



2026 EDITION · FREE FOR COMMUNITY MEMBERS

THE PEPTAVERA GUIDE TO

Peptide Research

A plain-English reference to the compounds being studied across sports science, longevity and cellular research — and how to read the documentation that should come with them.

INSIDE THIS GUIDE

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About this guide

Peptide science is one of the fastest-growing areas of modern research — and one of the hardest to follow from the outside. The terminology is dense, the evidence varies enormously from compound to compound, and the quality of information online ranges from rigorous to outright invented.

This guide cuts through that. Inside you'll find a plain-English explanation of what peptides are, an honest framework for judging research evidence, a reference to the compounds most discussed today, and a practical section on reading the documentation — because knowing how to verify what you're looking at matters more than any single compound summary.

⚠ Read this first

Everything in this guide relates to compounds for **laboratory research use only**. Nothing here is medical advice, usage guidance, or a recommendation for human consumption.

Except where noted, these compounds are not approved medicines. Where licensed medicines exist in a compound class, research-grade materials are not those medicines and are not interchangeable with them. For any health matter, consult a qualified medical professional.

SECTION ONE

01. What Peptides Actually Are

Strip away the jargon and a peptide is simply a short chain of amino acids — the same building blocks that make up the proteins in every living organism.

The difference between a peptide and a protein is mostly length: a few dozen amino acids or fewer, and scientists call it a peptide; hundreds, and it's a protein.

Your body makes thousands of peptides naturally. They act as **messengers** — signalling cells to do things: release a hormone, begin a repair process, regulate appetite, manage inflammation. Insulin, one of the most important molecules in medicine, is a peptide. So is oxytocin.

Why researchers find them so interesting

Because each peptide tends to interact with particular receptors and pathways, scientists can study very precise biological questions with them. That specificity is why peptide research spans so many fields at once — from metabolic disease and tissue biology to endocrinology, dermatology and the science of ageing.

Synthetic peptides and research compounds

The compounds in this guide are **synthetic** — manufactured versions of natural peptides, fragments of them, or designed analogues (modified versions built to behave in a particular way in experiments). They are produced as reference materials for laboratory study: cell cultures, animal models, analytical work. That is the context for everything that follows.

In one sentence

Peptides are the body's signalling molecules — and synthetic versions let researchers study precise biological questions in the lab.

SECTION TWO

02. How to Judge the Evidence

The single most useful skill for following this field is knowing where a compound sits on the evidence ladder. Most overclaiming comes from treating a bottom-rung finding as if it were top-rung proof.

5

Licensed medicine

Approved by regulators after the full process. A tiny fraction of compounds ever reach here.

4

Large human trials (Phase 3)

Hundreds or thousands of participants. This is where most candidates fail.

3

Early human trials (Phase 1–2)

Small studies, mainly testing safety and basic activity in people. Promising ≠ proven.

2

Animal (preclinical) studies

How it behaves in a living system — usually rodents. Many findings never replicate in humans.

1

In vitro (cell studies)

How a compound behaves in cells in a dish. Essential starting point; says little on its own about whole organisms.

The honest headline for this field

Most compounds discussed in research-peptide circles sit on **rungs 1 and 2**. A handful have touched rung 3. One class — the GLP-1 metabolic peptides — has reached rung 5 and become some of the most significant medicines of the decade.

When you read about any compound, ask one question first: **which rung is this evidence from?** It will instantly make you a sharper reader than most of the internet.

Check it yourself

PubMed (pubmed.ncbi.nlm.nih.gov) indexes the published literature. Search a compound name plus “review” for accessible summaries — and note the dates, as this field moves quickly.

SECTION THREE

03. The Compound Reference

The compounds most actively discussed in 2026, grouped by research area. Each entry covers what it is, where the research is happening, and — honestly — how strong the evidence currently is.

TISSUE & REPAIR

BPC-157*Body Protection Compound 157***WHAT IT IS**

A synthetic peptide of 15 amino acids, based on a sequence from a protective protein found naturally in human gastric juice.

