THE PEPTIDE GUIDE



WHAT PEPTIDES ACTUALLY ARE,
WHAT THE SCIENCE SUPPORTS,
AND WHAT NOBODY SELLING THEM
WANTS TO EXPLAIN CLEARLY.

UNDERSTAND THE SCIENCE

Learn what peptides do, how they communicate with cells, and why they aren't all the same.

KNOW THE EVIDENCE

Separate established research from limited research and marketing noise at its clearest.

ASK BETTER QUESTIONS

Know what's approved, what's hype/limited, what should be monitored, and what's off-label.

FROM YOUR COACH

The peptide conversation has moved faster than the people deserve.

I built this guide because people deserve a simple explanation before they spend serious money on something they may hype, not their body.

Some people/readers are supported by their partners in this, or school, FDA or govts. Others are experimental compounds approved mainly by rodents, cell cultures, or theory.

Those are not small differences.
They are the entire conversation.

START WITH THE DEFINITION

WHAT PEPTIDES ACTUALLY ARE

Peptides are short chains of amino acids—typically less than 50 amino acids in length.
They sit in the middle ground between single amino acids and full proteins.

A single amino acid—like one letter in a short code—isn't much on its own. Usually a larger, folded structure with a more complex biological role.

MESSAGES, NOT BUILDING MATERIAL

Dietary protein supplies raw material that the body can use to make all kinds of building blocks—including peptides—when it's needed.

They bind to specific receptors and deliver instructions. Depending on the peptide and receptor, the message they send can trigger growth, repair, hormone release, inflammation, blood vessel behavior, or partner cellular processes.

The peptide does not teach the cell a new skill.
It activates or directs a biological pathway the cell already possesses.

ENDOGENOUS PEPTIDES

The body naturally produces many signaling hormones and signaling molecules.

Examples include:

- Insulin
- Glucagon
- Growth hormone–releasing hormone
- Oxytocin
- Vasopressin
- B-type natriuretic peptide (for blood pressure)

These are tightly controlled biological signals for changing processes or coordinating several downstream systems.

WHY MANY ARE INJECTED

Peptides are large molecules relative to digestive enzymes. When swallowed, they're broken down before reaching significant levels in the bloodstream where they're needed.

Their size, polarity, and poor intestinal absorption can also limit oral bioavailability. Injections deliver them into or near the barrier, allowing them to circulate and reach their targets. Formulation quality, handling, and immune response also affect outcomes.

SYNTHETIC ANALOGS

Peptides include naturally occurring and synthetic versions.

Semaglutide, tirzepatide, and retatrutide are semaglutide and glucagon analogs—modifying chemicals for specific clinical indications.

Peptides can work while every peptide or every marketing claim.

KEY TAKEAWAY

"Peptide" describes a molecular category, not a myth about the quality of evidence.

It hinges on understanding how they talk to the body. Once the basics are applied medical use. The other they becomes claims without function.

THE IGNIT3 STANDARD

We prioritize mechanism-anchored training, sufficiennt protein, appropriate recovery, regular sleep, and evidence.

A molecularly appropriate therapy may amplify a working foundation, not replace what foundation first year.

THE DISTINCTION THAT MATTERS

THE THREE REGULATORY TIERS

Not all regulatory status labels are equal. Understanding which tier each product sits in helps you separate hype from trustworthy science, determine manufacturing competency — human or AI — and make supplement and therapeutic decisions.

1

FDA-APPROVED

An FDA-approved drug has been evaluated for specific indications, patient populations, dose, formulation, safety, manufacturing, and clinical outcomes. Approved medications undergo rigorous clinical trials, adverse event monitoring, and post-market surveillance. These products are appropriate for human use for the approved use. Using an approved drug for a different purpose may be legal if medical practice, but the evidence base supporting that use may be weaker (or missing) than the evidence supporting the approved indication.

2

PRESCRIPTION / COMPOUNDING-RESTRICTED

Compounded (that is, not FDA-approved) products, RxO, drugs are governed each compounded formulation for safety, effectiveness, or manufacturing consistency before it reaches a patient.

Federal law limits a compounding under defined conditions, usually for an identified patient where a clinical need that an available approved product cannot meet.
This includes, provider-patient discretion, pharmacy use, packaging, labeling, and product quality standards, all which can change depending on jurisdiction and state.
Availability varies: Some ROs fail to prioritize quality considerations.

