

## Thymosin 4

**Description:**Thymosin b4 is a 43 amino acid peptide which is regarded as the main intracellular G-actin sequestering peptide.It has a molecular weight of 4963.55 Da, and its molecular formula is: C<sub>212</sub>H<sub>350</sub>N<sub>56</sub>O<sub>78</sub>S<sub>1</sub>. Extracellular Thymosin b4 may contribute to physiological processes such as angiogenesis, wound healing, and regulation of inflammation.Thymosin b4 has an a.a. sequence of

Ac-Ser-Asp-Lys-Pro-Asp-Met-Ala-Glu-Ile-Glu-Lys-Phe-Asp-Lys-Ser-Lys-Leu-Lys-Lys-Thr-Glu-Thr-Gln-Glu-Lys-Asn-Pro-Leu-Pro-Ser-Lys-Glu-Thr-Ile-Glu-Gln-Glu-Lys-Gln-Ala-Gly-Glu-Ser-OH.

Catalog #:HOPS-282

For research use only.

**Synonyms:**Thymosin beta-4, T beta 4, Fx , TB4X, PTMB4, TMSB4.

**Physical Appearance:**Sterile Filtered White lyophilized (freeze-dried) powder.

**Purity:**Greater than 98.0% as determined by RP-HPLC.

**Formulation:**

The protein (1 mg/ml) was lyophilized with no additives.

**Stability:**

Lyophilized Thymosin b4 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution T beta 4 should be stored at 4°C between 2-7 days and for future use below -18°C.For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).Please prevent freeze-thaw cycles.

**Usage:**

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

**Solubility:**

It is recommended to reconstitute the lyophilized Thymosin beta-4 in sterile 18M-cm H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**Introduction:**

Thymosin is a hormone secreted from the thymus. Its primary function is to stimulate the production of T cells, which are an important part of the immune system.Thymosin also assists in the development of B cells to plasma cells to produce antibodies.The predominant form of thymosin, thymosin b4, is a member of a highly conserved family of actin monomer-sequestering proteins. b-thymosins are the primary regulators of unpolymerized actin, and are essential for maintaining the small cytoplasmic pool of free G-actin monomers required for rapid filament elongation and allowing for the flux of monomers between the thymosin-bound pool and F-actin.

**References:**

Title: Regenerative protein thymosin -4 is a novel regulator of purinergic signaling.Publication: Published online before printNovember 24, 2010, doi:10.1096/fj.10-169417March 2011The FASEB Journalvol. 25no. 3907-915.Link: <http://www.fasebj.org/content/25/3/907.full.pdf+html>

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