Gold Standard Analytics

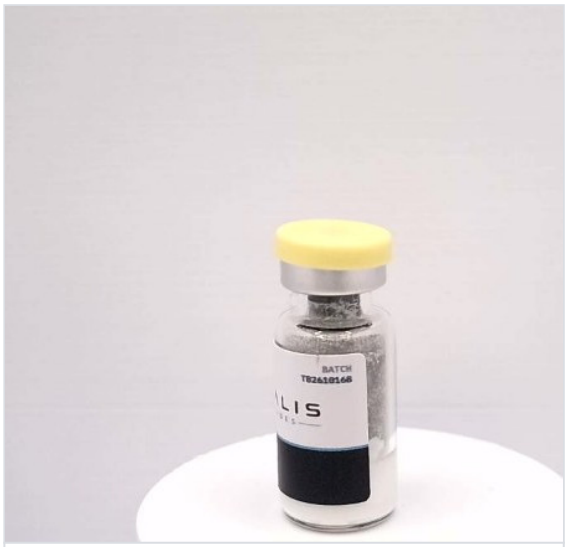
Gold Standard Analytics LLC, Houston, TX

CERTIFICATE OF ANALYSIS

Report GSA-COA-000092-09210-20261117-3 · issued Nov 24, 2026

Vitalis Peptides

PRODUCT	ORDER	SAMPLE
TB-500	GSA-2026-000092	092-10
LABEL	**LOT**	**ISSUED**
Vitalis Peptides, batch TB261016B	TB261016B	Nov 24, 2026



