



## CERTIFICATE OF ANALYSIS

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

PASS

QC released for dispatch



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## Semaglutide — 20mg

GLP-1 Receptor Agonist

## 1. PRODUCT IDENTIFICATION

|                      |                                                 |                  |                          |
|----------------------|-------------------------------------------------|------------------|--------------------------|
| Synonym              | GLP-1 Receptor Agonist                          | Label claim      | 20mg                     |
| Sequence / structure | GLP-1 analogue (Aib8, Arg34, C18-diacid @Lys26) | Lot / Batch      | ZX260512-136 / B17074    |
| Mol. formula         | C187H291N45O59                                  | Manufacture date | 2 Jun 2026               |
| Mol. weight          | 4113.58 g/mol                                   | Date of analysis | 13 Jun 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                     | 4113.63 Da ( $\Delta$ 12 ppm)         | PASS    |
| Purity               | RP-HPLC, UV 220 nm       | $\geq 98.0\%$ area                     | 98.71%                                | PASS    |
| Related substances   | RP-HPLC                  | Single $\leq 1.0$ / Total $\leq 2.0\%$ | 0.58 / 1.29%                          | PASS    |
| Water content        | Karl Fischer (USP <921>) | $\leq 8.0\%$                           | 3.1%                                  | PASS    |
| Counter-ion: acetate | Ion chromatography       | Report (3.0–15.0%)                     | 4.7%                                  | PASS    |
| Net peptide content  | Amino-acid analysis      | $\geq 80.0\%$                          | 90.1%                                 | PASS    |
| Bacterial endotoxin  | LAL kinetic (USP <85>)   | < 5.0 EU/mg                            | 0.06 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.

DHR.

Dr. Huang Rui

Analyst · 13 Jun 2026 · Zhongxi Research Institute

DGT.

Dr. Guo Tao (QC Manager)

Approved by · 13 Jun 2026 · Zhongxi Research Institute



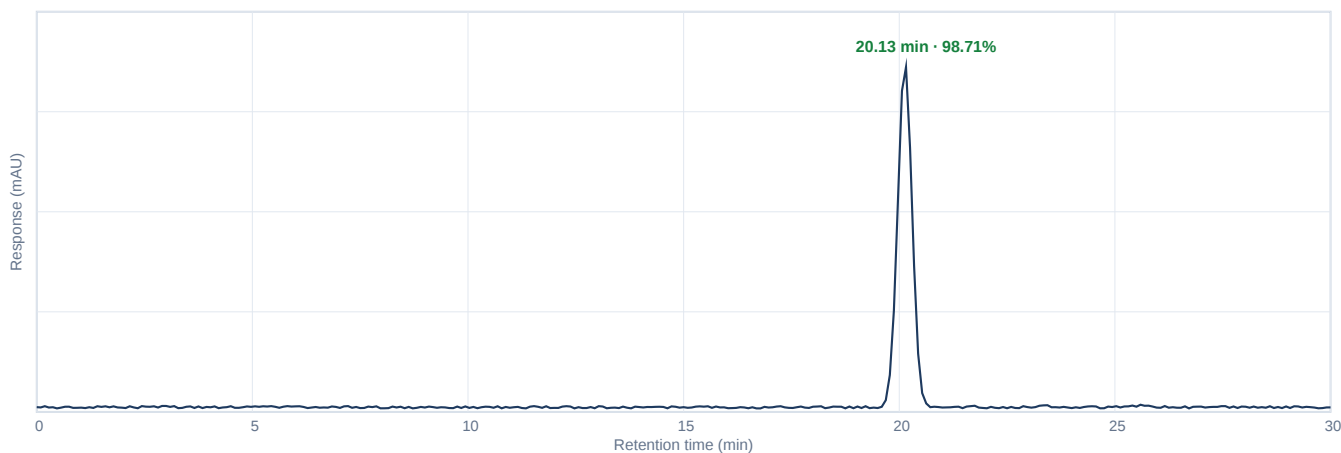
## APPENDIX — ANALYTICAL RAW DATA

Semaglutide 20mg · Lot ZX260512-136 · Cert. ZXR-COA-2026-50648



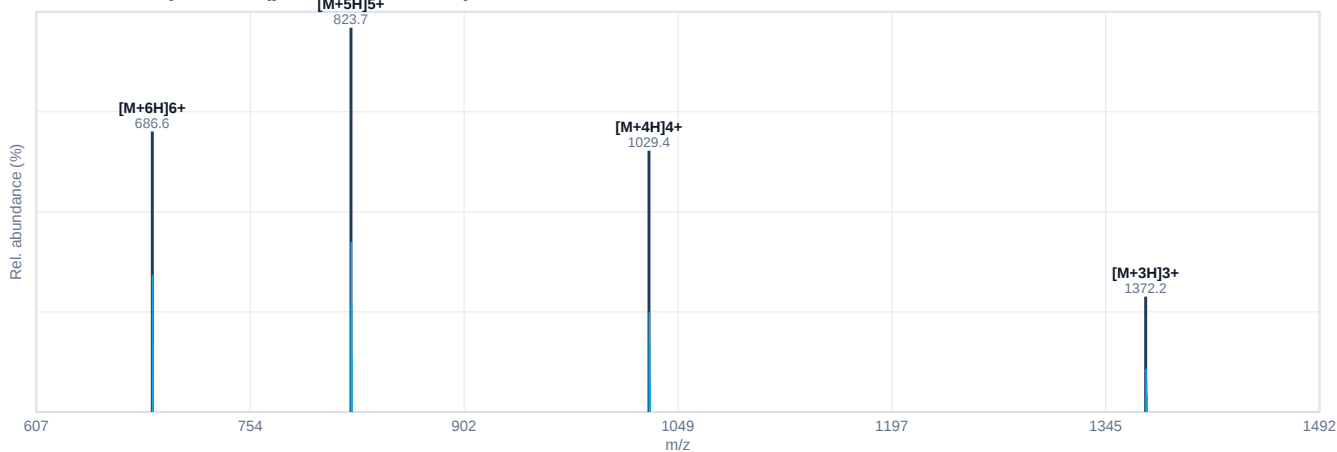
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Figure 1. RP-HPLC Chromatogram (UV 220 nm)



| Peak # | RT (min) | Area (μV·s) | Area % | Assignment                   |
|--------|----------|-------------|--------|------------------------------|
| 1      | 20.13    | 952062      | 98.71  | Main (target)                |
| 2      | 25.70    | 4848        | 0.53   | Impurity / related substance |
| 3      | 23.43    | 3205        | 0.35   | Impurity / related substance |
| 4      | 2.96     | 2593        | 0.24   | Impurity / related substance |
| 5      | 21.74    | 1609        | 0.17   | Impurity / related substance |

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



## Interpretation

Identity confirmed by ESI-MS. Observed ions [M+3H]<sup>3+</sup> 1372.2, [M+4H]<sup>4+</sup> 1029.4, [M+5H]<sup>5+</sup> 823.7, [M+6H]<sup>6+</sup> 686.6 deconvolute to a neutral monoisotopic-average mass of 4113.63 Da (theoretical 4113.58 Da; mass error 12 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.