



## CERTIFICATE OF ANALYSIS

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

PASS

QC released for dispatch



Scan to verify

## MOTS-C — 50mg

Mitochondrial ORF

## 1. PRODUCT IDENTIFICATION

|                      |                                                                 |                  |                          |
|----------------------|-----------------------------------------------------------------|------------------|--------------------------|
| Synonym              | Mitochondrial ORF                                               | Label claim      | 50mg                     |
| Sequence / structure | Met-Arg-Trp-Gln-Glu-Met-Gly-Tyr-Ile-Phe-Tyr-Pro-Arg-Lys-Leu-Arg | Lot / Batch      | ZX260512-865 / B82357    |
| Mol. formula         | C101H152N28O22S2                                                | Manufacture date | 27 May 2026              |
| Mol. weight          | 2174.62 g/mol                                                   | Date of analysis | 1 Jun 2026               |
| CAS number           | 1627580-64-6                                                    | 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 2174.62 Da                     | 2174.60 Da ( $\Delta$ -9 ppm)         | PASS    |
| Purity               | RP-HPLC, UV 220 nm       | $\geq 98.0\%$ area                     | 99.09%                                | PASS    |
| Related substances   | RP-HPLC                  | Single $\leq 1.0$ / Total $\leq 2.0\%$ | 0.46 / 0.91%                          | PASS    |
| Water content        | Karl Fischer (USP <921>) | $\leq 8.0\%$                           | 1.6%                                  | PASS    |
| Counter-ion: acetate | Ion chromatography       | Report (3.0–15.0%)                     | 6.0%                                  | PASS    |
| Net peptide content  | Amino-acid analysis      | $\geq 80.0\%$                          | 91.4%                                 | PASS    |
| Bacterial endotoxin  | LAL kinetic (USP <85>)   | $< 5.0$ EU/mg                          | 0.14 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.

DZL.

Dr. Zhao Liang

Analyst · 1 Jun 2026 · Zhongxi Research Institute

DLX.

Dr. Lin Xia (QC Manager)

Approved by · 1 Jun 2026 · Zhongxi Research Institute



## APPENDIX — ANALYTICAL RAW DATA

MOTS-C 50mg · Lot ZX260512-865 · Cert. ZXR-COA-2026-58102



Scan to verify

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

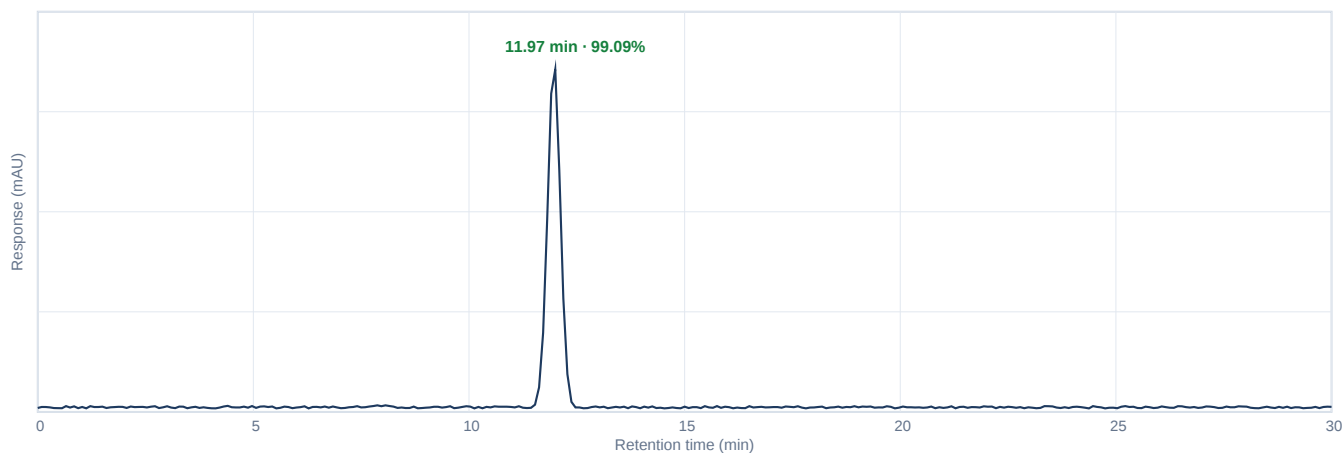
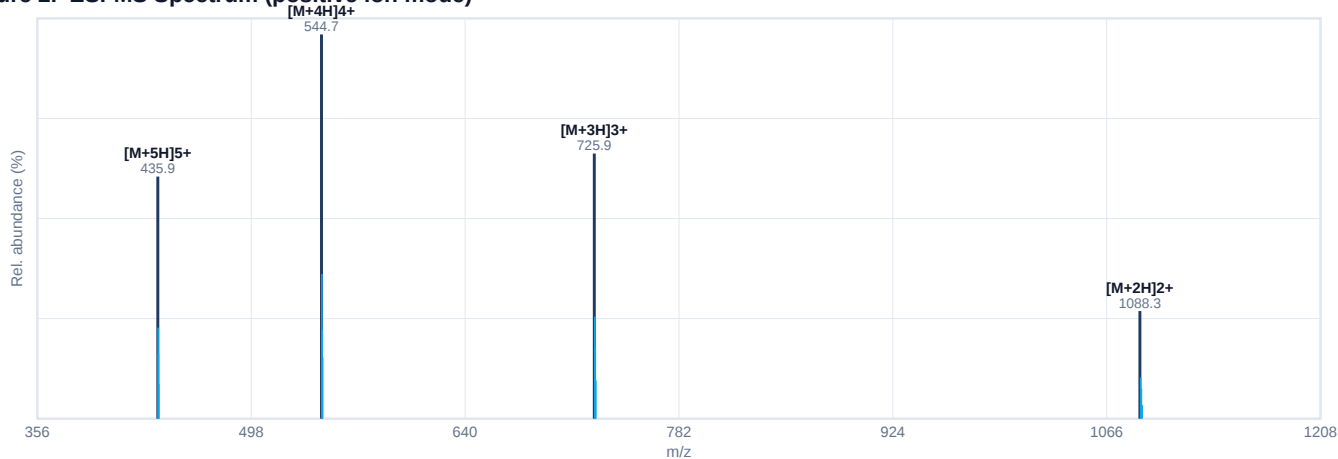


Figure 2. ESI-MS Spectrum (positive ion mode)



## Interpretation

Identity confirmed by ESI-MS. Observed ions [M+2H]<sup>2+</sup> 1088.3, [M+3H]<sup>3+</sup> 725.9, [M+4H]<sup>4+</sup> 544.7, [M+5H]<sup>5+</sup> 435.9 deconvolute to a neutral monoisotopic-average mass of 2174.60 Da (theoretical 2174.62 Da; mass error -9 ppm), consistent with MOTS-C. 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.