LONGEVITY SCIENCE · PLAIN-ENGLISH GUIDE · 2026 EDITION

BPC-157: the repair signal your stomach makes.

BPC-157 is a fifteen-amino-acid fragment of a protein found in human stomach juice, which is why it was named Body Protection Compound. It is the most talked-about peptide in sports injury circles, and it earned that on the back of more than two decades of animal studies in which it sped the healing of cut tendons, torn ligaments, crushed muscle and damaged gut. It is also the peptide with the widest gap between the hype and the human evidence, which is close to zero. This guide explains what it does, what has actually been shown, and how people use it.

THINK OF IT LIKE THIS

When you tear a tendon, the repair crew shows up slowly and the site is starved: tendon has almost no blood supply of its own. BPC-157, in the animal work, does two things at once. It tells the repair cells, the fibroblasts, to move into the damage faster and survive there, and it tells the body to grow new small blood vessels into the site to feed them. Think of it as opening a road into a town that had been cut off, and sending the builders down it. That is why the imagery in this reel is blood flow returning to pale, starved tissue.

This may be for you if...

- You have a tendon, ligament or muscle injury that keeps coming back every time you train hard
- You have already done the boring things: rest, loading, physio, sleep, protein
- You accept that you are acting on animal data and one handful of case reports, not trials
- You will keep a pain and function log, because placebo is powerful with injuries

This probably is not for you if...

- You are pregnant, breastfeeding, or under eighteen
- You have an active cancer or are being investigated for one; it grows new blood vessels, and tumours love those
- You compete in tested sport; it is on the World Anti-Doping Agency prohibited list
- You expect a drug-grade product; the FDA moved it off the compounding list in 2023, so it exists only as a research chemical

EVIDENCE AT A GLANCE

More than two decades of consistent rat and mouse studies from one main lab, with real mechanisms identified. In people: no randomised trial, a two-person safety pilot, and a twelve-patient retrospective knee series. No regulator has approved it.

A fragment of a stomach protein that tells tissue to rebuild.

Your stomach lining makes a protective protein. BPC-157 is a fifteen-amino-acid piece of it, first described by a research group in Zagreb in the early 1990s. Unusually for a peptide it is stable in stomach acid, which is why it is also taken by mouth for gut problems, and why the group went looking for what else it protected.

What they found, in animals, was healing almost everywhere they cut: tendon, ligament, muscle, bone, gut lining, even nerve. Later cell work showed how. It switches tendon cells into a migrating, surviving, building mode, turns up the receptor for growth hormone on those cells, and drives the growth of new blood vessels into injured tissue.

WHAT IT DOES, STEP BY STEP

STEP 1 · MOBILISE

Repair cells move in and survive

Tendon fibroblasts migrate into the damage faster and survive oxidative stress better, through a signalling path called FAK-paxillin.

STEP 2 · SUPPLY

New blood vessels grow in

It activates the VEGF receptor on vessel walls, so capillaries sprout into tissue that was cut off from blood.

STEP 3 · AMPLIFY

Growth signals land harder

It increases the growth hormone receptor on tendon cells, so the body's own repair hormone has more to act on.

WHY IT IS THE INJURY PEPTIDE

Tendon and ligament heal slowly because they are pale tissue: little blood, few cells, a lot of collagen. Anything that sends cells and blood into that tissue would be expected to speed healing, and in rats that is exactly what happens. The catch is that rats heal a cut Achilles in weeks anyway, and nobody has run the same experiment in a person.

THREE THINGS WORTH KNOWING

- **Stable in stomach acid.** Most peptides are digested in minutes; this one survives, which is why capsules exist and why it is used for gut lining and ulcer research.
- **One main lab.** The overwhelming majority of the animal studies come from the same Croatian research group. Independent replication is thin.
- **Regulators have noticed.** In September 2023 the FDA listed it as unsuitable for compounding, citing safety unknowns; WADA has banned it in sport since 2022.

