

HELIXVAULT RESEARCH GUIDE

The Peptide Research Starter Kit

Everything a serious researcher needs to evaluate, understand, and navigate the peptide landscape — with evidence-based clarity.

40+

PEPTIDES COVERED

4

EVIDENCE TIERS

10

RESEARCH CHECKLISTS

INSIDE THIS GUIDE

What You'll Learn

This guide is structured to take you from zero to confident research literacy in the peptide space — covering the fundamentals, the evidence framework, the top peptides by category, and how to evaluate studies like a pro.

01	Understanding Peptides What they are, how they work, why the research matters	Page 3
02	The Evidence Tier System How to evaluate research quality and avoid misinformation	Page 4
03	Top Peptides by Goal Recovery, longevity, cognition, body composition, immune health	Page 5
04	The Research Evaluation Checklist 10 questions every researcher should ask before trusting a study	Page 6
05	Legal & Safety Framework Regulatory landscape, safety considerations, and responsible research	Page 7
06	Doctor Conversation Guide How to approach your physician with research in hand	Page 8
07	Next Steps & Resources Where to go from here and how HelixVault can help	Page 9

⚠ Important Disclaimer

This guide is for educational and research purposes only. Nothing in this document constitutes medical advice. Always consult a qualified healthcare provider before considering any peptide protocol. Many peptides discussed are research chemicals not approved for human use by the FDA.

FOUNDATIONS

What Are Peptides & Why Do They Matter?

Peptides are short chains of amino acids — the same building blocks that make proteins. They're signaling molecules your body already produces, and researchers study synthetic versions to understand their therapeutic potential.



Naturally Occurring

Your body produces thousands of peptides that regulate everything from growth hormone release to immune function, tissue repair, and metabolism.



Synthetically Studied

Researchers create synthetic analogs to study therapeutic effects in controlled settings — from wound healing to neurological protection.



Highly Targeted

Unlike many compounds, peptides work through specific receptor interactions — meaning effects tend to be targeted rather than systemic.



Rapidly Evolving Field

Peptide research is one of the fastest-growing segments of biomedical science, with hundreds of new studies published annually.



The peptide market was valued at \$39.5 billion in 2023 and is projected to reach \$79.8 billion by 2030 — driven by demand for precision therapeutics and longevity medicine.

GRAND VIEW RESEARCH, 2024

How Peptides Differ from Steroids & Hormones

1

Shorter Half-Life

Most peptides are cleared from the body in hours, not weeks — making them more controllable and reducing accumulation risks compared to anabolic steroids.

2

Non-Androgenic (Most)

Unlike anabolic steroids, most peptides do not bind to androgen receptors — meaning they don't carry the same hormonal side effect profile.

3

Signaling vs. Replacing

Most peptides signal the body to produce or regulate its own compounds (e.g., GHRH peptides stimulate natural GH release) rather than replacing endogenous production.

RESEARCH QUALITY

The HelixVault Evidence Tier System

Not all peptide research is equal. This framework helps you immediately assess how much weight to give any claim you encounter — from vendor marketing to published studies.



Tier 1 — Strong Human Evidence

Multiple randomized controlled trials in humans. Replicated results across independent labs. The gold standard for research confidence.

Examples: Semaglutide, BPC-157 (some endpoints), Sermorelin



Tier 2 — Early Human + Robust Animal

Limited human trials with promising results, supported by strong mechanistic animal data. Cautious optimism warranted.

Examples: TB-500, CJC-1295, Ipamorelin



Tier 3 — Animal / In Vitro Only

Results exist in animal models or cell cultures only. Promising signals but human extrapolation is speculative. Research-phase compounds.

Examples: AOD-9604, Epithalon, MOTS-c



Tier 4 — Theoretical / Anecdotal

Primarily community reports, vendor claims, or theoretical mechanisms. No peer-reviewed evidence. Maximum skepticism required.

Examples: Various novel research compounds

How HelixVault Uses This System

Every peptide covered on HelixVault.com is tagged with its current evidence tier. Tiers are updated as new research is published. A compound's tier reflects current science — not community popularity or vendor marketing claims.

