EVIDENCE-LED

BIOHACKING PEPTIDES GUIDE

A plain-English evidence guide to 30 peptide profiles, 90 linked study entries, and no dosing guidance.

30 PEPTIDE PROFILES

90 STUDY ENTRIES

NO DOSING GUIDANCE

- Evidence quality tiers
- Research-only caution
- Plain-English format

Prepared June 7, 2026 | Educational only - not medical advice

UPDATED

2026 EDITION

READ FIRST

Scope, safety, and how this book should be used

This ebook is an educational evidence guide. It is not medical advice, a treatment plan, a prescribing guide, a compounding guide, a sourcing guide, or an endorsement of peptide self-experimentation.

What this book does

It explains each peptide in plain language, separates online popularity from evidence quality, and gives three linked study resources for deeper review.

What this book does not do

It does not provide dosing, cycling, reconstitution, injection, storage, supplier, compounding, or protocol instructions.

Regulatory and product-quality caution

Many peptides discussed in biohacking spaces are not approved drugs for wellness or enhancement. Product identity, purity, sterility, strength, labeling, and adverse-event monitoring can differ sharply between approved medications, legitimate clinical trials, compounded products, and gray-market research chemicals.

- FDA: Compounded drugs are not FDA-approved
- FDA: Certain bulk substances may present significant safety risks
- FDA: Concerns with unapproved GLP-1 drugs used for weight loss

Use the linked studies as starting points for evidence literacy. Any personal medical decision belongs with a qualified clinician who can account for diagnosis, medications, contraindications, labs, risk tolerance, and legal access.

READER ORIENTATION

How to read peptide evidence without getting misled

01

Popularity is not proof.

A peptide can dominate forums, podcasts, clinics, and body-composition conversations while still having little controlled human evidence.

02

Mechanism is not outcome.

A paper showing that a pathway changes does not prove better recovery, fat loss, cognition, fertility, or longevity in healthy adults.

03

Route changes risk.

A topical cosmetic ingredient, a prescription injectable, a trial compound, and an online research vial are not comparable products.

04

Clinical context matters.

Evidence from rare disease, HIV lipodystrophy, pediatric growth, animal injury models, or regional neuropharmacology cannot automatically be generalized.

THE CENTRAL RULE

Read every profile through the same filter: what is the peptide supposed to do, who was actually studied, what outcome was measured, and what risks remain unresolved?

EVIDENCE LADDER

The evidence tiers used in this ebook

The tier labels summarize how far the evidence has traveled from theory toward decision-grade human data. They are not safety ratings.

Tier 1	**Large human trials**	Substantial controlled human outcomes for at least one defined medical indication.
Tier 2	**Controlled or phase 2/3 human data**	Human trial evidence exists, but context, endpoint, or approval status may be narrower.
Tier 3	**Human physiology or pharmacology**	Measurable human biology changes, but outcomes are narrow or not enhancement-focused.
Tier 4	**Preclinical or mechanistic**	Animal, cell, or pathway studies support plausibility, not human self-use.
Tier 5	**Mixed, older, or limited evidence**	Studies exist, but interpretation is uncertain, inconsistent, or not generalizable.

LANDSCAPE MAP

The 30 peptides by research theme

The ranking order is preserved in the profile section. This map helps readers understand why different peptides are often discussed together.

Metabolic & appetite signaling

#01 Semaglutide, #02 Tirzepatide, #03 Retatrutide

Recovery, tissue repair & injury claims

#04 BPC-157, #05 TB-500 / Thymosin beta-4 fragment

Skin, tissue remodeling & aesthetics

#06 GHK-Cu

Growth-hormone axis

#07 CJC-1295, #08 Ipamorelin, #09 Sermorelin, #28 GHRP-2, #29 GHRP-6

Growth-hormone axis / visceral fat

#10 Tesamorelin

Fat-loss fragment research

#11 AOD-9604, #25 HGH Fragment 176-191

Mitochondrial & longevity research

#12 MOTS-c, #13 SS-31 / Elamipretide

RESEARCH PROCUREMENT NOTE

A structured catalog for research-only peptide review

Best Days is our preferred reference point for readers comparing research-only peptide suppliers. Use the QR code to review the lab catalog and confirm documentation, compliance, and intended research use.

