# Alpha Tides

**CERTIFICATE OF ANALYSIS · LOT RELEASE**

alphatides.net

CERTIFICATE NO.
**PL-26-00117**

VERIFICATION KEY
**WQ3YJAPY**

Scan or enter both at prymalab.net/testing/verify

**CERTIFICATE OF ANALYSIS · LOT RELEASE · ISSUED FOR ALPHA TIDES**

## Tirzepatide 100 mg

Lot **PL-2609-117** · Lyophilized powder · Label claim **100 mg/vial**

**TESTED IN-HOUSE BY PRYMALAB**

In-house analytical result, not an independent third-party test

| LOT / BATCH NUMBER | DATE MADE | DATE OF ANALYSIS | DATE ISSUED |
|---|---|---|---|
| PL-2609-117 | 2026-09-18 | 2026-09-19 | 2026-10-03 |

| RETEST / EXPIRY | UNITS IN LOT / SAMPLED | STORAGE | CERTIFICATE TYPE |
|---|---|---|---|
| 2028-09-18 | 120 / 2 | −20 °C, desiccated, dark | Lot COA, 2 pages |

| COMPOUND | CAS NUMBER | MOLECULAR FORMULA | THEORETICAL MASS (AVG.) |
|---|---|---|---|
| **Tirzepatide**<br>LY3298176; GIP/GLP-1 receptor dual agonist | 2023788-19-2 | $C_{225}H_{348}N_{48}O_{68}$ | 4813.5 Da |

**SEQUENCE**

H-Y-Aib-EGTFTSDYSI-Aib-LDKIAQK(2×AEEA-γGlu-C20 diacid)AFVQWLIAGGPSSGAPPPS-$NH_2$ (39 residues; Aib2 and Aib13; Lys20 acylated with eicosanedioic acid via γ-Glu and two AEEA spacers; C-terminal amide)

**PURITY · RP-HPLC, AREA %**
**99.29%**
Specification 99.0% • main peak at 8.94 min

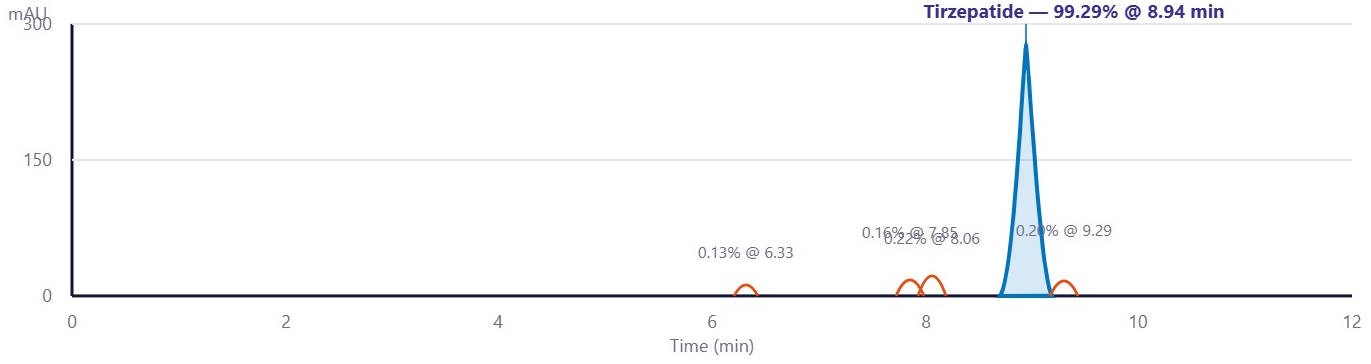
**IDENTITY · OBSERVED MASS**
**4813.6 Da**
Theoretical 4813.5 Da • +0.1 Da (21 ppm)

**OVERALL CONCLUSION**
**PASS**
Meets every specification for the tests performed

| TEST | METHOD | SPECIFICATION | RESULT | CONCLUSION |
|---|---|---|---|---|
| **Appearance** | Visual inspection | White to off-white lyophilized powder | White lyophilized powder | **PASS** |
| **Identity (mass)** | LC-MS, ESI positive | Theoretical ± 1.0 Da | 4813.6 Da | **PASS** |
| **Purity** | RP-HPLC, UV 214 nm, area% | 99.0% | 99.29% | **PASS** |
| **Largest impurity** | RP-HPLC, area% | 1.0% | 0.22% at 8.06 min (Trp 25 oxidation) | **PASS** |
| **Water content** | Karl Fischer | 5.0% | 2.2% | **PASS** |
| **Bacterial endotoxin** | LAL, kinetic | ≤ 5.0 EU/mg | 0.08 EU/mg | **PASS** |
| **Sterility / bioburden** | USP <71>, membrane filtration | No growth after 14 days | No growth; conforms | **PASS** |

### 1 HPLC CHROMATOGRAM

**Data file:** TZP_PL-2609-117_20260919_01 · Column C18, 150 × 4.6 mm · UV 214 nm




Baseline uncropped; main peak and impurities labeled with retention times. Peak table on page 2.



