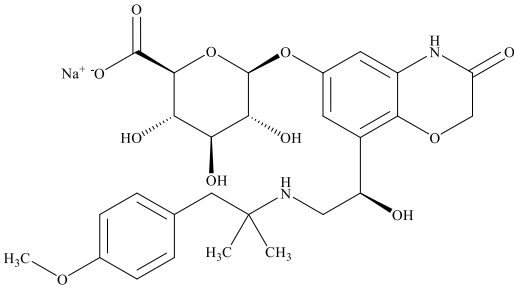


Certificate of Analysis

Certificate No.: 20200806007

Date: August 6, 2020

Retest date: July 27, 2023

Compound Name:	Olodaterol Glucuronide Sodium Salt	
Synonyms:	(2S,3S,4S,5R,6S)-3,4,5-trihydroxy-6-((8-((R)-1-hydroxy-2-((1-(4-methoxyphenyl)-2-methylpropan-2-yl)amino)ethyl)-3-oxo-3,4-dihydro-2H-benzo[b][1,4]oxazin-6-yl)oxy)tetrahydro-2H-pyran-2-carboxylic acid, sodium salt (1:1)	
TLC Catalogue Number:	O-098003	
CAS Number:	N/A	
Molecular Weight:	561.56 22.99	
Molecular Formula:	C ₂₇ H ₃₃ N ₂ O ₁₁ . Na	
Source:	TLC Pharmaceutical Standards	
Source Lot No.:	4002-028A2	
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
Purity (HPLC)	Not less than 95.0%	98.6%
Impurity (HPLC)	RT 5.08, 0.19%; RT 7.13, 0.17%; RT 10.26, 0.22%	
Optical Rotation	N/A	[α] _D ^{25.0} (c=0.55, CH ₃ OH): -100.4°
Residual Solvents (NMR)	No residual solvent	
Assay (qNMR)	Not less than 90.0%	93.1%
Recommendation:	Released.	

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

Attachments: HPLC, IR, MS and NMR spectra.