

CERTIFICATE OF ANALYSIS

SAMPLE SUMMARY



Client:	Peptra Health	Appearance:	White lyophilized powder
Product:	TB-500 20mg		
Accession #:	AMT-2026-0891	Sample Type:	Lyophilized powder (vial)
Search Code:	VPSE5SAXHZ		
Identity:	Confirmed	Manufacturer:	Peptra Health (client supplied)
Purity:	99.82%	CAS No.:	77591-33-4
Received:	2026-08-16	Mol. Weight:	4963.44 Da
Reported:	2026-08-19	Test Type:	Quantitative Analysis (HPLC) + Identity Confirmation (LC-MS)
Lot:	PH-731562		
Net Content:	20.04 mg		

Sequence: Ac-SDKPDMAEIEKFDKSKLKKKTETQEKNPLPSKETIEQEKQAGES (Thymosin β4, 43 aa)

ANALYTICAL RESULTS

Test	Label Claim	Result	Purity	Outcome
Identity (LC-MS)	TB-500	Confirmed	—	Pass
Purity (HPLC-UV)	20 mg	20.04 mg	99.82%	Pass

SAFETY & CONTAMINANT TESTING

Endotoxin testing performed using the Limulus Amebocyte Lysate (LAL) assay in accordance with USP <85> under validated laboratory conditions.

Endotoxin Replicate 1:	Pass	Assay Sensitivity: ≤0.05 EU/mL
Endotoxin Replicate 2:	Pass	Assay Sensitivity: ≤0.05 EU/mL

Heavy metals screening performed by ICP-MS in accordance with USP <232>/<233>.

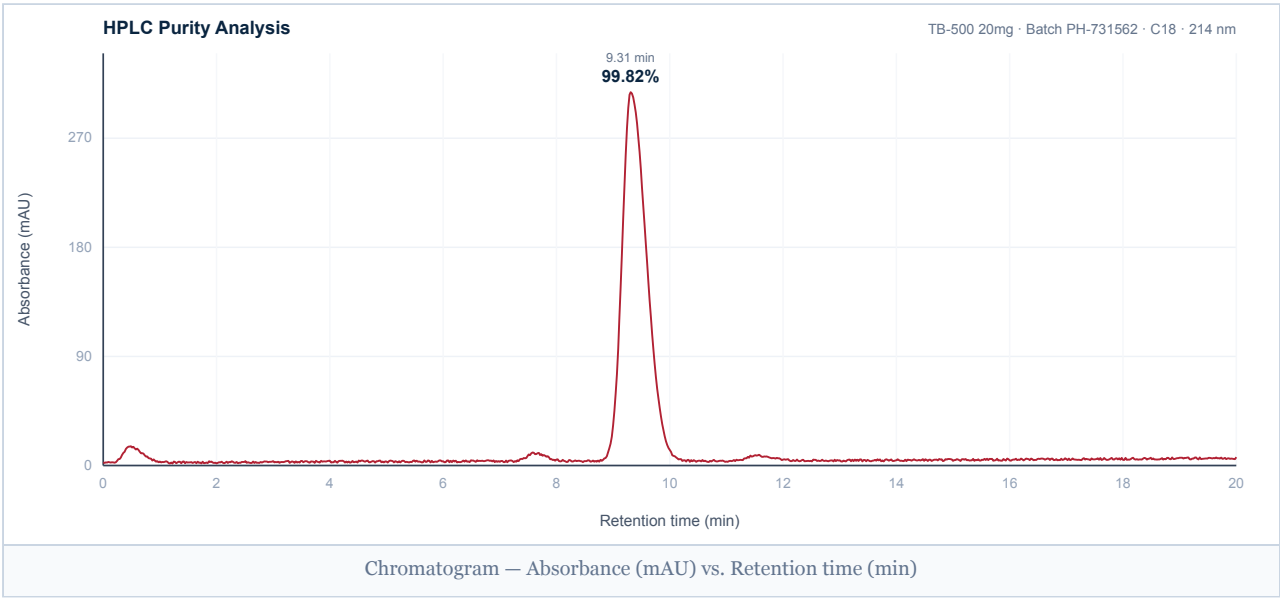
Element	Result	Limit	Outcome
Lead (Pb)	<0.05 ppm	≤0.5 ppm	Pass
Arsenic (As)	<0.10 ppm	≤1.5 ppm	Pass
Cadmium (Cd)	<0.05 ppm	≤0.5 ppm	Pass
Mercury (Hg)	<0.02 ppm	≤0.3 ppm	Pass

Sterility / microbial screening by PCR-based bioburden assay (USP <71> compatible).