Study Types — From Weakest to Strongest

WEAKEST

In Vitro (cell culture) → Animal models → Observational human studies

MODERATE

Open-label human trials → Small RCTs → Single-center controlled studies

STRONGEST

Large multi-center RCTs → Systematic reviews → Meta-analyses

RESEARCH REFERENCE

Top Peptides by Research Goal

Organized by primary research application, with evidence tiers and key findings.

Use this as a quick-reference index — not a protocol guide.

PEPTIDE	PRIMARY APPLICATION	EVIDENCE TIER	KEY FINDING
BPC-157	Tissue Repair & Recovery	 Tier 2	Accelerated tendon/ligament healing in animal models; angiogenesis promotion
TB-500	Injury Recovery	 Tier 2	Thymosin β 4 analog; promotes cell migration and anti-inflammatory signaling
Sermorelin	GH Optimization	 Tier 1	FDA-approved GHRH analog; stimulates natural GH release, studied in aging
CJC-1295	GH Optimization	 Tier 2	Extended half-life GHRH analog; sustained GH pulse elevation in clinical studies
Ipramorelin	GH Optimization	 Tier 2	Selective GH secretagogue; minimal cortisol/prolactin impact vs. other GHRPs
Semaglutide	Metabolic / Weight	 Tier 1	FDA-approved GLP-1 agonist; 15-20% body weight reduction in RCTs
AOD-9604	Fat Loss Research	 Tier 3	HGH fragment; lipolytic effects in animal models, limited human data
Epithalon	Longevity	 Tier 3	Telomerase activation in vitro; lifespan extension in animal studies
Thymosin α1	Immune Modulation	 Tier 2	Used clinically in some countries; T-cell regulation, studied in cancer + viral immunity
MOTS-c	Metabolic / Longevity	 Tier 3	Mitochondria-derived peptide; insulin sensitivity and exercise mimetic research
Selank	Cognitive / Anxiety	 Tier 2	Russian-approved anxiolytic peptide; GABAergic modulation, memory research
Semax	Cognitive Enhancement	 Tier 2	ACTH analog; BDNF upregulation, neuroprotection in stroke models, used clinically in Russia

⚠ Research Use Only

This table is for educational reference only. Most peptides listed are not FDA-approved for human use. Always consult a licensed physician before considering any of these compounds.

EVALUATION TOOL

The 10-Question Research Checklist

Before you trust any claim about a peptide — from a blog post, vendor, or study — run it through these 10 questions. This framework will save you from misinformation.

- 1 What type of study is this?** In vitro, animal, or human? Human RCTs carry exponentially more weight than cell culture results.
- 2 What was the sample size?** Studies with fewer than 30 human participants should be treated as preliminary signals only, not conclusions.
- 3 Was there a control group?** Without a placebo or control, you can't separate the peptide's effect from the placebo effect, time, or other variables.
- 4 Who funded the research?** Industry-funded studies have a documented bias toward positive outcomes. Check the "Conflicts of Interest" section.
- 5 Has it been independently replicated?** A single study — even a good one — is not enough. Look for multiple independent replications of the finding.
- 6 What dose was used vs. what's being discussed?** Many peptide studies use doses that don't translate to commonly discussed protocols. Check the mg/kg scaling.
- 7 What were the primary endpoints?** A study might show "improvement" in a surrogate marker (like IGF-1 levels) without showing actual health outcomes. Primary endpoints matter.
- 8 Were safety/adverse events reported?** Any credible study reports adverse events. If a source only reports benefits with no mention of side effects, treat it with skepticism.
- 9 Is the source peer-reviewed?** Was it published in a peer-reviewed journal? Preprints, vendor white papers, and forum posts don't carry the same evidentiary weight.
- 10 Is the claim proportional to the evidence?** "May support healing in animal models" is very different from "proven to heal injuries." Watch for language that overstates findings.

