10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Recombinant Human Thymosin-β4
Catalog # PBG10445

Specification

Recombinant Human Thymosin-β4 - Product Information

Recombinant Human Thymosin-β4 - Additional Information

Description
Thymosin-β4 is a small, actin-sequestering protein belonging to the thymosin-β family that is found at high concentrations within the spleen, thymus, and peritoneal macrophages, where it is most notably responsible for the organization of cytoskeletal structure. In mammalian tissues, this protein acts as a modulator for the polymerization/depolymerization of actin through the formation of a 1:1 complex with the monomer G (globular)-actin, and inhibits actin's polymerization to form F (filamentous) actin, which together with other proteins binds microfilaments to construct the cytoskeleton. Commonly found at significant quantities within the brain, lungs, liver, kidneys, testes, and heart, Thymosin-β4 has also been shown to be synthesized by cells unrelated to the reticuloendothelial system, such as myoblasts and fibroblasts, and expressed at irregular levels by several hemopoietic cell lines, malignant lymphoid cells and myeloma cells. In addition to regulating actin polymerization, research has also found Thymosin-β4 to stimulate the secretion of hypothalamic luteinizing hormone-releasing hormone and luteinizing hormone, inhibit the migration of peritoneal macrophages, induce phenotypic changes in T cell lines during early host defense mechanisms, and inhibit the progression of hematopoietic pluripotent stem cells into the s-phase. Recombinant Human Thymosin-β4 is a 5.2 kDa glycoprotein containing 45 amino acid residues.

BiologicalActivity
Pretreatment of primary lung fibroblasts with recombinant Thymosin-β4, using a concentration of 0.5 - 10 µg/ml, produces a protective effect against hydrogen peroxide induced cell death.

Authenticity
Verified by N-terminal and Mass Spectrometry analyses (when applicable).

Endotoxin
Endotoxin level is <0.1 ng/ µg of protein (<1EU/ µg).

Protein Content
Verified by UV Spectroscopy and/or SDS-PAGE gel.

Storage
-20°C

Precautions
Recombinant Human Thymosin-β4 is for research use only and not for use in diagnostic or therapeutic procedures.

Recombinant Human Thymosin-β4 - Protocols

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Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Recombinant Human Thymosin-β4 - Images