Sterility / Microbial Screening: No microbial growth detected

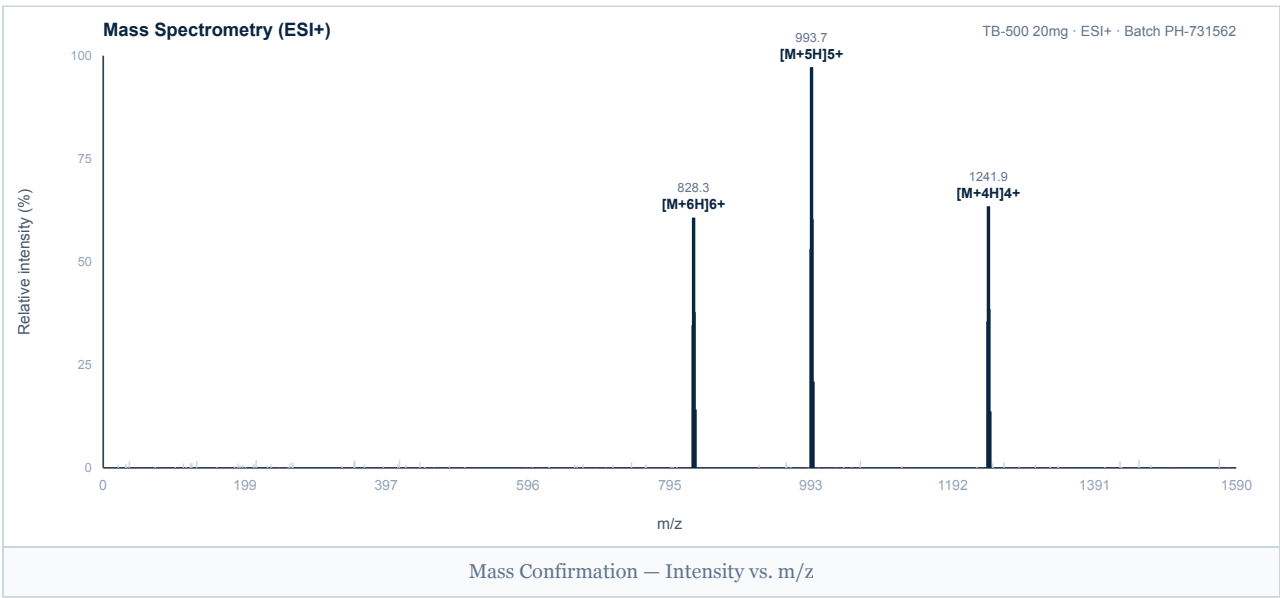
HPLC PURITY ANALYSIS

Column:	C18, 4.6 x 250 mm, 5 µm	Mobile Phase:	H2O / MeCN with 0.1% TFA
Gradient:	20-60% B over 20 min	Flow Rate:	1.0 mL/min
Detection:	UV at 214 nm	Injection:	10 µL
Retention:	9.31 min	Purity:	99.82%



MASS SPECTROMETRY — IDENTITY CONFIRMATION

Method:	LC-MS (ESI+)	Theoretical:	4963.44 Da
Observed:	4963.46 Da	Mass Error:	+4 ppm



CONCLUSION

Identity of TB-500 confirmed by LC-MS (deconvoluted mass 4963.46 Da matches the theoretical 4963.44 Da within tolerance). HPLC purity 99.82% (main peak 9.31 min). Measured content 20.04 mg is within ±10% of the 20 mg label

claim. Endotoxin, heavy metals and sterility screening within acceptance limits. Sample passes.

Thymosin Beta-4 (full-length, acetylated). Minor peptide-related impurities (deletion/truncated sequences) detected at trace levels; each individual impurity below the 0.5% identification threshold (Ph. Eur. Substances for Pharmaceutical Use).



Dr. Adrian Whitlock — Principal Chemist

Reported: 2026-08-19

The analysis reported here was conducted under standard laboratory conditions and is intended for informational purposes only, specific to the sample(s) provided. The materials tested are intended for research use only and are not approved for human or veterinary use, diagnostic, therapeutic, or clinical applications. Results should be interpreted by qualified professionals within the scope of the intended research. Accuracy may be influenced by sample integrity, handling, and other experimental variables. This certificate applies only to the sample(s) tested and may not be reproduced except in full. Authenticity can be confirmed using Accession # **AMT-2026-0891** and Search Code **VPSE5SAXHZ**.

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