CAS 77591-33-4 Thymosin Beta 4 TB4 Peptide Acetate White Powder For Wound Healing

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Hongbaiyi
- Certification: COA, HPLC MR
- Model Number: HBY-TB500
- Minimum Order Quantity: 5 boxes
- Price: Negotiable
- Packaging Details: 5mg/vial, 10vials/box
- Delivery Time: 3-5 work days after your payment
- Payment Terms: MoneyGram, Western Union, T/T
- Supply Ability: 20,000boxes/Month

Product Specification

- Product: Thymosin Beta 4(TB4) Acetate
- Appearance: White Powder
- Specification: 5mg/vial, 10vials/box
- Purity: >99%
- CAS NO.: 77591-33-4
- Grade: Medicine Grade
- MW: 4963.49
- MF: C212h350n56o78S
- Highlight: **Wound Healing Thymosin Beta 4 Peptide**, **Thymosin Beta 4 Peptide CAS 77591-33-4**

More Images

Our Product Introduction

for more products please visit us on peptide-powder.com

Product Description

CAS 77591-33-4 Thymosin Beta 4(TB4) Acetate White Powder For Wound Healing

Basic Information Form Of Thymosin Beta 4(TB4) Acetate

Item	Thymosin Beta 4 Acetate
Cas No.	77591-33-4
Purity	99%
Appearance	White powder
MF	C212h350n56o78s
Molecular Weight	4963.49
Attention Terms	Store at -20°C

What is Thymosin Beta 4 Acetate?
TB-500 is a synthetic form of Thymopeptide beta-4 (TB4), an endogenous human polypeptide consisting of 43 amino acids that are found in virtually all cells in the human body, especially platelets and leukocytes.TB4 was first isolated from a bovine thymus extract by Low and Goldstein in 1981.

The synthetic version, TB-500, has not been approved for human use and is only available as a research chemical. It was first produced for veterinary use in the early 2010s.TB-500 has been used as a racehorse stimulant and has existed continuously banned for providing an unfair advantage in the mark of horse racing.

Thymosin beta-4 and its derivatives, including TB-500, are also prohibited by the World Anti-Doping Agency (WADA) and are therefore prohibited for use by competitive athletes subject to the World Anti-Doping Code and similar national and regional regulatory authorities.

Nonetheless, TB-500 is being actively studied for its potential effects on cell migration and tissue repair, neovascularization, stem cell maturation, survival of various cell types, and anti-inflammatory effects.

TB-500 and thymosin beta-4 have low oral bioavailability and are therefore only administered by injection in an experimental setting. However, a natural fragment of Thymopeptide beta-4, N-acetylserinyl-aspartyl-lysinyl-proline (Ac-SDKP), is an orally active peptide that is thought to have similar antifibrotic, anti-inflammatory, and angiogenic properties, as well as effects on wound healing, cell migration, and survival.

It has been studied as an inhibitor of hematopoietic stem cell proliferation and as a chemoprotective agent. Researchers may find that innovative TB-500 capsule formulations for tissue repair and restoration contain TB-500 fragments.

What does Thymosin Beta 4 Acetate do?
The mechanism of action of TB-500 is still being studied, but scientists have gained some insight into how its natural counterpart, thymosin beta-4, works.

Thymosin beta-4 appears to be an actin-binding protein that inhibits the polymerization of globular actin (G-actin) into filamentous actin (F-actin). This process, known as actin chelation, leads to upregulation of G-actin levels.

Actin is a major component of the cellular cytoskeleton, providing structural support for the cell and participating in a variety of cellular processes, including cell motility. Thymosin beta-4 appears to bind to actin primarily (but not exclusively) through its central actin-binding domain (aa 17-23), also known as Ac-LKKTETQ.

Blockage of F actin polymerization by thymosin beta-4 alters the cytoskeleton of the cell, thereby affecting the ability of the cell to move and change shape. This process has implications for a variety of physiological and pathological processes that are critical for cell movement, such as wound healing, tissue regeneration, and cancer metastasis.

In addition, thymosin beta-4 is found in extracellular (outside the cell) plasma or wound fluid. Studies on vascular cells suggest that extracellular thymosin beta-4 application may also regulate processes such as cell motility and angiogenesis. It has been found that thymosin beta-4 may act extracellularly by interacting with ATP synthase, a cellular enzyme involved in cellular energy production, located on the cell surface. Extracellular Thymopeptide beta-4 may also be oxidized at sites of inflammation to Thymopeptide beta-4 sulfoxide, which is thought to have potent anti-inflammatory properties.

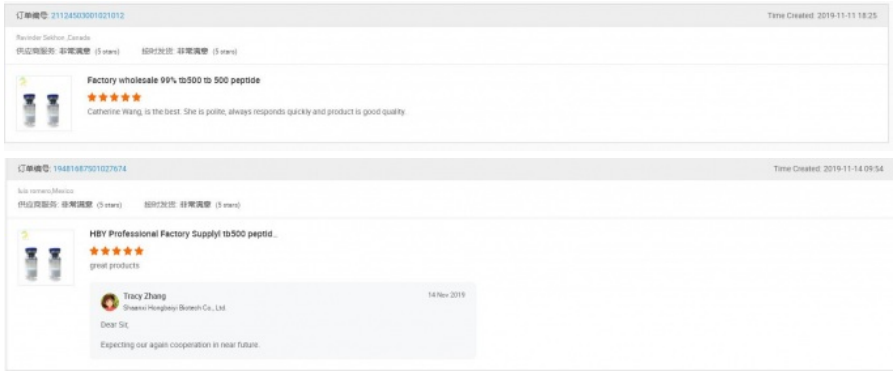
Thymopeptide beta-4 may also reduce inflammation by increasing the expression of microRNA-146a (miR-146a), which is thought to reduce the expression of two pro-inflammatory cytokines known as L-1 receptor-associated kinase 1 (IRAK1) and tumor necrosis factor receptor-related factor 6 (TRAF6).

Product Image Of Thymosin Beta 4(TB4) Acetate

Function Of Thymosin Beta 4(TB4) Acetate

- Angiogenesis in dermal tissue (growth of new blood cells from existing blood vessels)
- Reduces inflammation in joint tissues
- Promotes muscle growth, significantly increasing endurance and strength.

- Relieves muscle spasms and improves muscle tone
- Increases intercellular exchange of substances
- Stretches connective tissue to help maintain flexibility
- Prevents the formation of adhesions and fibrous bands in muscles, tendons and ligaments.



Hengjia Business Building, No.115 Weiyang Road, E&T Development Zone, Xi'an, Shaanxi, China.