



CERTIFICATE NO.
PL-26-00057

VERIFICATION KEY
64Z42E7C

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

CERTIFICATE OF ANALYSIS · LOT RELEASE · ISSUED FOR VIRSTELLIS

KLOW Blend 80 mg

Lot PL-2609-057 · Lyophilized co-blend powder · Label claim 80 mg/vial · Distributed as KPV / BPC-157 / TB-500 / GHK-Cu

TESTED IN-HOUSE BY PRYMALAB

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

LOT / BATCH NUMBER PL-2609-057	DATE MADE 2026-09-15	DATE OF ANALYSIS 2026-09-16	DATE ISSUED 2026-10-03
RETEST / EXPIRY 2028-09-15	UNITS IN LOT / SAMPLED 250 / 2	STORAGE -20 °C, desiccated, dark	CERTIFICATE TYPE Lot COA, 2 pages

COMPOUND KLOW Blend GHK-Cu + BPC-157 + TB-500 + KPV co-lyophilized blend	CAS NUMBER 89030-95-5 · 137525-51-0 · 77591-33-4 · 67727-97-3	MOLECULAR FORMULA C ₁₄ H ₂₂ CuN ₆ O ₄ · C ₆₂ H ₉₈ N ₁₆ O ₂₂ · C ₂₁₂ H ₃₅₀ N ₅₆ O ₇₈ S · C ₁₆ H ₃₀ N ₄ O ₄	THEORETICAL MASS (AVG.) 401.9 · 1419.6 · 4963.5 · 342.4 Da (GHK-Cu / BPC-157 / TB-500 (Thymosin β4) / KPV)
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COMPOSITION AND SEQUENCES

GHK-Cu 50 mg: H-GHK-OH · Cu(II) (1:1 copper complex) · **BPC-157 10 mg:** H-GEPPPGKPADDAGLV-OH (15 residues; free N- and C-termini) · **TB-500 (Thymosin β4) 10 mg:** Ac-SDKPDMAIEKFDKSKLKKTTETQEKNPSPKETIEQEKQAGES-OH (43 residues; N-acetyl; free C-terminus) · **KPV 10 mg:** H-KPV-OH (3 residue s; free N- and C-termini)

PURITY · RP-HPLC, AREA %

99.66%

Specification 99.0% • blend purity — sum of the four component peaks

IDENTITY · OBSERVED MASS

4 / 4

Components confirmed by LC-MS within ± 1.0 Da:
402.1 / 1419.8 / 4963.7 / 342.6 Da

OVERALL CONCLUSION

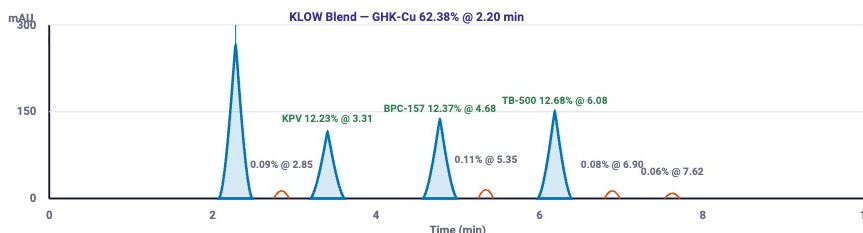
PASS

Meets every specification for the tests performed

TEST	METHOD	SPECIFICATION	RESULT	CONCLUSION
Appearance	Visual inspection	Blue to blue-violet lyophilized cake (GHK-Cu copper complex)	Blue lyophilized cake	PASS
Identity (mass)	LC-MS, ESI positive	Theoretical ± 1.0 Da, each component	4/4 components confirmed	PASS
Purity	RP-HPLC, UV 214 nm, area%	99.0% (blend)	99.66%	PASS
Largest impurity	RP-HPLC, area%	1.0%	0.11% at 5.35 min	PASS
Water content	Karl Fischer	5.0%	2.1%	PASS
Bacterial endotoxin	LAL, kinetic	≤ 5.0 EU/mg	0.06 EU/mg	PASS
Sterility / bioburden	USP <71>, membrane filtration	No growth after 14 days	No growth; conforms	PASS

1 HPLC CHROMATOGRAM

Data file: KLOW_PL-2609-057_20260916_01 · Column C18, 150 × 4.6 mm · UV 214 nm



Baseline uncropped; four component peaks and impurities labeled with retention times. Peak table on page 2.

**2 HPLC METHOD · KLOW_PL-2609-057_20260916_01**

INSTRUMENT

Waters Alliance e2695, SN E2695B742

DETECTION WAVELENGTH

214 nm

MOBILE PHASE A

0.1% TFA in water

COLUMN TEMPERATURE

30 °C

SAMPLE DILUENT

Water, 0.1% TFA

REFERENCE STANDARD

In-house KLOW blend reference, lot PL-RS-KLO-01, component RTs 2.18 / 3.29 / 4.66 / 6.06 min

DATA SYSTEM

Empower 3, Build 3471

COLUMN

C18, 150 × 4.6 mm, 3.5 µm

MOBILE PHASE B

0.1% TFA in MeCN

INJECTION VOLUME

20 µL

SAMPLE CONCENTRATION

0.5 mg/mL (blend)

DETECTOR

Waters 2998 PDA

COLUMN PART / SERIAL

186003326 / USHX18211

FLOW RATE

1.0 mL/min

RUN TIME

10 min

BLANK INJECTED

Yes

3 GRADIENT PROGRAM

TIME (MIN)	% A	% B
0.0	95	5
3.0	95	5
7.0	55	45
8.0	20	80
9.0	20	80
10.0	95	5

4 PEAK TABLE

PEAK	RT (MIN)	AREA	AREA %
1 (GHK-Cu)	2.20	2,682,340	62.38
2	2.85	3,870	0.09
3 (KPV)	3.31	525,890	12.23
4 (BPC-157)	4.68	531,910	12.37
5	5.35	4,730	0.11
6 (TB-500)	6.08	545,240	12.68
7	6.90	3,440	0.08
8	7.62	2,580	0.06
Total		4,300,000	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

Waters Acquity SQD

IONIZATION / MODE

ESI, positive

OBSERVED M/Z (CHARGE)

402.8 · 1420.3 (1+ [M+H], GHK-Cu · BPC-157) · 343.2 (1+ [M+H], KPV) · 1241.9 (4+ [M+4H], TB-500) · 993.7 (5+ [M+5H], TB-500)

DECONVOLUTED MASS

402.1 / 1419.8 / 4963.7 / 342.6 Da (by component)

THEORETICAL MASS

401.9 / 1419.6 / 4963.5 / 342.4 Da (GHK-Cu / BPC-157 / TB-500 / KPV)

DIFFERENCE

≤ +0.2 Da (per component)

DATA FILE

KLOW_PL-2609-057_MS_20260916_01

ACCEPTANCE

Within ± 1.0 Da (each component)

6 ADDITIONAL TESTS

TEST	PERFORMED BY	DATE	REPORT / FILE
Water content	PrymaLab	2026-09-17	RPT-KF-PL-2609-057
Endotoxin	PrymaLab	2026-09-18	RPT-ET-PL-2609-057
Sterility	PrymaLab	2026-09-30	RPT-ST-PL-2609-057

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: 2026-09-16

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 Virstellis, 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-26-00057 and key 64Z42E7C 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.