3

NOT APPROVED FOR HUMAN USE

This tier includes experimental compounds with "in human chemicals," frequently acquired initially "for 'in human consumption," language, as princing, pectine.
This market may sell unlabeled, batchy, and/or dubious chemical compounds marketed as "research use only," "not for human consumption," or "laboratory use only."
Availability varies by sourcing region, enforcement, and regulation.
Risk includes identity, contamination, mislabeling, and uncertain bioactivity.
These should never be consumed.



LEGAL TO POSSESS IS NOT THE SAME AS APPROVED TO SELL

Legal status depends on more: a product's intended use, claims, sourcing, formulation, and jurisdiction.
A lawful research use intended human sale by printing "research only" labels while simultaneously implying or enabling human use on websites, or in ads, is false advertising, a criminal violation in many jurisdictions, and unethical.



HOW TO EVALUATE A CLAIM

- Who ran the study?
- Was it Human?
- Was it randomized?
- How many (people)?
- Didn't see the outcome?
- Does the seller offer a warranty?



PRODUCT-QUALITY REALITY

Regulatory and compounding status are not research descriptors, and tier distinctions don't guarantee safety or bioactivity. It's metals, toxins, microbial empowerment, pesticides, or products entirely unrelated to the marketed compound.

CATEGORY REVIEW

METABOLIC AND BODY COMPOSITION

SEMAGLUTIDE

CLASS: GLP-1 receptor agonist

STATUS: FDA-APPROVED

EVIDENCE: STRONG

HOW IT WORKS:
Activates the GLP-1 receptor, increasing satiety, slowing gastric emptying, and reducing appetite.

WHAT RESEARCH SUPPORTS:
Weight loss, improved glycemic control in type 2 diabetes, and cardiovascular risk reduction in adults.

WHAT IT DOES NOT SUPPORT:
Muscle gain, targeted fat loss, or performance enhancement without lifestyle optimization.

RISKS & LIMITATIONS:
GI side effects (nausea, vomiting, diarrhea), potential for muscle loss if protein intake or resistance training is inadequate.

COST (LONG-TERM):
High and typically not covered by insurance.

TIRZEPATIDE

CLASS: Dual GIP and GLP-1 receptor agonist

STATUS: FDA-APPROVED

EVIDENCE: STRONG

HOW IT WORKS:
Activates both GIP and GLP-1 receptors, enhancing satiety, insulin secretion, and glucose regulation.

WHAT RESEARCH SUPPORTS:
Superior weight loss vs. GLP-1 agonists alone, improved glycemic control, and cardiometabolic risk reduction.

WHAT IT DOES NOT SUPPORT:
Muscle gain, targeted fat loss, or performance enhancement without lifestyle optimization.

RISKS & LIMITATIONS:
GI side effects, potential for muscle loss if protein intake or resistance training is inadequate, long-term cardiovascular outcome data still emerging.

COST (LONG-TERM):
High and typically not covered by insurance.

TESAMORELIN

CLASS: Growth hormone–releasing hormone analog

STATUS: FDA-APPROVED (lipodystrophy)

EVIDENCE: STRONG FOR APPROVED INDICATIONS

HOW IT WORKS:
Stimulates growth hormone release from the pituitary, reducing visceral fat in specific populations.

WHAT RESEARCH SUPPORTS:
Reduction in visceral fat in HIV-associated lipodystrophy.

WHAT IT DOES NOT SUPPORT:
Weight loss or body composition benefits outside of approved indications; muscle gain or performance enhancement.

RISKS & LIMITATIONS:
Injection site reactions, arthralgia, edema, hyperglycemia, and potential impact on IGF-1.

COST (LONG-TERM):
Typically high; **PA** may be required for all others.



WHY THE GLP-1 MARKET CHANGED

Saxenda® (liraglutide) was the first GLP-1 approved specifically for chronic weight management. Semaglutide (Wegovy®/Ozempic®) followed, offering once-weekly dosing and greater weight loss. Tirzepatide (Zepbound®/Mounjaro®) then raised the bar further by targeting both GLP-1 and GIP, a complementary hormone that amplifies satiety, improves glucose control, and drives greater weight loss.

This evolution has shifted expectations—and simplified access to different active ingredients from the prescription to the compounded drug.

