

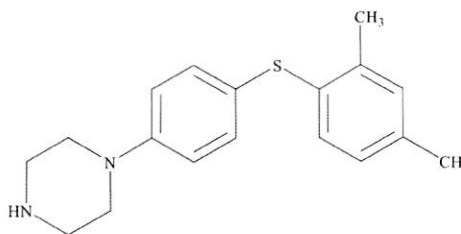
Certificate of Analysis

Certificate No.: 20240906007



Date: September 6, 2024

Retest date: September 5, 2027

Compound Name: Vortioxetine Impurity 12	
Synonyms:	1-(4-((2,4-Dimethylphenyl)thio)phenyl)piperazine
TLC Catalogue Number:	V-043013
CAS Number:	1815608-51-5
Molecular Weight:	298.45
Molecular Formula:	C ₁₈ H ₂₂ N ₂ S
Source:	TLC Pharmaceutical Standards
Source Lot No.:	3150-093A4
Storage Conditions:	Store at 2-8 °C
Solubility:	Methanol, DMSO, Acetonitrile



Test Description	Specifications	Results
Visual Description	Pale yellow solid	Conforms
Identification		
IR	Conforms to structure	Conforms
MS	Conforms to structure	Conforms
¹ H NMR	Conforms to structure	Conforms
Purity (HPLC)	Not less than 95.0%	99.3%
Impurity (HPLC)	RT 17.45, 0.73%	
Water Content (KF)	N/A	0.3%
Residue (TGA at 800 °C)	N/A	0.2%
Residual Solvents (NMR)	0.3% dichloromethane and 0.7% diethyl ether	
Assay (%)	Not less than 90.0%	97.8%
Recommendation:	Release.	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		09/09/2024
Approved by:	Quality Assurance		09/09/2024

Attachments: HPLC, IR, MS, NMR and TGA spectra.