BPC-157 NEXT TO TWO THINGS IT GETS COMPARED WITH

	BPC-157	GHK-CU	LOADING REHAB
Where it acts	Cells and blood supply at the injury	Collagen and skin repair	The tendon itself, mechanically
Human evidence	Case reports only	Small trials, topical	Decades of trials
Best use	Tendon, ligament, gut	Skin, wounds	Every tendon injury, first

PLAIN-ENGLISH NOTE

If you are injured, the thing with human trials behind it is progressive loading with a physio. BPC-157 is what people add when that has stalled. Do not let it replace the rehab; in the animal studies the healed tendons were still loaded.

Two decades of rat studies, and almost nothing in people.

The BPC-157 literature is large, consistent and almost entirely animal. Here is the shape of it, honestly sized, including the two human data points that exist.

35+

animal studies of tendon and ligament healing

Cut Achilles tendons, torn knee ligaments and crushed muscle in rats healed faster and stronger with BPC-157, in study after study, mostly from one lab.

0

randomised human trials

None published. Everything you read about people is case series, forum reports or clinic marketing.

12

knee patients in the one published human series

A retrospective report of intra-articular injections for knee pain: eleven of twelve improved. No control group, no blinding, no follow-up trial.

2

people in the only safety pilot

A first-in-human safety pilot with two participants. That is the entire controlled human safety record.

What we know

- In rats, it speeds healing of cut tendons, torn ligaments, crushed muscle and damaged gut, and the repaired tissue is stronger
- In cells, it drives fibroblast migration and survival, raises the growth hormone receptor, and switches on vessel growth
- It is stable by mouth and protects the gut lining in animals given ulcer-causing drugs
- It is on the WADA prohibited list, and the FDA excluded it from compounding in 2023

What we are still learning

- Whether any of the animal healing happens in people at any dose
- The right dose, route and course; the 250 to 500 microgram protocols come from forums, not from studies
- Long-term safety, especially around blood vessel growth in anyone with a hidden tumour
- How much of the injected peptide even reaches a tendon, versus acting through the gut and nervous system

WHAT THE STUDIES ACTUALLY LOOKED LIKE

STUDY	WHO	WHAT THEY DID	RESULT
Tendon healing, 2010s	Rats with a cut Achilles	Daily injections, weeks	Faster, stronger healing; cells migrated and survived better
Ligament and muscle, 2000s	Rats with torn ligaments and crushed muscle	Injections or oral dosing	Faster functional recovery, new vessels in the injury
Knee series, 2021	12 people with knee pain	Intra-articular injections	11 of 12 improved; retrospective, no control
Safety pilot	2 healthy adults	Single dose	No safety signal in two people

MY HONEST TAKE

I understand why people reach for this one: the animal data is unusually consistent and the mechanism makes sense. I also have to be plain that a rat healing a cut tendon in three weeks tells you little about a forty-year-old's chronic tendinopathy, and that the human evidence is a dozen uncontrolled knees. If you use it, run it as an experiment alongside real rehab, with a log, and stop if nothing has moved in eight weeks.

Daily, near the injury, alongside rehab, with a log.

There is no human dosing study. The protocols below are what the research community has settled on, scaled loosely from the animal work. The vendor sells 6, 10 and 20 mg vials plus capsules; the guide assumes 10 mg vials, so check the size you buy and adjust the maths if it differs. Capsules are what people use for gut goals.

COURSE	DOSE	WHAT YOU NEED	WHAT TO EXPECT
Starter 4 weeks	250 micrograms under the skin, once daily, as close to the injury as is comfortable	**1 × 10 mg vial**	Enough to learn how you respond. Most feel nothing at the site; some report the injury feeling warmer and less stiff by week two.
Standard 6 weeks	500 micrograms daily, or 250 twice a day, near the injury	**3 × 10 mg vials**	The most common course. Judge it with the log on page 7: morning pain, pain after use, and what you could do in training.
Full course 8 weeks	500 micrograms daily, then four weeks off	**3 × 10 mg vials**	The longest run that makes sense before a break. If the log has not moved by week eight, the peptide is not the answer for this injury.

Which one? Start with the starter unless you have used it before. Inject as close to the injury as you comfortably can; the animal work suggests local matters, though it also works systemically. Never use it instead of loading the tendon; use it alongside.

HOW TO USE IT, IN FOUR STEPS

01 **Mix.** Add 2 mL of bacteriostatic water to a 10 mg vial, slowly, down the side of the glass. Swirl, never shake. That gives 5 mg per mL, so 250 micrograms is 5 units on an insulin syringe.

