Certificate of Analysis

Product	Tirzepatide	**CAS No.:**	2023788-19-2
Molecular Formula	$C_{225}H_{348}N_{48}O_{68}$	**Molecular Weight**	4813.5
Sequence	Tyr-Aib-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Tyr-Ser-Ile-Aib-Leu-Asp-Lys-Ile-Ala-Gln-Lys（PEG2-PEG2-γ-Glu-Eicosanedioic acid）-Ala-Phe-Val-Gln-Trp-Leu-Ile-Ala-Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-NH_2		
Batch No.	TRD-26031301	**Quantity**	4718.5 kg
Mfg. Date	Jun.9th, 2026	**Retest Date**	Mar.12th, 2028

【ITEMS】	【SPECIFICATIONS】	【RESULTS】
Appearance	White powder	White powder
Solubility	Freely soluble in water	Conforms
Solution clarity and color	Clear and colorless	Conforms
Specific optical rotation $[a]_D^{20}$	-20.0°to -40.0°(anhydrous and sodium ion-free substance)	-34.7°
Identification by HPLC	The retention time of the principal peak of the test solution corresponds to that of the reference solution, as obtained in the Assay.	Conforms
Mass spectrum	4813.5±1.0	4812.5
pH	6.5-8.5	7.7
Water content(KF)	NMT 8.0%	6.2%
Acid group ions	Trifluoroacetate ion NMT 0.5% Acetate ion NMT 0.5%	N.D N.D
Related substances(HPLC)	Any individual impurity: NMT 0.5% Total impurities: NMT 2.0%	0.26% 0.67%
Purity(HPLC)	NLT 98.0%	99.2%
Sodium ion	1.0~2.0%	1.6%
High molecular protein	NMT 0.5%	N.D

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Amino acid content	Tyr:1.8～2.2	2.1
	Glu:3.6～4.4	4.2
	Gly:3.6～4.4	4.0
	Thr:1.8～2.2	1.8
	Phe:1.8～2.2	2.1
	Ser:4.5~5.5	5.2
	Asp:1.8～2.2	2.0
	Ile:2.7～3.3	3.2
	Leu:1.8～2.2	1.9
	Lys:1.8～2.2	2.0
	Ala:3.6～4.4	4.1
	Val:0.9～1.1	1.0
	Pro:3.6～4.4	4.3
	Aib:1.8～2.2	2.1
	AEEA: Should be detected	Conforms
Residual solvent	Methylene chloride NMT 600ppm	N.D
	Acetonitrile NMT 410ppm	49ppm
	Methyl tert-butyl ether NMT 5000 ppm	N.D
	DMF NMT 880ppm	N.D
Peptide content	NLT 90.0%	92.8%
Bacterial endotoxins	NMT 10EU/mg	<3EU/mg
Microbial limits	TAMC NMT 100 cfu/g	<20cfu/g
	TYMC NMT 100 cfu/g	<20cfu/g
	E.Coli: Absent	Absent
Assay($C_{225}H_{348}N_{48}O_{68}$)	95.0%-105.0%(Calculated with reference to the anhydrous and sodium ion-free substance.)	99.6%
Storage	Keep in tight container, protect from light, store at a temperature of -20±5°C.	
Report	Lipeng **Date**	2026.6.9
Reviewer	Feng Hailei 2026-09-09 **Date**	2026.6.9
Conclusion: This batch of product complies with Enterprise Standard.		

QUALITY TEST 质量检验 TEST 合格 QUAILFIED

It is only supplied as chemical product.

It is only for R&D use.