 **Pro Tip: Use PubMed**

Search pubmed.ncbi.nlm.nih.gov with the peptide name + your target endpoint (e.g., "BPC-157 tendon healing"). Filter for "Clinical Trial" study type and sort by "Most Recent" to see the latest human evidence.

IMPORTANT

Legal Status & Safety Considerations

The regulatory landscape for peptides is complex and jurisdiction-specific. Understanding where compounds stand legally is as important as understanding their research profile.

US Regulatory Categories

FDA-Approved Peptide Drugs

Legal Rx

Fully approved for human use with a prescription. Manufactured under strict pharmaceutical standards. Examples: Semaglutide (Ozempic/Wegovy), Sermorelin, Oxytocin, Insulin.

Compounded Peptides

Gray Area

Some peptides can be legally compounded by licensed pharmacies with a valid prescription. FDA has been increasing scrutiny on this category since 2023, particularly for BPC-157 and TB-500.

Research Chemicals

Research Use

Legal to purchase for laboratory/research purposes but not for human use in the US. This is the category where most discussed peptides (BPC-157, TB-500, Epithalon) currently sit.

Controlled / Banned Substances

Restricted

WADA-banned for athletes (most GH-releasing peptides). Some jurisdictions classify certain peptides as controlled substances. Always verify local law before any purchase.

⚠️ Jurisdiction Matters

Regulatory status varies significantly by country. A compound legal to purchase in Australia may be restricted in the UK, and vice versa. Always verify current legal status in your specific jurisdiction. Laws also change — what was legal to compound last year may now be restricted.

PRACTICAL GUIDE

How to Talk to Your Doctor About Peptides

Most physicians have limited training in peptide research. Coming prepared with evidence — not anecdotes — dramatically changes how these conversations go. Here's how to approach it.

1

Lead with Symptoms, Not Compounds

Start with your health goals: "I'm struggling with slow recovery from training injuries" or "I'm researching options for age-related GH decline." This frames the conversation clinically rather than putting your doctor on the defensive.

2

Bring Printed PubMed Studies

Print 2-3 peer-reviewed studies (not blogs, not vendor pages) relevant to your question. Physicians respond to evidence. A 2022 RCT carries weight. A Reddit post does not.

3

Ask About Baseline Labs First

Request baseline bloodwork: IGF-1, testosterone panel, thyroid, metabolic panel, CBC. Good baseline data gives your doctor a clinical foundation and shows you're taking a measured approach.

4

Ask Specifically About Compounding Pharmacies

If you're interested in legal access, ask: "Are there any compounding pharmacies you work with that have FDA-approved analogs or physician-supervised protocols?" This opens the door to legal, supervised options.

5

Consider a Longevity or Anti-Aging Specialist

General practitioners often lack peptide training. A longevity medicine physician, functional medicine doctor, or sports medicine specialist will be significantly more familiar with this research space.

6

Be Honest About What You're Researching

Don't hide your interest in specific compounds. Physicians need complete information to advise you safely. Concealing what you're researching creates risk and erodes trust.



The best patient-physician relationship around peptides is one built on shared evidence — not a patient hiding their research or a doctor dismissing it without review.

HELIXVAULT EDITORIAL FRAMEWORK

RESOURCES

Your Research Continues Here

This guide is your foundation. HelixVault's full library goes much deeper — with dedicated guides for every major peptide, stack comparisons, protocol research, and ongoing coverage as new studies are published.



Deep-Dive Peptide Guides

Comprehensive research profiles for BPC-157, Sermorelin, Ipamorelin, CJC-1295, TB-500, Epithalon, and 30+ more — each with full evidence breakdown.



Peptide Index (Reference Tool)

The complete HelixVault peptide database: 40+ compounds organized by category, evidence tier, and legal status. Updated as new research emerges.



Stack Research Guides

Goal-specific stack research: recovery stacks, longevity stacks, cognitive stacks — each with evidence tiers and known interaction considerations.



Research Updates

Subscribe to the HelixVault newsletter for curated research updates — new studies, regulatory changes, and expert analysis delivered to your inbox.

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The most comprehensive, evidence-graded peptide research library available. Free access, no hype, no vendor bias.

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