Gold Standard Analytics

Gold Standard Analytics LLC, Houston, TX

CERTIFICATE OF ANALYSIS

Report GSA-COA-000092-09207-20261117 · issued Nov 23, 2026

Vitalis Peptides

PRODUCT	ORDER	SAMPLE
KLOW blend (GHK-Cu, KPV, BPC-157, TB-500)	GSA-2026-000092	092-07

LOT	ISSUED
KLOW261016B	Nov 23, 2026



THE SAMPLE AS RECEIVED

IDENTITY ✓

GHK-Cu, KPV, BPC-157, TB-500

4 declared components found

PURITY ✓

99.32 %

HPLC-UV, 214 nm

GHK-CU ✓

71.80 %

found by mass; share of the peptide UV area

KPV ✓

9.99 %

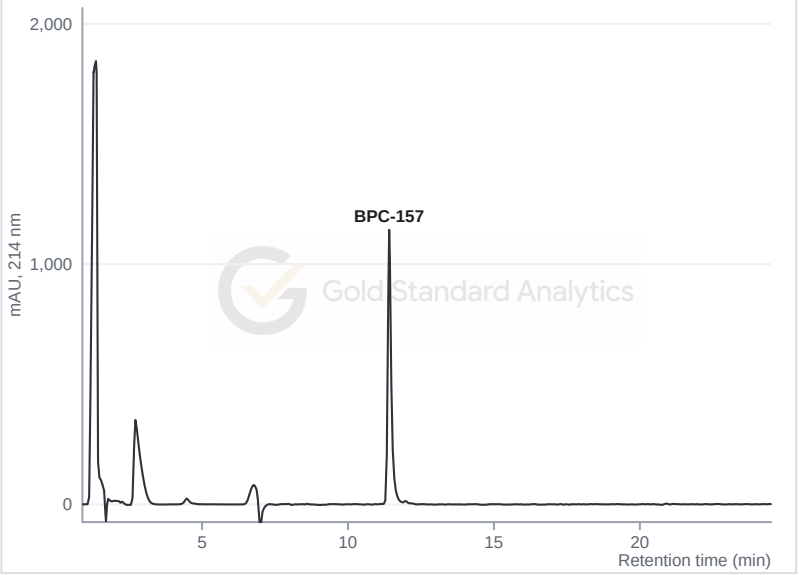
found by mass; share of the peptide UV area

✓ **BPC-157** by mass; comes off together with TB-500 — **Found**

✓ **TB-500** by mass; comes off together with BPC-157 — **Found**

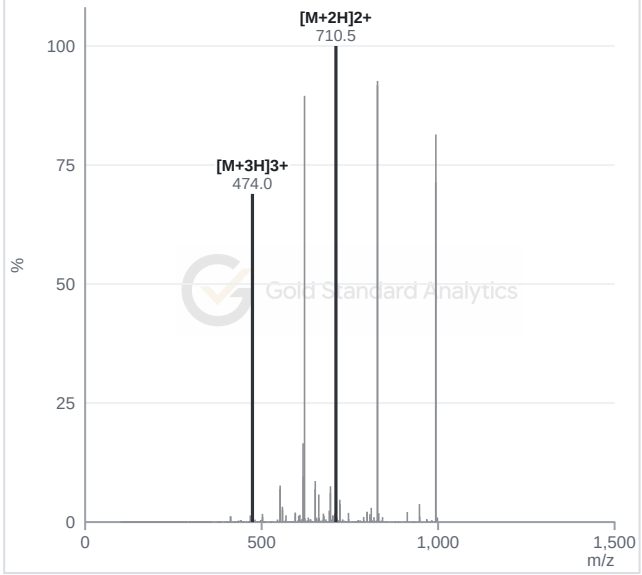
HPLC CHROMATOGRAM

UV, 214 nm



MASS SPECTRUM

main peak (11.41 min)



RELEASED BY

Ian Ebert

Laboratory Director · Nov 24, 2026

Scan to verify

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Results are not covered by ISO/IEC 17025 accreditation. Results relate only to the sample as received and tested.

