



## CERTIFICATE OF ANALYSIS

Issued by an ISO/IEC 17025-accredited laboratory · raw data appended (page 2)

PASS

QC released for dispatch



Scan to verify

## Semaglutide — 5mg

GLP-1 Receptor Agonist

## 1. PRODUCT IDENTIFICATION

Synonym	GLP-1 Receptor Agonist	Label claim	5mg
Sequence / structure	GLP-1 analogue (Aib8, Arg34, C18-diacid @Lys26)	Lot / Batch	ZX260512-958 / B68447
Mol. formula	C187H291N45O59	Manufacture date	18 May 2026
Mol. weight	4113.58 g/mol	Date of analysis	22 May 2026
CAS number	910463-68-2	Storage	-20 °C, dark, desiccated
Salt form	Acetate salt		

## 2. ANALYTICAL TEST RESULTS

Test	Method	Specification	Result	Verdict
Appearance	Visual	White/off-white powder	White to off-white lyophilized powder	PASS
Identity (ESI-MS)	LC-MS	Matches 4113.58 Da	4113.62 Da ( $\Delta$ 10 ppm)	PASS
Purity	RP-HPLC, UV 220 nm	$\geq$ 98.0% area	99.44%	PASS
Related substances	RP-HPLC	Single $\leq$ 1.0 / Total $\leq$ 2.0%	0.25 / 0.56%	PASS
Water content	Karl Fischer (USP <921>)	$\leq$ 8.0%	3.8%	PASS
Counter-ion: acetate	Ion chromatography	Report (3.0–15.0%)	9.0%	PASS
Net peptide content	Amino-acid analysis	$\geq$ 80.0%	85.1%	PASS
Bacterial endotoxin	LAL kinetic (USP <85>)	< 5.0 EU/mg	0.16 EU/mg	PASS
Heavy metals	ICP-MS (ICH Q3D)	Conforms	Conforms	PASS

## CONCLUSION

All tested parameters CONFORM to the acceptance specifications. The batch is of high chromatographic purity ( $\geq$  98%) with an impurity profile, identity and residual/contaminant results meeting pharmaceutical-grade quality requirements. Material released. Supporting RP-HPLC chromatogram and ESI-MS spectrum are appended on page 2.

DWM.

Dr. Wang Mei

Analyst · 22 May 2026 · Zhongxi Research Institute

DFH.

Dr. Fang Hong (QC Manager)

