

# CERTIFICATE OF ANALYSIS

## SAMPLE SUMMARY



|                     |                  |                      |                                                              |
|---------------------|------------------|----------------------|--------------------------------------------------------------|
| <b>Client:</b>      | Peptra Health    | <b>Appearance:</b>   | White lyophilized powder                                     |
| <b>Product:</b>     | Tirzepatide 15mg |                      |                                                              |
| <b>Accession #:</b> | AMT-2026-0417    | <b>Sample Type:</b>  | Lyophilized powder (vial)                                    |
| <b>Search Code:</b> | M3HEXQSMAS       |                      |                                                              |
| <b>Identity:</b>    | Confirmed        | <b>Manufacturer:</b> | Peptra Health (client supplied)                              |
| <b>Purity:</b>      | 99.63%           | <b>CAS No.:</b>      | 2023788-19-2                                                 |
| <b>Received:</b>    | 2026-08-04       | <b>Mol. Weight:</b>  | 4813.53 Da                                                   |
| <b>Reported:</b>    | 2026-08-07       | <b>Test Type:</b>    | Quantitative Analysis (HPLC) + Identity Confirmation (LC-MS) |
| <b>Lot:</b>         | PH-517924        |                      |                                                              |
| <b>Net Content:</b> | 15.12 mg         |                      |                                                              |

**Sequence:** H-Tyr-Aib-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Tyr-Ser-Ile-Aib-Leu-Asp-Lys-Ile-Ala-Gln-Lys(γGlu-AEEA-AEEA-C20 diacid)-Ala-Phe-Val-Gln-Trp-Leu-Ile-Ala-Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-NH<sub>2</sub>

## ANALYTICAL RESULTS

| Test                    | Label Claim | Result    | Purity | Outcome     |
|-------------------------|-------------|-----------|--------|-------------|
| <b>Identity (LC-MS)</b> | Tirzepatide | Confirmed | —      | <b>Pass</b> |
| <b>Purity (HPLC-UV)</b> | 15 mg       | 15.12 mg  | 99.63% | <b>Pass</b> |

## SAFETY & CONTAMINANT TESTING

Endotoxin testing performed using the Limulus Amebocyte Lysate (LAL) assay in accordance with USP <85> under validated laboratory conditions.

|                               |             |                                |
|-------------------------------|-------------|--------------------------------|
| <b>Endotoxin Replicate 1:</b> | <b>Pass</b> | Assay Sensitivity: ≤0.05 EU/mL |
| <b>Endotoxin Replicate 2:</b> | <b>Pass</b> | Assay Sensitivity: ≤0.05 EU/mL |

Heavy metals screening performed by ICP-MS in accordance with USP <232>/<233>.

| Element             | Result    | Limit    | Outcome     |
|---------------------|-----------|----------|-------------|
| <b>Lead (Pb)</b>    | <0.05 ppm | ≤0.5 ppm | <b>Pass</b> |
| <b>Arsenic (As)</b> | <0.10 ppm | ≤1.5 ppm | <b>Pass</b> |
| <b>Cadmium (Cd)</b> | <0.05 ppm | ≤0.5 ppm | <b>Pass</b> |

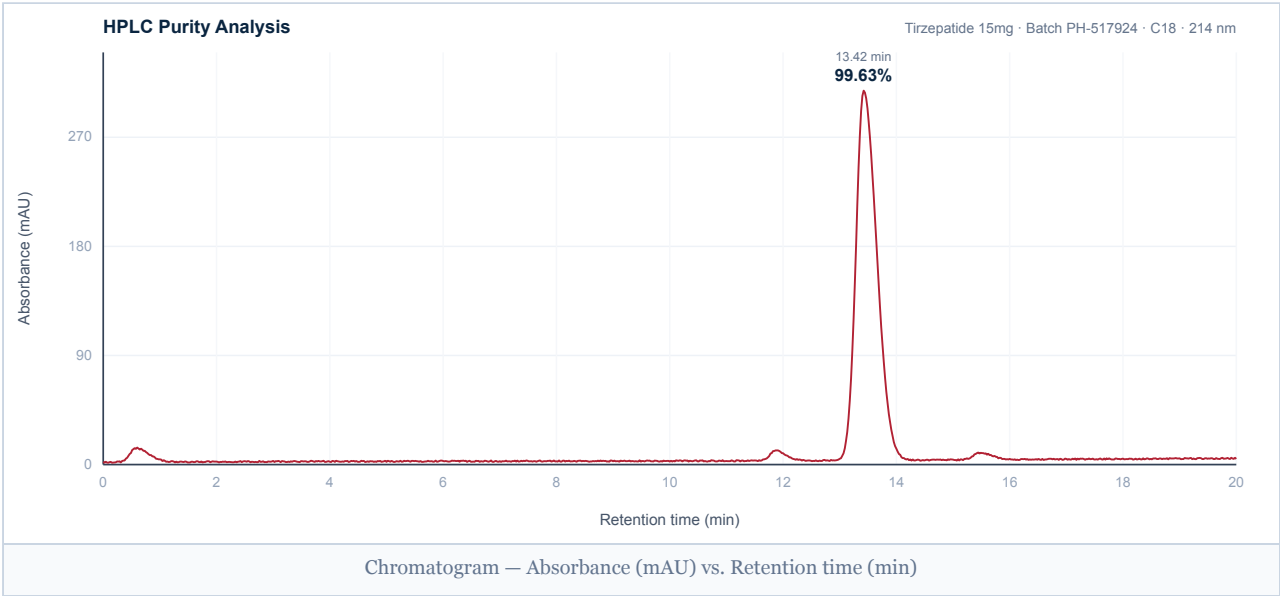
| Element      | Result    | Limit    | Outcome |
|--------------|-----------|----------|---------|
| Mercury (Hg) | <0.02 ppm | ≤0.3 ppm | Pass    |

Sterility / microbial screening by PCR-based bioburden assay (USP <71> compatible).

