

# Certificate of Analysis

## Product Information

**Product Name:** Thymalin (Thymic peptide complex)  
**CAS Number:** 63958-90-7  
**Molecular Formula:** C38H62N12O12 (for thymalin octapeptide as representative)  
**Molecular Weight:** ~ 851.9 g/mol (for thymalin)  
**Appearance:** White to off-white lyophilized powder

## Batch Information

**Batch / Lot Number:** THY-2025-002  
**Quantity:** 100mg  
**Date of Manufacture:** 02-Sep-2025  
**Retest Date:** 02-Sep-2027  
**Storage Conditions:** -20 °C, dry and protected from light

## Analytical Results

Test	Specification	Result	Method
Identity (Mass Spectrometry)	Consistent with theoretical mass (~852 Da)	852.1 Da (M+H)+	ESI-MS
Purity (HPLC)	≥ 98.0 % (by area)	99.2 %	RP-HPLC
Sequence Confirmation	As per thymalin peptide sequence	Confirmed	MS/MS, Edman degradation
Appearance	White to off-white lyophilized powder	White powder	Visual
Solubility	Soluble in sterile water (≥1 mg/mL)	Pass	Visual
Residual Solvent (if applicable)	≤ 0.5 %	<0.2 %	GC
Water Content (Karl Fischer)	≤ 5.0 %	2.5 %	KF titration
Acetate Content	Report only	4.8 %	Ion chromatography
Peptide Content	≥70 %	75 %	Nitrogen analysis
Endotoxin	< 0.25 EU/mg	0.09 EU/mg	LAL test
Microbial Limit Test	<100 CFU/g, no pathogens	Pass	USP <61>/<62>

## Compliance Statement

The above batch of **Thymalin** complies with the stated specifications.  
This batch of **Thymalin** meets all specified analytical and microbiological criteria and is suitable for **research use only**. Manufactured and tested under controlled conditions to ensure consistency, purity, and integrity.