02 **Inject.** Under the skin near the injury, or in the belly if the site is awkward. Rotate spots. A brief sting is normal.

03 **Time it.** Any time of day, consistently. Many people dose after their rehab session so the tissue has just been loaded.

04 **Store.** Sealed vials in the fridge or freezer. A mixed vial in the fridge, used within four weeks. Clear is right; cloudy means discard it.

DOSE TO UNITS

DOSE	DRAW
250 mcg	**5 units**
500 mcg	**10 units**
1 mg	**20 units**

At 5 mg per mL, a 10 mg vial mixed with 2 mL of water. With 1 mL of water every draw halves: 500 micrograms becomes 5 units.

COMMON QUESTIONS

Should I take the capsules instead?

For gut problems, the capsules are the sensible route: it survives stomach acid and that is where the gut studies used it. For a tendon, injection near the site is what the community does.

Can I stack it with TB-500?

It is the most common stack and there is no study of the pair. Run one at a time first so you know what did what.

Will it fix an old, chronic injury?

The animal studies are acute injuries healed fresh. Chronic tendinopathy is a different biology. Some people report help; nobody has measured it.

No human dosing trial exists. These regimens reflect research-market practice, not a clinical protocol. Not a prescription. Talk to your doctor first, especially if you have any history of cancer or take blood-pressure medication.

Read this page before you order anything.

In animals BPC-157 looks remarkably safe. In people the honest answer is that nobody has looked properly, and its main mechanism, growing new blood vessels, is exactly the one you do not want near a tumour. Read both lists honestly.

Do not use this if...

- You are pregnant, breastfeeding, trying to conceive, or under eighteen
- You have an active cancer, a history of cancer, or are being investigated for one
- You compete in tested sport; it is on the WADA prohibited list
- You have had an allergic reaction to a peptide before
- You cannot get a certificate showing identity by mass spectrometry for the vial in your hand

Be cautious, and talk to your doctor first, if...

- You take blood-pressure medication; it acts on the nitric oxide system and can move blood pressure either way
- You have a bleeding disorder or take blood thinners; new vessels bleed more easily
- You have diabetic eye disease; new vessel growth is the problem there
- You have kidney or liver disease; nobody knows how it is cleared in people
- You plan to use it for months; the animal courses were weeks, not seasons

Stop and get medical help if...

- Dizziness, fainting or a racing heart after a dose
- Hives, swelling of the face or throat, or trouble breathing
- Spreading redness, heat or a hard lump at an injection site
- Persistent nausea, headache or a feeling of being unwell that arrived with the peptide
- Any new lump anywhere; get it checked before you continue

Common, and usually mild

- A sting or small red spot at the injection site; rotate sites
- Mild nausea or a headache in the first days, usually gone within a week
- A warm, tight feeling at the injury site in the first week
- Nothing at all. Subtle is normal, which is why the log matters

BEFORE YOU START

- ☐ Log a baseline: morning pain 0 to 10, pain after use, and what the injury stops you doing
- ☐ Book the physio if you have not; the peptide is an add-on, not the plan
- ☐ Tell your doctor if you take blood-pressure medication or have any cancer history
- ☐ Read the certificate: identity by mass spectrometry and purity above 98 percent
- ☐ Decide the course length before you start, and put the end date in your calendar

These lists are drawn from the animal work, the mechanism, the FDA's 2023 review, and case reports from the research community, because no human trial exists. They are not complete, and they are not a substitute for a conversation with your own doctor.

Where I source it, and what to have in the cart.

The vendor I use lists BPC-157 as 6, 10 and 20 mg vials, plus capsules for gut goals and a spray. The vial listing was showing out of stock when this was written, so check it first. Certificate rules are the usual: identity and purity by mass spectrometry, matched to your lot.

DIRECT LINK · BPC-157 VIALS

Limitless Life · BPC-157

limitlesslifenootropics.com/product/bpc-157

Use code **PEPTIDESCIENCE** at checkout for 15 percent off. Vials in 6, 10 and 20 mg, plus capsules and a spray. The catalogue is behind a free account, so the listing appears once you sign in.