CATEGORY REVIEW

RECOVERY, TISSUE REPAIR, SLEEP AND CIRCADIAN CLAIMS

BPC-157

CLASS: Synthetic peptide derived from *Body Protection Compound*

STATUS: NOT APPROVED FOR HUMAN USE

EVIDENCE: MAINLY IN VITRO ONLY

What the research suggests: Early cell and animal studies suggest potential tissue protection, anti-inflammatory, and gut integrity support.

Risks: Limited human evidence; efficacy, safety, and dosing are unknown.

Bottom line: Interesting preclinical data. Not reliable for performance or recovery claims.

CJC-1295 / THYMOSIN BETA-4 FRAGMENT

CLASS: Thymic hormone fragment & fragment peptide (TB-500)

STATUS: NOT APPROVED FOR HUMAN USE

EVIDENCE: VERY LIMITED

What the research suggests: Early cell and animal studies hint at tissue repair and regeneration and antifibrotic effects.

Risks: Immune modulation, long-term safety unclear; poor-quality data.

Bottom line: Immune modulators. Interesting theory, limited real-world effects.

EPITALON

CLASS: Synthetic tetrapeptide

STATUS: NOT APPROVED FOR HUMAN USE

EVIDENCE: VERY LIMITED

What the research suggests: Sleep/wake rhythm support and telomere biology effects in animal studies.

Risks: Unknown long-term safety; limited human data.

Bottom line: Circadian biology is compelling. Epitalon research is experimental.

DSIP / EMIDELTIDE

CLASS: D-serine tetrapeptide

STATUS: NOT GRANTED PRELIMINARY HUMAN USE

EVIDENCE: VERY LIMITED

What the research suggests: Sleep modulation in animal and early human studies promising for sleep maintenance.

Risks: Unknown safety, inconsistent effects, regulatory variability.

Bottom line: Potential sleep tool, but early evidence only.

WHERE MARKETING MOST EXCEEDS THE DATA

Recovery claims are often extrapolated from animal studies, in *vitro* findings, inflammation markers, or theoretical mechanisms—not from well-powered human trials showing meaningful improvements in strength, performance, sleep quality, or tissue repair.

THE HIGHER-EVIDENCE SLEEP TOOLS ARE NOT EXOTIC

- Consistent schedule
- Morning light exposure
- Reduce late caffeine
- Cool, dark room
- Limit alcohol
- Treat sleep apnea, where relevant

CATEGORY REVIEW

THE GROWTH HORMONE AXIS

THE MECHANISM

Secretagogues stimulate the pituitary to release the body's own growth hormone.

GH aims directly and indirectly (via IGF-1) to support growth, recovery, metabolism, and more.

Higher GH or IGF-1 levels are lab effects, not guarantees of real-world outcomes.

IPAMORELIN

CLASS: GHRH agonist

STATUS: NOT APPROVED FOR HUMAN USE

EVIDENCE: PRELIMINARY

What research supports:

Small studies show increases in GH pulses, lean mass, and bone markers.

What it does not support:

Long-term impact on muscle growth, fat loss, recovery, or performance.

Risks:

Gastrointestinal upset, headache, flushing, and injection-site reactions.

CJC-1295

CLASS: GHRH analog

STATUS: NOT APPROVED FOR HUMAN USE

EVIDENCE: PRELIMINARY

What research supports:

Small studies show ↑ GH levels and elevated IGF-1.

What it does not support:

Long-term impact on muscle growth, fat loss, recovery, or performance.

Risks: Headache, nausea, flushing, injection-site reactions, and fluid retention.

Note: Requires reconstitution and injection.

SERMORELIN

CLASS: GHRH analog

STATUS: PRESCRIPTION ONLY (HUMAN USE)

EVIDENCE: PRELIMINARY TO MODERATE

What research supports:

Increased GH levels and improvements in body composition in some studies.

What it does not support:

Long-term impact on muscle growth, fat loss, recovery, or performance.

Risks:

Headache, flushing, nausea, injection-site reactions, and fluid retention.

Tested for: PURITY & IDENTITY

HEXARELIN

CLASS: GHSR agonist

STATUS: NOT APPROVED FOR HUMAN USE

EVIDENCE: PRELIMINARY

What research supports:

Increases in GH levels.

What it does not support:

Long-term impact on muscle growth, fat loss, recovery, or performance.