Scan / click

LANDSCAPE MAP

Research theme map, continued

The same peptide may appear in different online conversations depending on whether people emphasize mechanism, use case, or marketing category.

Longevity & aging-marker research

#14 Epitalon / Epithalon

Immune modulation

#15 Thymosin Alpha-1 / TA-1

Inflammation & gut research

#16 KPV

Innate immunity & antimicrobial peptides

#17 LL-37

Nootropic & neuroprotection research

#18 Semax

Nootropic, anxiety & stress research

#19 Selank

Advanced nootropic / neurorepair research

#20 Dihexa

LANDSCAPE MAP

Research theme map, continued

The same peptide may appear in different online conversations depending on whether people emphasize mechanism, use case, or marketing category.

Sleep & recovery research

#21 DSIP / Delta Sleep-Inducing Peptide

Reproductive-axis signaling

#22 Kisspeptin-10

Sexual function & melanocortins

#23 PT-141 / Bremelanotide

Melanocortin / tanning gray market

#24 Melanotan II

Growth-factor / bodybuilding research

#26 IGF-1 LR3

Muscle repair & IGF-1 splice-variant research

#27 PEG-MGF

Rare-obesity appetite pathway

#30 Setmelanotide

NAVIGATION

Table of contents

Each profile has a plain-English explanation page and an evidence/resources page.

NAVIGATION

Table of contents, continued

Each profile has a plain-English explanation page and an evidence/resources page.

PROFILE 01 / METABOLIC & APPETITE SIGNALING

Semaglutide

GLP-1 receptor agonist; prescription metabolic medication

#01

MECHANISM IN ONE SENTENCE

A long-acting GLP-1 receptor agonist that amplifies meal-related satiety and glucose-control signaling.

The plain-English model

Semaglutide is a lab-made version of a gut-hormone signal called GLP-1. In simple terms, GLP-1 tells the body, 'food has arrived, slow down, release insulin appropriately, and reduce hunger.' Semaglutide lasts much longer than natural GLP-1, so the signal is stronger and steadier than what the body normally produces after a meal. Biohackers talk about semaglutide because appetite is one of the biggest drivers of body-weight change.

Why it shows up in biohacking

For many people, the interesting part is not willpower; it is that the brain's hunger and reward systems receive a different signal. That is why discussions often center on fat loss, food noise, metabolic health, and the possibility of combining medication with nutrition and resistance training. The research base is very different from most gray-market peptides.

What a serious reader should notice

Semaglutide has large human trials, prescription drug labels, and known medical monitoring issues. That does not make casual use harmless. It is still a prescription drug with real adverse-effect, contraindication, and long-term management questions that belong with a clinician, not a forum protocol.

EVIDENCE POSTURE

Tier 1

large human trials

COMMONLY DISCUSSED USE CASES

- Weight management under medical care
- Type 2 diabetes care
- Cardiometabolic risk discussion

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 01 CONTINUED / EVIDENCE AND REFERENCES

Semaglutide

Evidence interpretation

The evidence label for this peptide is: **Large human randomized trials for approved medical uses**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Prescription drug with large human programs; use depends on indication, contraindications, and monitoring.

BOTTOM-LINE READING

Strong clinical evidence exists for approved metabolic indications, but it belongs in a medical plan with screening, monitoring, and long-term management.

EVIDENCE TIER

Tier 1: large human trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Once-Weekly Semaglutide in Adults with Overweight or Obesity
   Human randomized trial; STEP 1; NEJM 2021
   HUMAN STUDY

2. Effect of Continued Weekly Subcutaneous Semaglutide vs Placebo on Weight Loss Maintenance
   Human randomized withdrawal trial; STEP 4; JAMA 2021
   HUMAN STUDY

3. Semaglutide and Cardiovascular Outcomes in Obesity without Diabetes
   Human cardiovascular outcomes trial; NEJM 2023
   HUMAN STUDY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 02 / METABOLIC & APPETITE SIGNALING

Tirzepatide

#02

Dual GIP/GLP-1 receptor agonist; prescription metabolic medication

MECHANISM IN ONE SENTENCE

A dual GIP/GLP-1 agonist that changes appetite, insulin response, and energy-balance signaling.