AREAS OF RESEARCH

One of the most searched research peptides in the world. Studied predominantly in preclinical models of tendon, ligament, muscle and gastrointestinal tissue biology.

STATE OF THE EVIDENCE **RUNGS 1-2**

Almost entirely cell and animal studies. Robust human trial data does not currently exist, and it is not an approved medicine anywhere. The gap between its online popularity and its human evidence base is one of the widest in the field.

TB-500*Thymosin Beta-4 fragment***WHAT IT IS**

A synthetic fragment of thymosin beta-4, a naturally occurring protein involved in cell structure, movement and repair processes.

AREAS OF RESEARCH

Studied in preclinical wound-healing, tissue-repair and cell-migration research.

STATE OF THE EVIDENCE **RUNGS 1-2**

Primarily cell and animal work. The parent protein has seen some early human research in unrelated contexts, but the research fragment itself has no established human evidence base and no licence anywhere.

GROWTH-HORMONE AXIS

CJC-1295*Modified GRF analogue***WHAT IT IS**

A synthetic analogue of growth-hormone-releasing hormone (GHRH), engineered for a longer active life in experimental settings.

AREAS OF RESEARCH

Studied in endocrine research examining growth hormone secretion and signalling.

STATE OF THE EVIDENCE **RUNG 3 EDGE**

Reached early human pharmacology studies before development stopped; it is not a licensed medicine. Most current literature is research-context only.

GROWTH-HORMONE AXIS (CONT.)

Ipamorelin

WHAT IT IS

A synthetic pentapeptide classed as a selective growth hormone secretagogue — studied for how it prompts growth hormone release.

AREAS OF RESEARCH

Endocrine and pharmacology research into growth hormone signalling pathways.

STATE OF THE EVIDENCE PRECLINICAL / EARLY

Entered clinical development decades ago; that development was discontinued and it was never licensed. Today its evidence base is primarily preclinical and early-phase historical data.

METABOLIC — THE GLP-1 CLASS

GLP-1 receptor agonists

semaglutide, tirzepatide & related

WHAT IT IS

Synthetic analogues of glucagon-like peptide-1, a natural hormone involved in appetite and blood-sugar regulation. The most clinically advanced peptide class in existence.

AREAS OF RESEARCH

Metabolic disease, obesity and appetite-regulation research, plus a rapidly expanding literature into wider applications.

STATE OF THE EVIDENCE RUNG 5 — WITH A CAVEAT

Licensed, prescription-only medicines exist in this class in the UK. **Research-grade versions are NOT those medicines:** not manufactured to pharmaceutical standards, not quality-assured for human use, and not interchangeable with prescription products. UK regulators have repeatedly warned about unlicensed versions. If this class is relevant to your health, the route is a doctor — not a research catalogue.

LONGEVITY & CELLULAR

Epithalon

Epitalon, AEDG peptide

WHAT IT IS

A synthetic four-amino-acid peptide from Russian ageing research, studied in connection with telomerase — an enzyme involved in how cells age.

AREAS OF RESEARCH

Cellular ageing and telomere biology research.

STATE OF THE EVIDENCE RUNGS 1-2

Much of the literature is decades old and concentrated in a small number of research groups. Interesting history; thin modern evidence base. Not licensed anywhere.

LONGEVITY & CELLULAR (CONT.)

MOTS-c

*Mitochondrial-derived peptide***WHAT IT IS**

A peptide encoded within mitochondrial DNA — part of a newer field examining signals that originate in the cell's energy machinery.

AREAS OF RESEARCH

Metabolism, exercise physiology and cellular-energy research.

STATE OF THE EVIDENCE RUNGS 1-2 +

Cell and animal work plus a small number of very early human studies. One of the more scientifically interesting newer areas — and a clear example of “promising but early.”

SKIN & COSMETIC SCIENCE

GHK-Cu

*Copper peptide***WHAT IT IS**

A naturally occurring copper-binding tripeptide found in human plasma, studied for decades in skin biology.