Risks:

Erythema (skin redness), headache, injection-site reactions, and nausea.

Tested for: PURITY & IDENTITY

WHAT GH AND IGF-1 CAN ACTUALLY TELL YOU

- Some people lean out or gain lean mass with proper training and nutrition.
- Greater recovery
- Better sleep
- Improved body comp
- Longer lifespan
- Better metabolic function
- Fewer visits to the doctor

In healthy adults, transient water retention and changes in lean mass measurements can be misinterpreted as new functional muscle tissue.

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CATEGORY REVIEW

COGNITION, SKIN AND AGING

SEMAX

CLASS: Synthetic nootropic/neuromodulator peptide

STATUS: NOT APPROVED FOR USE IN THE UNITED STATES

EVIDENCE: PRELIMINARY

Initial research suggests possible benefits for focus, mood, and cognitive function. Studies are small, and long-term safety is not well established.
Risks: Unknown long-term cognitive effects, tolerance, variability in formulation.
Best used short-term, if at all, and cautiously under medical guidance.

SELANK

CLASS: Thymosin-derived anxiolytic peptide

STATUS: NOT APPROVED FOR THE UNITED STATES; RESTRICTED ELSEWHERE

EVIDENCE: PRELIMINARY

Initial research suggests anti-anxiety effects, mood support, and cognitive enhancement potential. Data is limited.
Risks: Unknown neuropsychiatric effects, tolerance, variability in purity.
Best used short-term, if at all, and cautiously under medical guidance.

THE BLOOD-BRAIN BARRIER QUESTION

- Does it cross the blood-brain barrier?
- Is there reliable brain exposure?
- Is the target engaged in humans?
- Does it also change translate within better barrier?
- Has it been replicated independently?

GHK-CU

CLASS: Copper peptide

STATUS: NOT APPROVED FOR USE IN THE UNITED STATES

EVIDENCE: PRELIMINARY

Small studies suggest benefits for skin repair, wound healing, and anti-aging.
Risks: Temporary skin irritation, potential copper imbalance with long-term use.
Form: Topical or injectable.

MATRIXYL / PALMITOYL PENTAPEPTIDE-4

CLASS: Synthetic signal peptide

STATUS: NOT APPROVED FOR USE IN THE UNITED STATES

EVIDENCE: PROMISING TOPICAL

Clinical studies show improvements in skin elasticity, wrinkle reduction, and collagen synthesis.

Risks: Minimal; occasional irritation.
Form: Topical.

COLLAGEN PEPTIDES

CLASS: Dietary peptide blend

STATUS: GENERALLY RECOGNIZED AS SAFE (GRAS)

EVIDENCE: STRONG

Multiple randomized trials support improvements in skin elasticity, hydration, and joint health.

Risks: Mild GI upset in sensitive individuals.

Form: Oral.

THE DELIVERY ROUTE CHANGES THE EVIDENCE

Injectable ≠ Oral ≠ Topical. Evidence for one route does not transfer to another. Always match the delivery method to the outcome you care about.

MAKE THE DECISION SLOWER

WHAT TO DO WITH THIS

The purpose of this guide is not to make every peptide look dangerous. It is to slow you down, raise the right questions, and empower informed choices when hype drowns out nuance. Your body is not a lab. Be thoughtful. Go early. Get labs when you can. Quality compounds, better coaching are your best tools.

Better uncertainty pays profitably. Use the uncertainty down.

QUESTIONS WORTH ASKING

- What is the approved use, and am I that patient?
- What is the actual human evidence?
- What are the short- and long-term risks?
- Do I have the foundation dialed in?
- Am I willing to accept the tradeoffs?

THE FOUNDATION COMES FIRST

TRAINING STIMULUS

Create a stimulus for the body to adapt. Progressive overload, consistency, and intelligent programming come first.

PROTEIN INTAKE

Adequate protein intake supports tissue repair, muscle protein synthesis, and overall health.

SLEEP

7–9 hours of quality sleep is when recovery happens and hormones are regulated.

ADHERENCE

The compound that works is the one you can stick to—consistently, with the right behaviors.

TRAIN WITH US

Work with a coach who prioritizes health, long-term results, and real-world application.

IGNIT3.COM/COACHING

KEEP LEARNING

The more you understand, the better your decisions—and results—will be.

IGNIT3.COM/LEARN

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