

# Certificate of Analysis

<b>Product</b>	Tirzepatide	<b>CAS No.:</b>	2023788-19-2
<b>Molecular Formula</b>	C <sub>225</sub> H <sub>348</sub> N <sub>48</sub> O <sub>68</sub>	<b>Molecular Weight</b>	4813.5
<b>Sequence</b>	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 <sub>2</sub>		
<b>Batch No.</b>	TRD-26031301	<b>Quantity</b>	2.3kg
<b>Mfg. Date</b>	Mar.13 <sup>th</sup> , 2026	<b>Retest Date</b>	Mar.12 <sup>th</sup> , 2028

【ITEMS】	【SPECIFICATIONS】	【RESULTS】
<b>Appearance</b>	White or almost white loose powder	White loose powder
<b>Solubility</b>	Freely soluble in water	Conforms
<b>Solution clarity and color</b>	Clear and colorless	Conforms
<b>Specific optical rotation</b> [α] <sub>D</sub> <sup>20</sup>	-20.0° to -40.0° (anhydrous and sodium ion-free substance)	-29.7°
<b>Identification by HPLC</b>	The retention time of the principal peak of the test solution corresponds to that of the reference solution, as obtained in the Assay.	Conforms
<b>Mass spectrum</b>	4813.5±1.0	4812.5
<b>pH</b>	6.5-8.5	7.6
<b>Water content(KF)</b>	NMT 8.0%	4.8%
<b>Acid group ions</b>	Trifluoroacetate ion NMT 0.5% Acetate ion NMT 0.5%	N.D N.D
<b>Related substances(HPLC)</b>	Any individual impurity: NMT 0.5% Total impurities: NMT 2.0%	0.16% 0.77%
<b>Purity(HPLC)</b>	NLT 98.0%	99.2%
<b>Sodium ion</b>	1.0~2.0%	1.2%
<b>High molecular protein</b>	NMT 0.5%	N.D



Amino acid content	Tyr:1.8~2.2	2.0
	Glu:3.6~4.4	4.0
	Gly:3.6~4.4	4.0
	Thr:1.8~2.2	2.0
	Phe:1.8~2.2	2.0
	Ser:4.5~5.5	5.0
	Asp:1.8~2.2	2.0
	Ile:2.7~3.3	3.0
	Leu:1.8~2.2	2.0
	Lys:1.8~2.2	2.0
	Ala:3.6~4.4	4.0
	Val:0.9~1.1	1.0
	Pro:3.6~4.4	4.1
Aib:1.8~2.2	2.0	
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%	92.6%
Bacterial endotoxins	NMT 10EU/mg	<3EU/mg
Microbial limits	TAMC NMT 100 cfu/g	<20 cfu/g
	TYMC NMT 100 cfu/g	<20 cfu/g
	E. Coli: Absent	Absent
Assay(C <sub>225</sub> H <sub>348</sub> N <sub>48</sub> O <sub>68</sub> )	95.0%-105.0%(Calculated with reference to the anhydrous and sodium ion-free substance.)	98.5%
Storage	Keep in tight container, protect from light, store at a temperature of -20±5°C.	
Report	<i>Zipeng</i>	Date 2026.3.13
Reviewer	<i>Feng Hai lei</i>	Date 2026.3.13
Conclusion: This batch of product complies with Enterprise Standard.		

QUALITY TEST  
质量检验  
2026-03-13  
合格  
QUALIFIED

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It is only supplied as chemical product.

It is only for R&D use.