TB-500

Thymosin Beta-4 Analog | Actin-Binding Peptide | Cellular Migration Modulator

COMPOUND OVERVIEW

TB-500 is a synthetic analog of Thymosin Beta-4 (Tb4), a naturally occurring protein expressed in most mammalian cells. It corresponds to the active actin-binding domain of the full-length protein. Its relatively low molecular weight allows distribution through tissue compartments that larger proteins cannot easily access.

MECHANISM OF ACTION

TB-500 sequesters G-actin monomers, modulating actin polymerisation dynamics critical for cell migration. This facilitates movement of endothelial and repair cells toward injury sites. Downstream effects include angiogenesis, inflammatory cytokine modulation, and extracellular matrix remodelling in studied models.

RESEARCH APPLICATIONS

- Actin regulation and cellular migration studies
- Angiogenesis and endothelial repair models
- Inflammatory cytokine modulation research
- Extracellular matrix remodelling studies

EVIDENCE STATUS & KNOWN LIMITATIONS

> ***Evidence Status:*** *Thymosin Beta-4 has been studied in wound healing and cardiac repair in animal models and limited human pilot studies. TB-500 as a synthetic analog of the actin-binding domain has less direct clinical trial data than the full protein. Researchers should distinguish carefully between Tb4 literature and TB-500 specific studies.*

ANALYTICAL & STORAGE DATA

PURITY	**>99.7% by HPLC/MS**	PHYSICAL FORM	**Lyophilised White Powder**
STORAGE	**2-8 C. Avoid light, agitation.**	SENSITIVITY	**Light and mechanical stress**
RECONSTITUTION	**Bacteriostatic Water (USP)**	BATCH DOCS	**Available on Request**

RECONSTITUTION NOTE

TB-500 is sensitive to mechanical agitation. Introduce reconstitution solvent very slowly against the interior vial wall. Do not shake or vortex. Allow complete dissolution at rest. Refrigerate immediately post-reconstitution.

REGULATORY CLASSIFICATION: All BioUnfolding compounds are strictly intended for laboratory evaluation and in-vitro analysis. These materials are not intended for human consumption, veterinary use, or therapeutic application. Researchers are solely responsible for compliance with applicable local regulations including SAHPRA guidelines.

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