Approved by · 22 May 2026 · Zhongxi Research Institute

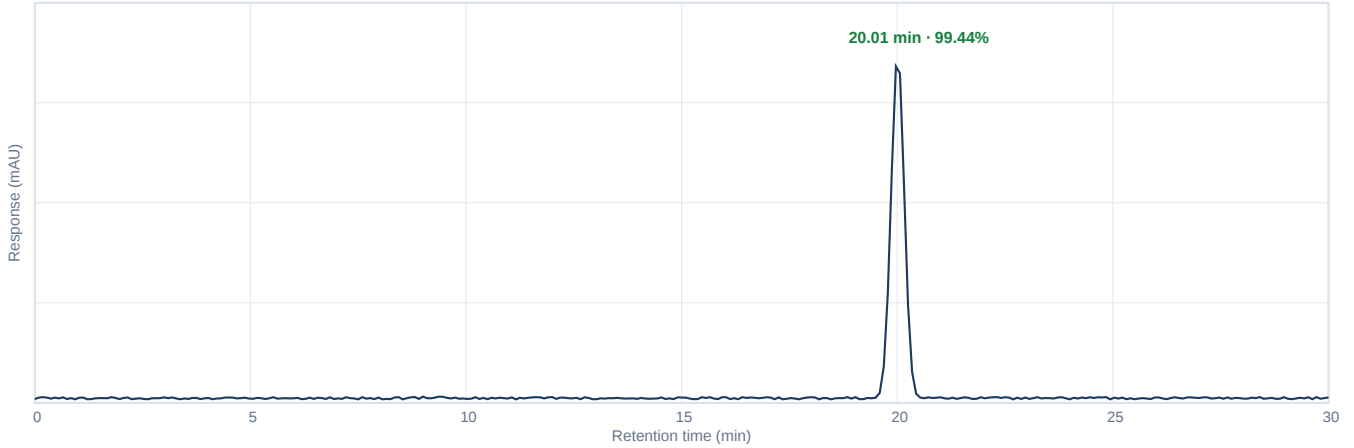


## APPENDIX — ANALYTICAL RAW DATA

Semaglutide 5mg · Lot ZX260512-958 · Cert. ZXR-COA-2026-89155

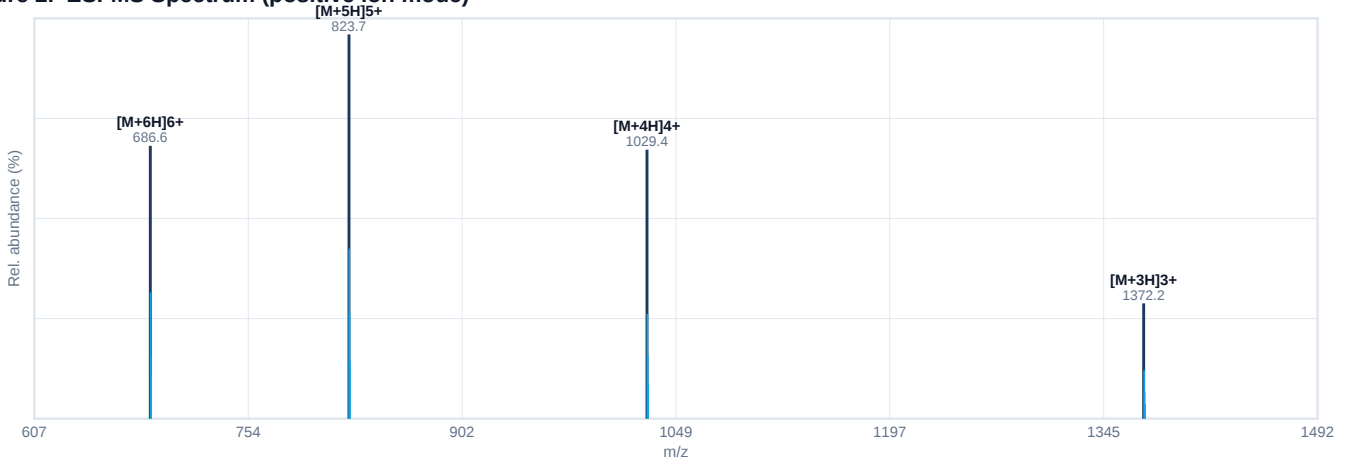


Figure 1. RP-HPLC Chromatogram (UV 220 nm)



Peak #	RT (min)	Area (μV·s)	Area %	Assignment
1	20.01	1010429	99.44	Main (target)
2	9.48	2631	0.25	Impurity / related substance
3	9.04	1511	0.14	Impurity / related substance

Figure 2. ESI-MS Spectrum (positive ion mode)



### Interpretation

Identity confirmed by ESI-MS. Observed ions  $[M+3H]3+$  1372.2,  $[M+4H]4+$  1029.4,  $[M+5H]5+$  823.7,  $[M+6H]6+$  686.6 deconvolute to a neutral monoisotopic-average mass of 4113.62 Da (theoretical 4113.58 Da; mass error 10 ppm), consistent with Semaglutide. No co-eluting species above 0.5% indicative of misidentification.

Methods — RP-HPLC: Agilent 1260 Infinity II; Zorbax SB-C18 4.6×250 mm, 5 μm; A: 0.1% TFA in water, B: 0.1% TFA in MeCN; 10–70% B over 30 min; 1.0 mL/min; 25 °C; 20 μL injection. MS: AB Sciex TripleTOF, ESI+, capillary 4.5 kV, deconvolution by Bio Tool Kit. KF: Metrohm 901. IC: Thermo Dionex ICS-6000. ICP-MS: Agilent 7900.