Open BPC-157 with 15% off →

01 Open the link or scan the code, and create the free account.

02 Search “BPC-157.” Pick the vial size from the table below, or the capsules for gut goals.

03 Enter the code at checkout. On arrival, match the lot number to the certificate.

limitlesslifenootropics.com

CODE PEPTIDESCIENCE · 15% OFF

Scan to open the listing with the code applied

WHAT TO ORDER FOR EACH COURSE

COURSE	ADD TO CART
Starter, 4 weeks	1 × 10 mg BPC-157 · bacteriostatic water · 30 insulin syringes (31G, 1 mL) · swabs · sharps container
Standard, 6 weeks	3 × 10 mg BPC-157 (or 20 mg + 10 mg) · bacteriostatic water · 45 insulin syringes · swabs
Full course, 8 weeks	3 × 10 mg BPC-157 · bacteriostatic water · 60 insulin syringes · swabs · a notebook for the log

TWO ROUTES WITH MORE HUMAN DATA, AND ONE THAT IS FREE

GHK-Cu · Deep dive 06

Your own copper peptide, with forty years of small human trials on skin and wound repair. Real human data.

EVIDENCE: SMALL HUMAN TRIALS

limitlesslifenootropics.com/product/ghk-cu

Collagen peptides with loading

Fifteen grams of collagen an hour before rehab increased tendon collagen synthesis in a small human trial. Cheap, oral, tested in people.

EVIDENCE: SMALL HUMAN TRIAL

Any supplement shop

Progressive loading with a physio

Eccentric and heavy slow loading are the only tendon treatments with decades of human trials. Every protocol here assumes you are doing this.

EVIDENCE: THE STRONGEST HERE

Free, and where healing actually happens

HOW TO CHECK ANY VENDOR, IN FIVE POINTS

- ☐ **A certificate for your exact batch**, with a lot number you can match to the vial in your hand. “We test” is not a certificate.
- ☐ **A named, independent lab.** Janoshik and MZ Biolabs are the ones the community trusts. An unnamed in-house lab is a red flag.
- ☐ **The right tests:** identity (is it the right molecule), quantity (how much is really in the vial), and endotoxin (is it clean). Purity alone is not enough.
- ☐ **Sensible pricing.** Far below market usually means the corner was cut inside the vial.
- ☐ **A reputation you checked yourself**, on the big peptide forums and on finnrick.com, an independent site that publishes test results and sells nothing.

06 BPC-157 · 8-WEEK INJURY LOG

Injuries lie to you. Write it down.

Fill in one row per week, the same morning each week. **AM pain:** 0 none · 10 the worst it has been, first thing. **Use pain:** 0 to 10 during or after the activity that hurts. **Swelling:** 0 none · 1 slight · 2 visible · 3 hot or tight, which needs a doctor. **Function:** the thing you could not do at week 0, and whether you can now. Print this, or screenshot it and mark it up on your phone.

Week 0
Baseline row before the first dose: both pain scores, swelling, the one movement that hurts, and the lot number.

Week 2
The first honest read. A point or two off the pain scores is noise; compare the function line.

Week 4
Starter course ends. Decide from the numbers: continue to six or eight weeks, or stop.

Week 8
Full course ends. Four weeks off. If the function line moved and holds through the break, that is the answer.

WK	DATE	DOSE + SITE	AM PAIN 0–10	USE PAIN 0–10	SWELLING 0–3	FUNCTION NOTE	NOTES
0							*Baseline. Lot number: _____*
1							*First doses. Site reaction? Nausea?*
2							*First honest comparison with week 0.*
3							
4							*Starter ends. ↻ Reorder if continuing.*
5							
6							*Standard ends. Continue or stop?*
7							
8							*Full course ends. Four weeks off from here.*

NOTES: WHAT ELSE CHANGED THIS WEEK (REHAB, TRAINING LOAD, SLEEP, OTHER COMPOUNDS)

A two-point drop in the morning pain score that holds for two weeks is signal; a wobble is noise. The function line is the real result: the stair, the sprint, the pull-up you could not do. Write down anything else you changed at the same time, because a new physio programme, sleep and a deload all move the same needle.