

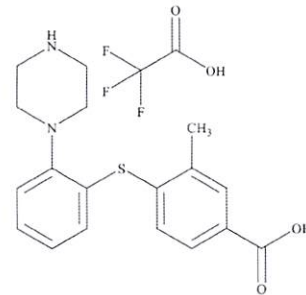
Certificate of Analysis

Certificate No.: **20240311003**

Date: March 11, 2024

Retest date: March 5, 2027

Compound Name: Vortioxetine Impurity 27 Trifluoroacetate	
Synonyms:	3-methyl-4-((2-(piperazin-1-yl)phenyl)thio)benzoic acid, 2,2,2-trifluoroacetic acid (1:1)
TLC Catalogue Number:	V-043029
CAS Number:	1429908-33-7 (free base)
Molecular Weight:	328.43 114.02
Molecular Formula:	C ₁₈ H ₂₀ N ₂ O ₂ S. C ₂ HF ₃ O ₂
Source:	TLC Pharmaceutical Standards
Source Lot No.:	6041-100A1
Storage Conditions:	Store at 2-8 °C
Solubility:	Methanol, DMSO



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
¹⁹ F NMR	Conforms to structure	Conforms
Purity (HPLC)	Not less than 95.0%	99.7%
Impurity (HPLC)	RT 16.85, 0.26%	
Water Content (KF)	N/A	0.1%
Residual Solvents (NMR)	0.5% acetonitrile	
Assay (%)	Not less than 90.0%	99.1%
Recommendation:	Release.	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control	<i>Kelvin Zhu</i>	03/12/2024
Approved by:	Quality Assurance	<i>Kan...</i>	03/12/2024

Attachments: HPLC, IR, MS and NMR spectra.