

Certificate of Analysis

Lot number	XR24052701
Product	Tirzepatide H-Tyr-{Aib}-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Tyr-Ser-Ile-{Aib}-Leu-Asp-Lys-Ile-Ala-Gln-(diacid-γ-Glu-(AEEA)2-Lys)-Ala-Phe-Val-Gln-Trp-Leu-Ile-Ala-Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-NH ₂
Manufacturing date	Jun 14, 2024
Retest date	Jun 13, 2024
CAS number	2023788-19-2
Molecular formula	C ₂₂₅ H ₃₄₈ N ₄₈ O ₆₈
Molecular mass	4813.45

Tests	Specifications	Results
Appearance	white or almost white loose powder	white powder
Identification (MS)	4813.45±1.0	conforms
Solubility	soluble in water	conforms
Water content (karl fischer)	≤ 8.0%	2.10%
Sodium ion	≤ 4.0%	1.34%
Acetate ion	≤ 0.1%	not detected
Trifluoroacetate ion	≤ 0.1%	not detected
Peptide purity (HPLC)	≥ 98.0%	99.61%
Assay (C₂₂₅H₃₄₈N₄₈O₆₈)	≥ 90.0%	94.47%
Total impurities	≤ 2.0%	0.39%
Largest single impurity	≤ 1.0%	0.15%
pH	7.0-9.0	7.97
Bacterial endotoxins (kinetic turbidimetry)	NMT 10 EU/mg	< 5 EU/mg
Total aerobic microbial count	NMT 100 CFU/g	conforms
Total yeasts and molds count	NMT 100 CFU/g	conforms

Analysis date: Jun 28, 2024

Certificate of AnalysisLot number **XR24052701**