Sterility / Microbial Screening: No microbial growth detected

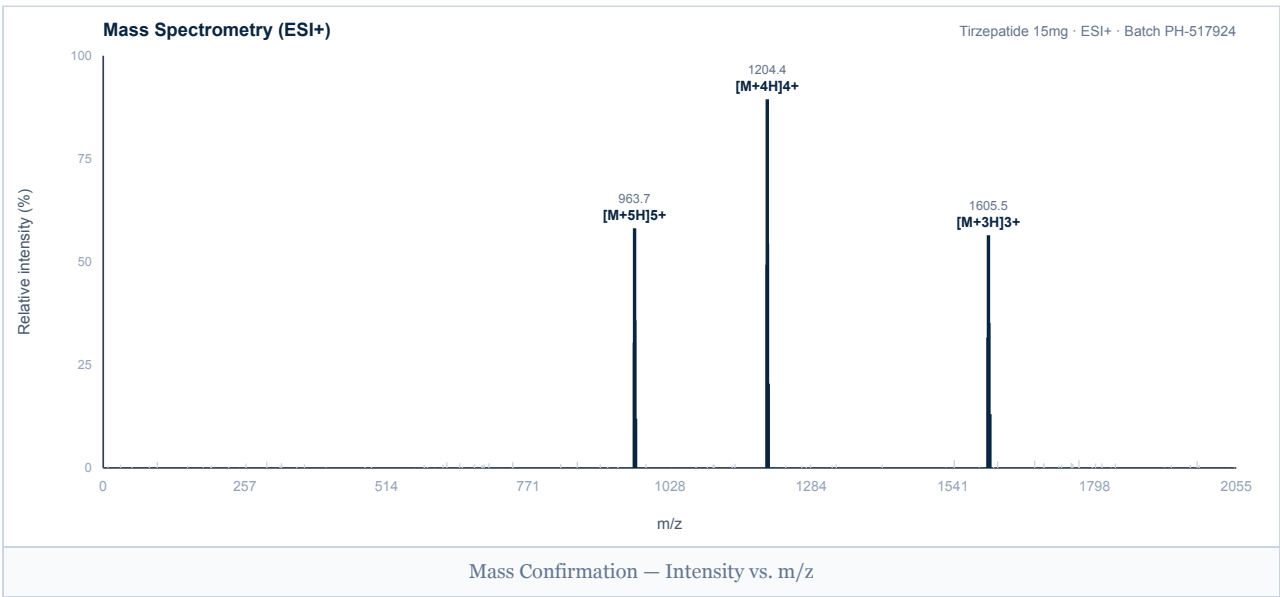
HPLC PURITY ANALYSIS

|            |                         |               |                                       |
|------------|-------------------------|---------------|---------------------------------------|
| Column:    | C18, 4.6 x 250 mm, 5 μm | Mobile Phase: | H <sub>2</sub> O / MeCN with 0.1% TFA |
| Gradient:  | 20-60% B over 20 min    | Flow Rate:    | 1.0 mL/min                            |
| Detection: | UV at 214 nm            | Injection:    | 10 μL                                 |
| Retention: | 13.42 min               | Purity:       | 99.63%                                |



MASS SPECTROMETRY — IDENTITY CONFIRMATION

|           |              |              |            |
|-----------|--------------|--------------|------------|
| Method:   | LC-MS (ESI+) | Theoretical: | 4813.53 Da |
| Observed: | 4813.54 Da   | Mass Error:  | +2 ppm     |



## CONCLUSION

Identity of Tirzepatide confirmed by LC-MS (deconvoluted mass 4813.54 Da matches the theoretical 4813.53 Da within tolerance). HPLC purity 99.63% (main peak 13.42 min). Measured content 15.12 mg is within  $\pm 10\%$  of the 15 mg label claim. Endotoxin, heavy metals and sterility screening within acceptance limits. Sample passes.

*Dual GIP / GLP-1 receptor agonist. Minor peptide-related impurities (deletion/truncated sequences) detected at trace levels; each individual impurity below the 0.5% identification threshold (Ph. Eur. Substances for Pharmaceutical Use).*



Dr. Camille Voss — Principal Chemist

Reported: 2026-08-07

The analysis reported here was conducted under standard laboratory conditions and is intended for informational purposes only, specific to the sample(s) provided. The materials tested are intended for research use only and are not approved for human or veterinary use, diagnostic, therapeutic, or clinical applications. Results should be interpreted by qualified professionals within the scope of the intended research. Accuracy may be influenced by sample integrity, handling, and other experimental variables. This certificate applies only to the sample(s) tested and may not be reproduced except in full. Authenticity can be confirmed using Accession # **AMT-2026-0417** and Search Code **M3HEXQSMAS**.

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