



FREE GUIDE



# BPC-157 & TB-500 THE HEALING PEPTIDES

**ANIMAL STUDIES · FIRST HUMAN DATA · NEW TRIALS**

No peptides are talked about more online. Here is what the research found for tendons, muscle and the gut – and the controlled human trials that have now been registered.

**@PEPTILEX**

From the book Peptilex – The Peptide Encyclopedia

## THE BIG PICTURE

# WHAT HEALING TISSUE NEEDS

Both peptides were studied for the same reason: in the lab and in animals they act on the key steps of tissue repair. BPC-157 is a synthetic 15-amino-acid chain derived from a protein in gastric juice. Thymosin beta-4 is a natural 43-amino-acid protein found in almost every human cell; 'TB-500' usually means a short synthetic fragment of it.

### 1 NEW VESSELS BLOOD SUPPLY

Both promoted the growth of new blood vessels (angiogenesis) in lab and animal studies.

### 2 REPAIR CELLS MIGRATION

They helped repair cells move into the injury – tendon cells for BPC-157, many cell types for thymosin beta-4.

### 3 INFLAMMATION CALMING SIGNALS

Thymosin beta-4 dampened inflammation; BPC-157 interacted with the nitric oxide and growth-factor systems.

## NEW VESSELS + REPAIR CELLS + INFLAMMATION = THE KEY STEPS OF REPAIR

*Better blood supply plus activated repair cells is exactly what healing tissue needs – which is why researchers have tested BPC-157 in so many injury models, from tendons to the gut lining.*

## THREE NAMES, THREE MOLECULES

### BPC-157 15 AMINO ACIDS

Synthetic, derived from a gastric-juice protein

### THYMOSIN BETA-4 43 AMINO ACIDS

Natural, found in almost every human cell

### TB-500 SHORT FRAGMENT

Synthetic piece of thymosin beta-4

THE RESULTS

# WHAT THE STUDIES FOUND

THYMOSIN BETA-4 EYE DROPS · SEER-1 PHASE 3 · COMPLETE HEALING OF A CORNEAL DEFECT

SEER-1 · Int J Mol Sci 2022  
Neurotrophic keratopathy · 18 patients



|           |                                                                                                                           |
|-----------|---------------------------------------------------------------------------------------------------------------------------|
| 100+      | rat and mouse studies on BPC-157 report faster healing of tendons, ligaments, muscle, bone and the gut lining             |
| 2011–2017 | independent teams in Taiwan confirmed tendon-cell migration and restored blood flow in ischemic muscle (VEGFR2 pathway)   |
| 10 OF 12  | women with treatment-resistant interstitial cystitis reported complete symptom relief in a small, uncontrolled 2024 pilot |
| 14 OF 16  | people treated for knee pain reported relief in a retrospective survey (2021)                                             |

Sources: Sosne G et al., Int J Mol Sci 2022 (SEER-1); Chang CH et al., J Appl Physiol 2011; Hsieh MJ et al., J Mol Med 2017; Lee E et al., Altern Ther Health Med 2021 and 2024; Sikiric P et al., reviews 1993–2025.

## WHAT COMES NEXT

# THE TRIALS TO WATCH



LATE 2026

## SEER-2

Global phase 3 trial of thymosin beta-4 eye drops, about 70 patients (NCT05555589).



2027

## BPC-157 · HAMSTRING

First randomized, placebo-controlled phase 2 trial: 120 people with acute hamstring strain (NCT07437547).



2027

## BPC-157 · SHOULDER

Randomized trial after rotator cuff surgery, University of Arkansas (NCT07803250).

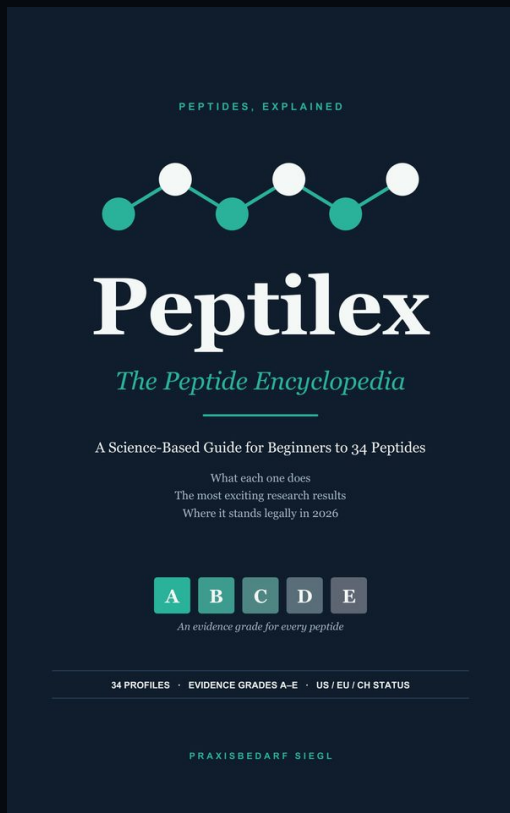
No serious side effects were reported in the small human reports so far; the full profile will come from controlled trials. Status: not approved as medicines in the US, EU or Switzerland; both are on the WADA Prohibited List.

## THE OPEN QUESTIONS — ANSWERED IN THE BOOK

- ? Why does almost all BPC-157 research come from one lab in Zagreb – and what did the independent teams find?
- ? 'TB-500' and thymosin beta-4 are not the same thing – why that matters.
- ? The theoretical tumor question researchers raise about vessel-growth signals – and what is known.
- ? KPV and the other repair peptides in the same chapter: what the animal studies show.

PEPTILEX — THE PEPTIDE ENCYCLOPEDIA · CHAPTER 10

# 34 PEPTIDES. ONE BOOK.



## PEPTILEX THE PEPTIDE ENCYCLOPEDIA

BPC-157 and TB-500 are two of 34 peptides in the book – with the full key-study lists, the A–E grade and the open questions.

- What each peptide is and how it is thought to work
- The most exciting results – cells, animals and people
- 2–4 key studies per profile, with sources
- A–E evidence grade and status in the US, EU and Switzerland
- Known risks and the open questions research is chasing

KINDLE

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HARDCOVER

[amazon.com](https://amazon.com)

## FOLLOW THE TRIALS EVERY WEEK

The free Peptilex study tracker lists the registered trials and newest papers, updated weekly:  
[peptilex.com/tracker/bpc-157.html](https://peptilex.com/tracker/bpc-157.html)

Important: This guide is for general education only. It is not medical advice and does not recommend any substance, dose or treatment. Results from cells or animals do not show that a substance works or is safe in people. Talk to your doctor before making health decisions. Sources: Peptilex – The Peptide Encyclopedia (2026) and the studies named. Created with AI assistance and editorial review. © 2026 Praxisbedarf Siegl.