Verify: prymalab.net/testing/verify · PL-26-00117 · key WQ3YJAPY

**For laboratory research use only.** Not for human or veterinary use.

## 2 HPLC METHOD · TZP_PL-2609-117_20260919_01

| | | |
|---|---|---|
| INSTRUMENT<br>Waters Alliance e2695, SN E2695B742 | DATA SYSTEM<br>Empower 3, Build 3471 | DETECTOR<br>Waters 2998 PDA |
| DETECTION WAVELENGTH<br>214 nm | COLUMN<br>C18, 150 × 4.6 mm, 3.5 µm | COLUMN PART / SERIAL<br>186003326 / USHX19900 |
| MOBILE PHASE A<br>0.1% TFA in water | MOBILE PHASE B<br>0.1% TFA in MeCN | FLOW RATE<br>1.0 mL/min |
| COLUMN TEMPERATURE<br>40 °C | INJECTION VOLUME<br>20 µL | RUN TIME<br>12 min |
| SAMPLE DILUENT<br>0.1% TFA in 30% MeCN | SAMPLE CONCENTRATION<br>0.5 mg/mL | BLANK INJECTED<br>Yes |

REFERENCE STANDARD

In-house Tirzepatide reference, lot PL-RS-TZP-01, RT 8.91 min

## 3 GRADIENT PROGRAM

| TIME (MIN) | % A | % B |
|---|---|---|
| 0.0 | 65 | 35 |
| 2.0 | 65 | 35 |
| 9.0 | 25 | 75 |
| 10.0 | 15 | 85 |
| 11.0 | 15 | 85 |
| 12.0 | 65 | 35 |

## 4 PEAK TABLE

| PEAK | RT (MIN) | AREA | AREA % |
|---|---|---|---|
| 1 | 6.33 | 6,258 | 0.13 |
| 2 (deamid.) | 7.85 | 7,702 | 0.16 |
| 3 (Trp-ox) | 8.06 | 10,590 | 0.22 |
| **4** | **8.94** | **4,779,423** | **99.29** |
| 5 | 9.29 | 9,627 | 0.20 |
| Total | | 4,813,600 | 100.00 |

Threshold 0.05% area · Blank subtracted: Y · Purity = main peak area ÷ total integrated area × 100, to two decimals; main peak shaded.

## 5 IDENTITY BY MASS SPECTROMETRY

| | | |
|---|---|---|
| INSTRUMENT<br>Waters Acquity SQD | IONIZATION / MODE<br>ESI, positive | OBSERVED M/Z (CHARGE)<br>963.7 (5+ [M+5H]) · 803.3 (6+ [M+6H]) |
| DECONVOLUTED MASS<br>4813.6 Da | THEORETICAL MASS<br>4813.5 Da | DIFFERENCE<br>+0.1 Da (21 ppm) |
| DATA FILE<br>TZP_PL-2609-117_MS_20260919_01 | ACCEPTANCE<br>Within ± 1.0 Da | |

## 6 ADDITIONAL TESTS

| TEST | PERFORMED BY | DATE | REPORT / FILE |
|---|---|---|---|
| Water content | PrymaLab | 2026-09-19 | RPT-KF-PL-2609-117 |
| Endotoxin | PrymaLab | 2026-09-19 | RPT-ET-PL-2609-117 |
| Sterility | PrymaLab | 2026-09-19 | RPT-ST-PL-2609-117 |

A test with no row here was not performed on this lot. Outside-laboratory reports, when used, are attached and named below.

## 7 REVIEW AND APPROVAL

**D. Reynolds**
Analyst · performed the testing
Date: 2026-09-19

**S. Calloway**
Reviewer · checked against raw data
Date: 2026-10-02

**M. Phelps**
Lab Director · approved for release
Date: 2026-10-03

Raw data retained at: Empower 3 (Build 3471), project PL-2609, archive PL-ARC-2026; 7 years. Outside laboratory reports attached: None


This certificate applies only to the lot named above and describes the units sampled from it; it is not a guarantee for any other lot. Results were obtained by PrymaLab LLC's own laboratory (PrymaLab Analytical) and are not an independent third-party test unless an outside report is attached. This copy is issued for Alpha Tides, a distributor of the lot; the brand shown does not change the laboratory, the method or the results. Reference values (CAS, formula, theoretical mass, sequence) are literature values for the named compound. Authenticity: scan the QR code or enter certificate number PL-26-00117 and key WQ3YJAPY at prymalab.net/testing/verify; any copy that does not match the record shown there is not a PrymaLab certificate. PrymaLab LLC products are supplied for laboratory research use only and not for human or veterinary use.