Quality Assurance		

Attachments: HPLC, IR, MS and NMR spectra.