

CERTIFICATE OF ANALYSIS

Thymosin Alpha-1 Batch OP-TH537 January 2026

Product name	Thymosin Alpha-1	Molecular formula	C ₁₂₉ H ₂₁₅ N ₃₃ O ₅₅
Batch number	OP-TH537	Molecular weight	3108.32 g/mol
CAS number	62304-98-7	Quantity	5 mg
Date of manufacture	January 2026	PubChem CID	16130571
Storage	Powder: -20°C 3 years; 4°C 2 years; 15°C 3 months.	Storage	In solvent: -80°C 6 months; -20°C 1 month; 10°C 1 week

Amino acid sequence

Ac-SDAAVDTSEITTKDLKEKKEVVEEAEN (Thymosin α1)

28 residues

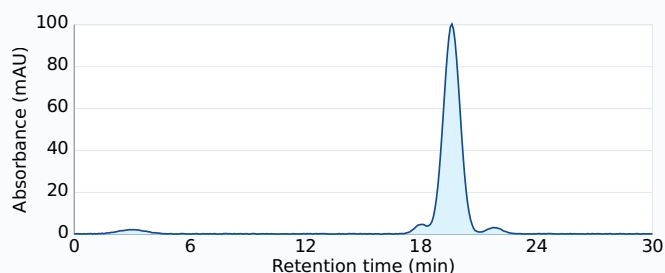
Analytical results

Test parameter	Method	Specification	Result	Status
Appearance	Visual	White to off-white powder	Conforms	✓
Peptide purity	RP-HPLC (C18)	≥ 98.5%	99.20%	✓
Molecular weight confirmation	ESI-MS	3108.32 ± 1.0 Da	Conforms	✓
Water content	Karl Fischer	≤ 10.0%	4.1%	✓
Counter-ion content	HPLC	Acetate salt (report)	11.4% (acetate)	✓
Total related substances	RP-HPLC	≤ 2.0%	0.80%	✓
Largest single impurity	RP-HPLC	≤ 1.0%	0.74%	✓
Residual solvent — Acetonitrile	GC-HS	≤ 410 ppm	< 410 ppm	✓
Residual solvent — DCM	GC-HS	≤ 600 ppm	< 600 ppm	✓
Residual solvent — DMF	GC-HS	≤ 880 ppm	< 880 ppm	✓
Bacterial endotoxins	LAL kinetic turbidimetric	< 5 EU/mg	< 0.5 EU/mg	✓
Bioburden	USP <61>	< 100 CFU/g (USP <61>)	< 10 CFU/g	✓

HPLC chromatogram

RP-HPLC C18

UV detection at 220 nm — gradient 10–70% ACN in 0.1% TFA over 30 min — flow 1.0 mL/min

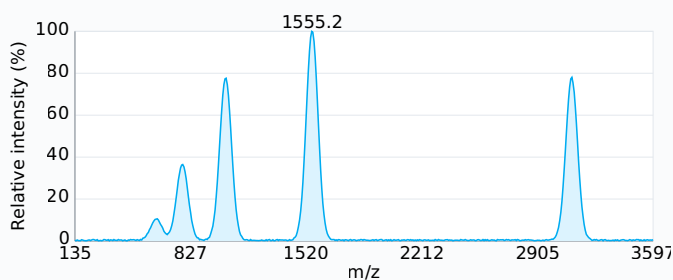


Main peak RT 19.59 min · Area 99.20% · Largest imp 0.74% · Total related 0.80%

Mass spectrum

ESI-MS positive

Electrospray ionisation — positive mode

Observed [M+2H]²⁺ 1555.2 · MW 3108.32 g/mol

✓ Overall result: Conforms to specification

Results relate only to the batch tested, by the stated methods at time of release, and are provided in good faith without warranty — OP Labs does not guarantee the accuracy or completeness of the results. Storage figures are recommendations, not stability data. Research use only.