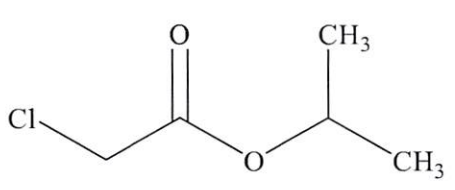


Certificate of Analysis



Certificate No.: 20260623010

Date: June 23, 2026

Retest date: June 17, 2029

Compound Name:	Vildagliptin Impurity 45 (Isopropyl Chloroacetate)	
Synonyms:	isopropyl 2-chloroacetate	
TLC Catalogue Number:	V-2262	
CAS Number:	105-48-6	
Alternate CAS Number:	N/A	
Molecular Weight:	136.58	
Molecular Formula:	C ₅ H ₉ ClO ₂	
Source:	TLC Pharmaceutical Standards	
Source Lot No.:	7400-069A1	
Storage Conditions:	Store at 2-8 °C	
Solubility:	Methanol, DMSO, DMF, Acetonitrile	

Test Description	Specifications	Results
Visual Description	Colorless liquid	Conforms
Identification		
IR	Conforms to structure	Conforms
MS	Conforms to structure	Conforms
¹ H NMR	Conforms to structure	Conforms
Purity (GC)	Not less than 95.0%	99.5%
Impurity (GC)	RT 3.41, 0.33%	
Residual Solvents (NMR)	No residual solvent	
Assay (qNMR)	Not less than 90.0%	98.2%
Recommendation:	Release.	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		06/23/2026
Approved by:	Quality Assurance		06/23/2026

Attachments: Peak Attribution Table, Assay Calculation, GC, IR, MS and NMR spectra.