The sample

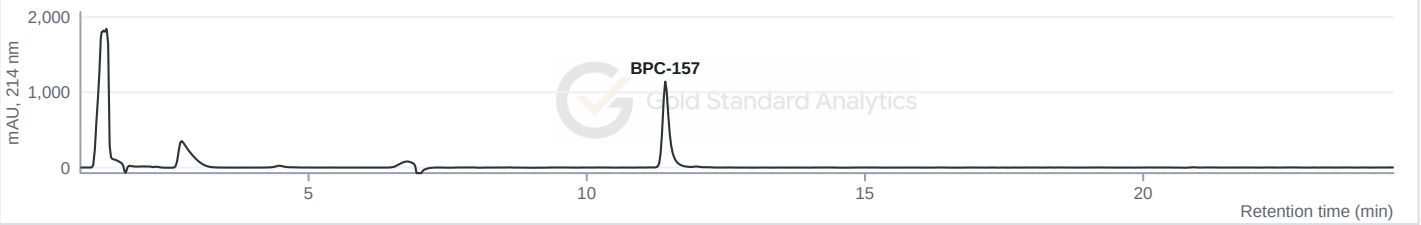
Order GSA-2026-000092 · Sample 092-07 · Vitalis Peptides

Customer	**Vitalis Peptides**	Lot	**KLOW261016B**
Order	**GSA-2026-000092**	Prepared	**16 Nov 2026**
Sample	**092-07**	Tested	**17 Nov 2026**
Label	**Vitalis Peptides, batch KLOW261016B**	Tests	**Identity, Purity**

Graphs

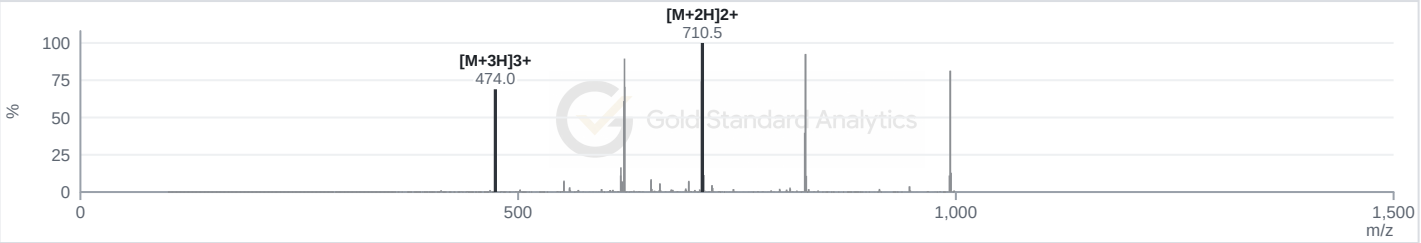
HPLC CHROMATOGRAM

HPLC chromatogram (UV, 214 nm) · mAU, 214 nm against Retention time (min)



