**PrymaLab**
PRYMALAB ANALYTICAL · IN-HOUSE LABORATORY
3705 Music Branch Rd, Ashland, KY 41102 · +1 (606) 465-9063 · prymalab.net

CERTIFICATE NO.
**PL-26-00148**
VERIFICATION KEY
**8ZJN988E**
Scan or enter both at prymalab.net/testing/verify

CERTIFICATE OF ANALYSIS · LOT RELEASE

# Wolverine Blend 20 mg Pen

Lot **PL-2610-026** · Solution · Label claim **20 mg/mL**

**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-2610-026 | 2026-10-01 | 2026-10-02 | 2026-10-19 |
| **RETEST / EXPIRY** | **UNITS IN LOT / SAMPLED** | **STORAGE** | **CERTIFICATE TYPE** |
| 2028-10-01 | 303 / 2 | — | Lot COA, 2 pages |

**COMPOUND**
**Wolverine Blend**
BPC-157 + TB-500 co-lyophilized 1:1 blend

**CAS NUMBER**
137525-51-0 · 77591-33-4

**MOLECULAR FORMULA**
—

**THEORETICAL MASS (AVG.)**
1,419.55 · 4,963.44 Da (BPC-157 / TB-500)

**COMPOSITION AND SEQUENCES**
**BPC-157:** GEPPPGKPADDAGLV · **TB-500:** Ac-43-aa Tbeta4

**PURITY · RP-HPLC, AREA %**
**99.38%**
Lowest component (TB-500) • specification ≥ 99.0 % for every component

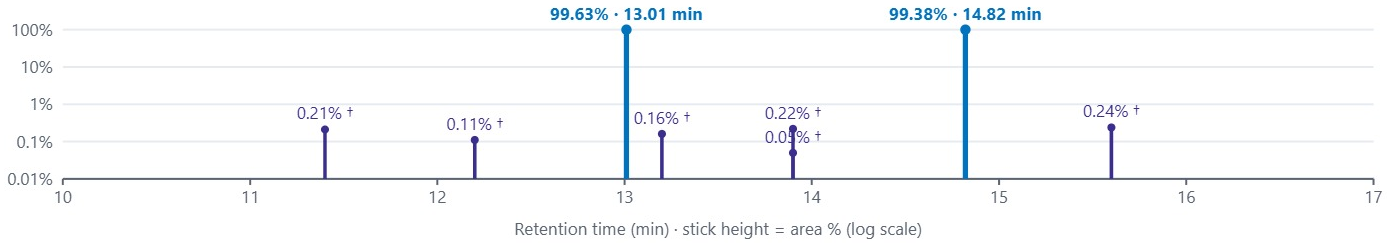
**IDENTITY · COMPONENTS CONFIRMED**
**2 / 2**
Components confirmed by LC-MS within ± 1.0 Da: 1,419.57 / 4,963.47 Da

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

| TEST | METHOD | SPECIFICATION | RESULT | CONCLUSION |
|---|---|---|---|---|
| **BPC-157: purity · largest impurity · mass** | RP-HPLC 214 nm (area %); LC-MS, ESI+ | ≥ 99.0 % · ≤ 1.0% · ± 1.0 Da | 99.63 % · 0.21% · 1,419.57 Da | **PASS** |
| **TB-500: purity · largest impurity · mass** | RP-HPLC 214 nm (area %); LC-MS, ESI+ | ≥ 99.0 % · ≤ 1.0% · ± 1.0 Da | 99.38 % · 0.24 % · 4,963.47 Da | **PASS** |
| **Assay (total blend)** | Assay vs label claim | 19–21 mg/mL | 20.49 mg/mL | **PASS** |
| **Bacterial endotoxin** | LAL, kinetic | ≤ 5.0 EU/mg | 0.429 EU/mg | **PASS** |
| **Sterility** | USP <71>, 14-day | No growth | No growth | **PASS** |

## 1 HPLC CHROMATOGRAM

**Data file:** PL-2610-026-HPLC.raw · Column C18, 150 × 4.6 mm · UV 214 nm




Peak plot drawn from the integrated peak table (area %, log scale); it is not the instrument trace, which is retained in PL-2610-026-HPLC.raw. † Nominal reference retention time for the assigned impurity; the main-peak RT is observed in this lot. Area % is per component (each component main peak + its impurities = 100%).


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

## 2 HPLC METHOD · PL-2610-026-HPLC.RAW

**INSTRUMENT**
Waters Alliance e2695

**DATA SYSTEM**
Empower 3

**DETECTOR**
UV absorbance

**DETECTION WAVELENGTH**
214 nm

**COLUMN**
C18, 150 × 4.6 mm, 3.5 µm

**MOBILE PHASE A**
0.1 % TFA in water

**MOBILE PHASE B**
0.1 % TFA in MeCN

**GRADIENT**
5–95 % B over 25 min (linear)

**FLOW RATE**
1.0 mL/min

**COLUMN TEMPERATURE**
40 °C

**INJECTION VOLUME**
10 µL

## 3 GRADIENT PROGRAM

| TIME (MIN) | % A | % B |
|---|---|---|
| 0.0 | 95 | 5 |
| 25.0 | 5 | 95 |

## 4 PEAK TABLE

| PEAK | RT (MIN) | AREA | AREA % |
|---|---|---|---|
| 1 | 11.40 † | — | 0.21 |
| 2 | 12.20 † | — | 0.11 |
| 3 | 13.01 | — | 99.63 |
| 4 | 13.20 † | — | 0.16 |
| 5 | 13.90 † | — | 0.05 |
| 6 | 13.90 † | — | 0.22 |
| **7** | **14.82** | **—** | **99.38** |
| 8 | 15.60 † | — | 0.24 |
| Total | | — | 100.00 per component |

Main peaks: 3 BPC-157 · 7 TB-500; all other peaks are the assigned impurities of the neighbouring component · area % within each component (main + impurities = 100% per component) · † nominal reference RT · Purity = main peak area ÷ total integrated area × 100, to two decimals; main peak shaded.

## 5 IDENTITY BY MASS SPECTROMETRY

**INSTRUMENT**
Waters SQD

**IONIZATION / MODE**
ESI, positive

**DECONVOLUTED MASS**
1,419.57 / 4,963.47 Da

**THEORETICAL MASS**
1,419.55 / 4,963.44 Da

**ORDER**
BPC-157 / TB-500

**DIFFERENCE**
+0.02 / +0.03 Da

**DATA FILE**
PL-2610-026-MS.d

**ACCEPTANCE**
Within ± 1.0 Da (each component)

## 6 ADDITIONAL TESTS

| TEST | PERFORMED BY | DATE | REPORT / FILE |
|---|---|---|---|
| Assay vs label claim | PrymaLab Analytical | 2026-10-02 | — |
| Endotoxin (LAL, kinetic) | PrymaLab Analytical | 2026-10-02 | — |
| Sterility (USP <71>, day-14 read-out) | PrymaLab Analytical | 2026-10-16 | — |

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: 2026-10-19

**S. Calloway**
Reviewer · checked against raw data
Date: 2026-10-19

**M. Phelps**
Lab Director · approved for release
Date: 2026-10-19

Raw data retained at: Empower 3, project PL-2610, 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. Reference values (CAS, formula, theoretical mass, sequence) are literature values for the named compound. Authenticity: scan the QR code or enter certificate number PL-26-00148 and key 8ZJN988E 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.