

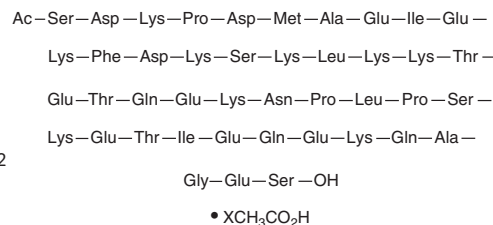
PRODUCT INFORMATION



Thymosin β 4 (human, mouse, rat, porcine, bovine) (acetate)

Item No. 28605

Formal Name: N-acetyl-L-seryl-L- α -aspartyl-L-lysyl-L-prolyl-L- α -aspartyl-L-methionyl-L-alanyl-L- α -glutamyl-L-isoleucyl-L- α -glutamyl-L-lysyl-L-phenylalanyl-L- α -aspartyl-L-lysyl-L-seryl-L-lysyl-L-leucyl-L-lysyl-L-lysyl-L-threonyl-L- α -glutamyl-L-threonyl-L-glutamyl-L- α -glutamyl-L-lysyl-L-asparaginyl-L-prolyl-L-leucyl-L-prolyl-L-seryl-L-lysyl-L- α -glutamyl-L-threonyl-L-isoleucyl-L- α -glutamyl-L-glutamyl-L- α -glutamyl-L-lysyl-L-glutamyl-L-alanyl-L-lysyl-L- α -glutamyl-L-serine, acetate



Synonym: Ac-SDKPDMAEIEKFDKSKLKKKTETQEKNPLSKETIEQEKGAGES-NH₂

MF: C₂₁₂H₃₅₀N₅₆O₇₈S • XC₂H₄O₂

FW: 4,963.4

Purity: \geq 95%

Supplied as: A crystalline solid

Storage: -20°C

Stability: \geq 4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Thymosin β 4 (human, mouse, rat, porcine, bovine) (acetate) is supplied as a crystalline solid. Aqueous solutions of thymosin β 4 (human, mouse, rat, porcine, bovine) (acetate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of thymosin β 4 (human, mouse, rat, porcine, bovine) (acetate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Thymosin β 4 is an actin-sequestering peptide that has wound healing and anti-inflammatory activities.¹⁻³ It regulates cytoskeletal rearrangement by binding to actin (K_d s = 0.7 and 2.1 μ M for human platelets and rabbit muscle, respectively) and inhibiting the polymerization of actin monomers.¹ Thymosin β 4 increases *in vitro* migration of human umbilical vein endothelial cells (HUVECs), keratinocytes, and coronary artery endothelial cells, but not fibroblasts, actin smooth muscle cells, neutrophils, monocytes, or HT-1080 fibrosarcoma cells, when used at concentrations ranging from 0.001 to 1 μ g/ml.^{2,4} It increases gap closure and reduces wound width in a rat full-thickness cutaneous wound model when administered at a dose of 60 μ g.² Thymosin β 4 (1 μ g/ml) inhibits TNF- α -induced NF- κ B phosphorylation and nuclear translocation in immortalized human corneal epithelial cells and decreases the expression of chemokine (C-X-C motif) ligand 1 (CXCL1), CXCL2, matrix metalloproteinase-9 (MMP-9), and MMP-2 in the cornea in a mouse model of sodium hydroxide-induced corneal injury when administered at a dose of 5 μ g.³

References

1. Weber, A., Nachmias, V.T., Pennise, C.R., *et al.* *Biochemistry* **31**(27), 6179-6185 (1992).
2. Malinda, K.M., Sidhu, G.S., Mani, H., *et al.* *J. Invest. Dermatol.* **113**(3), 364-368 (1999).
3. Sosne, G., Qiu, P., Christopherson, P.L., *et al.* *Exp. Eye Res.* **84**(4), 663-669 (2007).
4. Malinda, K.M., Goldstein, A.L., and Kleinman, H.K. *FASEB J.* **11**(6), 474-481 (1997).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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