MASS SPECTRUM

Mass spectrum of the main peak (11.41 min) · Counts against m/z



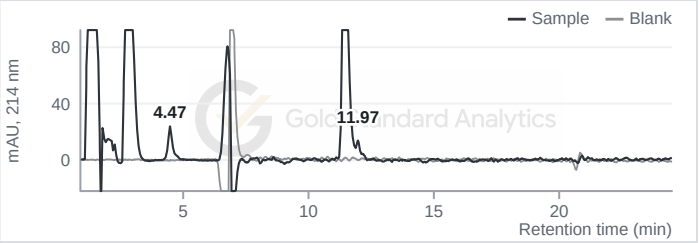
Results

Identity	**All declared components found** by their molecular mass: GHK-Cu (its peptide GHK, with the copper complex at m/z 402.1) at 1.19 min (m/z 341.2 and m/z 171.2; measured mass 340.3, expected 340.4); KPV at 2.72 min (m/z 343.3 and m/z 172.3; measured mass 342.4, expected 342.4); BPC-157 at 11.41 min (m/z 710.5 and m/z 474.0; measured mass 1,419.0, expected 1,419.5); TB-500 as full-length thymosin beta-4 at 11.41 min (m/z 993.6 and m/z 828.3; measured mass 4,964.3, expected 4,963.4). BPC-157 and TB-500 come off the column together.
Purity	**99.32 %** by HPLC with UV detection at 214 nm (share of the total peak area), counting all declared components together. 2 impurities were found and are listed below. Unexplained peaks count above about 2.5 % of the smallest declared component's peak height; forms of the peptides identified by mass count down to about 1.6 % of it. GHK-Cu was too strong to measure in this 15 µL injection, so its peak area is taken from a 0.8 µL injection of the same solution, scaled by the injection volumes; peaks within 0.3 min of it could not be judged. The vial also contains a sugar alcohol such as mannitol (a common vial filler), seen by mass at the start of the run; it is not a peptide and is not counted. The large peak at about 6.8 min comes from the instrument, not the sample: it also appears in blank runs.
Composition	Share of the declared-peptide UV area at 214 nm: GHK-Cu 71.80 %, KPV 9.99 %, BPC-157 + TB-500 together 18.21 %. These are shares of UV signal, not of weight: the peptides absorb UV differently, so the split by weight cannot be read from them. BPC-157 and TB-500 come off together, so their individual shares cannot be measured by UV.

Zoomed views

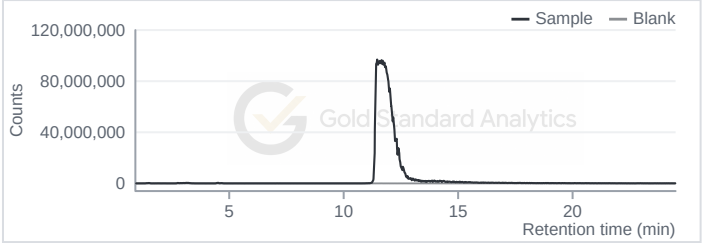
HPLC, SMALL PEAKS

Zoomed in on the small peaks (5 % of the main peak) · mAU, 214 nm against Retention time (min)



ION TRACE

Ion trace, m/z 710.4 (BPC-157 [M+2H]2+): sample vs blank · Counts against Retention time (min)



Impurities

Every peak other than the declared peptides that was counted:

PEAK (MIN)	AMOUNT	WHAT IT IS
4.47	0.58 %	An unidentified substance (ions at m/z 219.2 and 437.2: a mass of about 436) that is not a form of GHK-Cu, KPV, BPC-157 or TB-500.
11.97	0.10 %	BPC-157 that has lost one water molecule (mass about 1,402 instead of 1,420). A common by-product of peptide synthesis or storage.

Amounts are each peak's share of the total UV peak area at 214 nm.

How it was tested

Liquid chromatography with UV and mass-spectrometry detection: Agilent 1290 Infinity II LC with a 6490 triple-quadrupole mass spectrometer. Column Polaris C18-A, 2.0 x 150 mm, 45 °C; water and acetonitrile, each with 0.1 % formic acid. Purity: UV peak area at 214 nm, after subtracting a blank run in the same sequence. Identity: molecular mass from the mass spectrum. 15 µL injected; autosampler at 12 °C.

Notes

Results apply only to the sample as received and tested.

Release

This report is signed electronically at release. The signature is printed on page 1, and the release record, added as the last page, gives the date and the verification code.

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Release record

Report GSA-COA-000092-09207-20261117 · Certificate GSA-2026-217202

Customer and order	Vitalis Peptides · GSA-2026-000092
Sample and report	092-07 · KLOW blend (GHK-Cu, KPV, BPC-157, TB-500) Certificate of Analysis
Report reference	GSA-COA-000092-09207-20261117
Certificate accession	GSA-2026-217202
Released and signed by	Ian Ebert, Laboratory Director
Date and time (UTC)	2026-11-24 01:20:27Z
Signature meaning	Approved for release. The signer reviewed this report and approved its release to its customer.
Approval reference	5a25aca0-4466-4fcd-a9e5-e348d42d640c
Electronic signature	Signed electronically in a signed-in GSA staff account.
Original report SHA-256	6235af327417069c273992b372626f75889e9f4bf175fa590cf8dfebcbfd0d45
Verify this certificate	https://goldstandardanalytics.com/coa/GSA-2026-217202

Scan to view this certificate online

Signature

Ian Ebert, Laboratory Director

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