

RayBiotech, Inc.

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Certificate of Analysis and Data Sheet

Thymosin-b4

Catalog No.
228-11510

Source:
Escherichia Coli

Synonyms

Thymosin beta-4, T beta 4, Fx , TB4X, PTMB4, TMSB4.

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.

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: $C_{212}H_{350}N_{56}O_{78}S_1$. 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.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

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

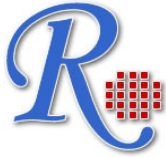
Solubility

It is recommended to reconstitute the lyophilized Thymosin beta-4 in sterile 18MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Purity

Greater than 98.0% as determined by RP-HPLC.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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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.

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