



Product Data Sheet

Cat # RP-1499

Thymosin-b4

Size: 1 mg

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 β_4 , is a member of a highly conserved family of actin monomer-sequestering proteins. β -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.

Usage: This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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Source: Thymosin β_4 is a 43 amino acid peptide which is regarded as the main intracellular G-actin sequestering peptide. It has a molecular weight of 4963.49 Da, and its molecular formula is: $C_{212}H_{350}N_{56}O_{78}S_1$. Extracellular Thymosin β_4 may contribute to physiological processes such as angiogenesis, wound healing, and regulation of inflammation. The protein (1 mg/ml) was lyophilized with no additives.

Application and Suggested Dilution: It is recommended to reconstitute the lyophilized Thymosin beta-4 in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions. Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE. Users must optimize concentration and conditions for each assay.

Storage and Stability: Lyophilized Thymosin β_4 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.** If supplied in powder then reconstitute it in 100 μ l water for 1 mg/ml stock and store in liquid at 4°C for ~1 week or aliquots in suitable size and store at -20°C for long term storage.