

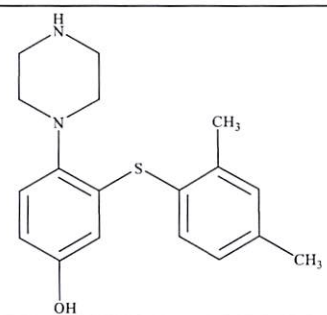
Certificate of Analysis

Certificate No.: **20240520007**



Date: May 20, 2024

Retest date: May 16, 2027

Compound Name: Vortioxetine Impurity 91	
Synonyms:	3-((2,4-dimethylphenyl)thio)-4-(piperazin-1-yl)phenol
TLC Catalogue Number:	V-043102
CAS Number:	N/A
Molecular Weight:	314.45
Molecular Formula:	C ₁₈ H ₂₂ N ₂ OS
Source:	TLC Pharmaceutical Standards
Source Lot No.:	6191-088A4
Storage Conditions:	Store at 2-8 °C
Solubility:	DMSO, solution of Methanol and Acetonitrile



Test Description	Specifications	Results
Visual Description	Off-white 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%	99.6%
Impurity (HPLC)	RT 7.94, 0.28%; RT 20.27, 0.10%	
Water Content (KF)	N/A	0.2%
Residual Solvents (NMR)	3.0% methanol and 0.1% dichloromethane	
Assay (%)	Not less than 90.0%	96.3%
Recommendation:	Release.	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		05/22/2024
Approved by:	Quality Assurance		05/22/2024

Attachments: HPLC, IR, MS and NMR spectra.