AREAS OF RESEARCH

Dermatological and cosmetic-science research; it also appears as an ingredient in topical cosmetic formulations.

STATE OF THE EVIDENCE TOPICAL BASE + PRECLINICAL

Unusually, a substantial topical/cosmetic research base exists alongside the preclinical work. As a research compound it remains exactly that.

SECTION FOUR

04. Reading the Documentation

If you take one practical skill from this guide, make it this one. In a field where anyone can put powder in a vial and a label on the front, documentation is the only honest answer to “how do I know?”

The Certificate of Analysis (CoA), line by line

Field	What it means	What to check
Identity	Confirmation the compound is what the label claims, usually via mass spectrometry	The measured mass should match the expected mass for that compound
Purity	The percentage of the sample that is the stated compound, usually by HPLC	Look for the figure <i>and</i> the method — “99%” with no method stated is a claim, not a result
Batch number	Ties the document to one specific production run	It must match the number on the vial. No match, no point
Testing lab	Who performed the analysis	Independent third-party testing carries more weight than in-house claims
Date	When the analysis was performed	Recent, and consistent with the batch's production

Red flags when evaluating any source

- ✗ No CoA available, or one “on request” that never materialises.
- ✗ CoAs with no batch numbers — a generic certificate proves nothing about your vial.
- ✗ Health claims anywhere on the site. A supplier promising outcomes while labelling products “research only” is telling you how seriously they take standards.
- ✗ Usage or dosage guidance alongside research labelling — the same contradiction, and a regulatory red flag.
- ✗ No verifiable company information, registered address or responsive contact.
- ✗ Prices dramatically below the market — analytical testing costs money; far-below pricing usually means it was skipped.

Our standard, for the record

Every compound Peptavera supplies is independently tested, batch-matched to its CoA, and documented before it reaches the catalogue. Ask us for the paperwork on anything, any time — if a supplier ever makes you feel awkward for asking, you’ve learned what you needed to know.

SECTION FIVE

05. Glossary

Peptide	A short chain of amino acids — the signalling molecules of biology.
Amino acid	The individual building blocks that link together to form peptides and proteins.
Analogue	A modified, designed version of a natural molecule, built to behave in a particular way.
Synthetic	Manufactured in a laboratory rather than extracted from a biological source.
Lyophilised	Freeze-dried — the stable powder form in which research peptides are supplied and stored.
Reconstitution	Returning a lyophilised compound to solution for analytical work.
Purity	The percentage of a sample that is the stated compound, as measured by analysis.
HPLC	High-performance liquid chromatography — the standard method for measuring purity.
Mass spectrometry	A method that confirms a compound's identity by measuring its molecular mass.
CoA	Certificate of Analysis — the batch-specific document reporting identity and purity.
Batch number	The identifier tying a specific production run to its documentation.
In vitro	Research performed on cells in laboratory conditions ("in glass").
In vivo	Research performed in living organisms, usually animal models.
Preclinical	All research stages before human trials — rungs 1 and 2 of the evidence ladder.
Secretagogue	A substance studied for how it prompts the release of another substance, such as a hormone.

SECTION SIX

06. Where to Go From Here

If this guide did its job, you now have three things most people in this space never acquire: a plain-English grip on what peptides are, an evidence ladder for judging every claim, and the ability to read the documentation that separates serious suppliers from the rest.

The Peptavera Research Community

Our WhatsApp community is where the ongoing conversation happens: weekly research updates, plain-English explainers, live Q&A, and a community of researchers and curious minds comparing notes. You're already a member — or about to be. Post your questions there, or message us directly about our catalogue and documentation any time. peptavera.co.uk

Further reading

- **PubMed** (pubmed.ncbi.nlm.nih.gov) — the index of published biomedical literature. Compound name + “review” is the best starting search.
- **ClinicalTrials.gov** — see what human research is registered, recruiting, or completed for any compound.
- **Our weekly community research updates** — the digest version, in plain English, every week.

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