THE SAMPLE AS RECEIVED

IDENTITY

TB-500

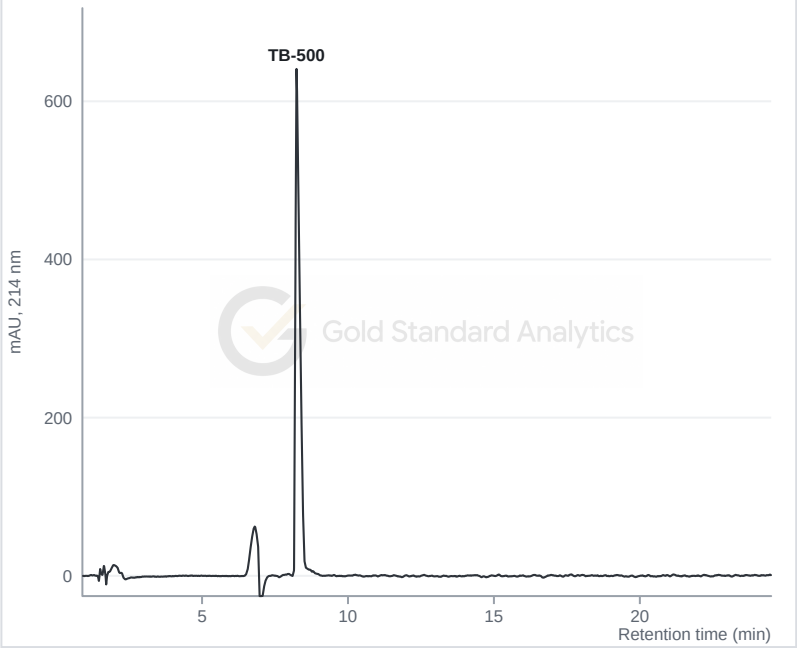
confirmed by mass

PURITY

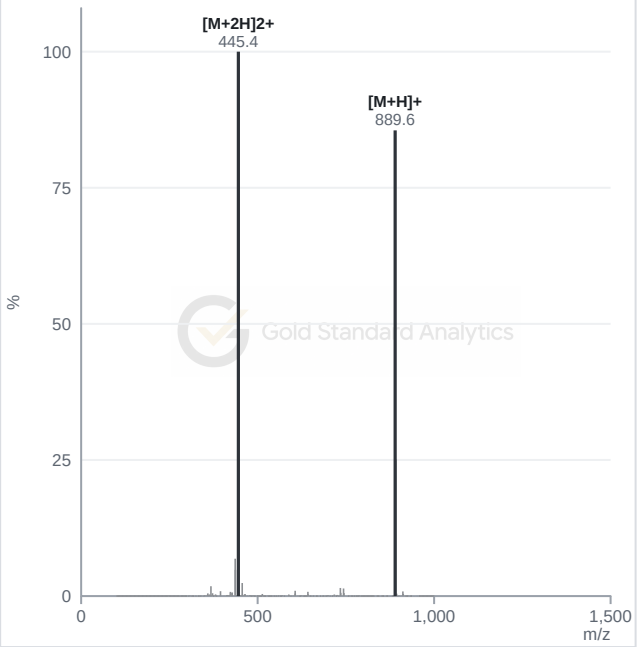
99.07 %

HPLC-UV, 214 nm

HPLC CHROMATOGRAM — UV, 214 nm



MASS SPECTRUM — main peak (8.24 min)



RELEASED BY

Ian Ebert
Laboratory Director · Nov 25, 2026

Scan to verify
goldstandardanalytics.com/coa/

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 092-10 · Vitalis Peptides

Customer	**Vitalis Peptides**	Lot	**TB261016B**
Order	**GSA-2026-000092**	Prepared	**16 Nov 2026**
Sample	**092-10**	Tested	**17 Nov 2026**
Label	**Vitalis Peptides, batch TB261016B**	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 (8.24 min) · Counts against m/z



Results

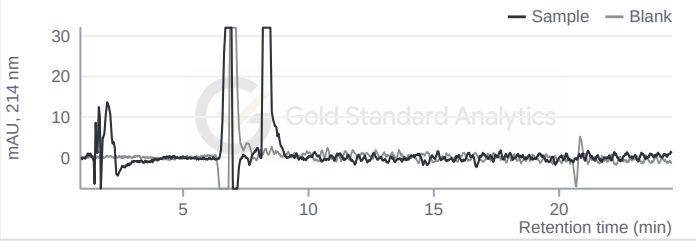
Identity — **Consistent with TB-500.** The main peak is TB-500 as the fragment Ac-LKKTETQ (thymosin beta-4, residues 17-23) at 8.24 min (m/z 889.6 and m/z 445.4; measured mass 888.7, expected 888.5).

Purity — **99.07 %** by HPLC with UV detection at 214 nm. No peak other than TB-500 was found, down to about 0.93 % of the TB-500 peak height, and no form of the peptide was found by mass, so purity is reported as 99.07 % rather than as 100 %. 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 in purity. The small peaks at about 1.7 to 2.0 min appear in every injection on this instrument, blank solvent included, and are not counted. The large peak at about 6.8 min comes from the instrument, not the sample: the same peak appears when only blank solvent is injected.

Zoomed views

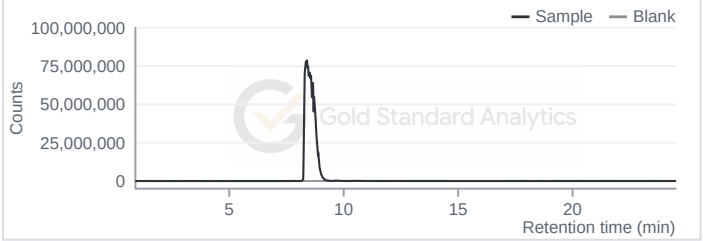
HPLC, SMALL PEAKS

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



ION TRACE

Ion trace, m/z 889.5 (TB-500 [M+H]+): sample vs blank · Counts against Retention time (min)



Impurities

Every UV peak above the reporting limit was the declared peptide.

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. 6 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.

Customer and order	Vitalis Peptides · GSA-2026-000092
Sample and report	092-10 · TB-500 Certificate of Analysis
Report reference	GSA-COA-000092-09210-20261117-3
Certificate accession	GSA-2026-166683
Released and signed by	Ian Ebert, Laboratory Director
Date and time (UTC)	2026-11-25 01:04:02Z
Signature meaning	Approved for release. The signer reviewed this report and approved its release to its customer.
Approval reference	347cf288-3ba6-4b5e-9243-a51d486a9276
Electronic signature	Signed electronically in a signed-in GSA staff account.
Original report SHA-256	8a17392134bc49adb48483da1ba50722ccfd0c31049ed665c7a3694b2a189852
Verify this certificate	https://goldstandardanalytics.com/coa/GSA-2026-166683

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Signature

Ian Ebert, Laboratory Director