EVIDENCE POSTURE

Tier 1

large human trials

The plain-English model

Tirzepatide is often described as a 'dual incretin' drug. It activates two hormone pathways, GIP and GLP-1, that help regulate appetite, insulin response, and energy balance.

Why it shows up in biohacking

For a non-specialist, the key idea is that it changes the body's internal food-and-fuel signaling rather than acting like a stimulant or a simple fat burner. It became a biohacking topic because the weight-loss numbers in clinical trials were large enough to reshape public discussion.

What a serious reader should notice

People interested in body composition discuss it for appetite control, fat loss, glucose handling, and long-term metabolic risk. Some of that conversation is medically legitimate; some of it stretches well beyond what the trials actually studied. The evidence base is strong for specific clinical indications, but that is not the same as saying it is a general wellness tool. The practical questions include whether the person actually meets treatment criteria, how side effects are managed, how muscle mass is protected during weight loss, and what happens when treatment stops.

COMMONLY DISCUSSED USE CASES

- Weight management under medical care
- Type 2 diabetes care
- Body-composition discussions

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 02 CONTINUED / EVIDENCE AND REFERENCES

Tirzepatide

Evidence interpretation

The evidence label for this peptide is: **Large human randomized trials for obesity and metabolic disease**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Prescription drug with large obesity and diabetes trials; use should be indication-driven and clinician-managed.

BOTTOM-LINE READING

The human evidence base is strong for obesity and diabetes indications; the biohacking leap is usually about using a prescription drug outside a clinician-led framework.

EVIDENCE TIER

Tier 1: large human trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Tirzepatide Once Weekly for the Treatment of Obesity
   Human randomized trial; SURMOUNT-1; NEJM 2022
   HUMAN STUDY

2. Continued Treatment With Tirzepatide for Maintenance of Weight Reduction
   Human randomized withdrawal trial; SURMOUNT-4; JAMA 2024
   HUMAN STUDY

3. Tirzepatide as Compared with Semaglutide for the Treatment of Obesity
   Human comparative trial; NEJM 2025
   HUMAN STUDY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 03 / METABOLIC & APPETITE SIGNALING

Retatrutide

#03

Experimental triple agonist: GIP, GLP-1, and glucagon receptors

MECHANISM IN ONE SENTENCE

An investigational triple agonist designed to activate GIP, GLP-1, and glucagon receptors.

The plain-English model

Retatrutide is a research drug designed to hit three related metabolic hormone receptors: GIP, GLP-1, and glucagon. The easiest way to think about it is as a next-generation incretin experiment.

Why it shows up in biohacking

Instead of changing only the fullness and insulin signals, it also touches a pathway linked to energy expenditure and liver metabolism. It is popular in biohacking circles because it sounds like the most aggressive version of the modern weight-loss peptide story.

What a serious reader should notice

The phrase 'triple agonist' is easy to market, and early phase 2 results created a lot of excitement around body weight, liver fat, and metabolic markers. The important plain-English caution is that early excitement is not the same thing as everyday clinical proof. Phase 2 trials are meant to find signal, dose response, and safety issues before much larger programs. A biohacker using gray-market retatrutide is not doing what trial participants did; they are bypassing the screening, product controls, follow-up, and adverse-event tracking that make a trial interpretable.

EVIDENCE POSTURE

Tier 2

controlled human data

COMMONLY DISCUSSED USE CASES

- Future obesity-treatment discussion
- Metabolic-disease research
- Liver-fat and body-composition interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 03 CONTINUED / EVIDENCE AND REFERENCES

Retatrutide

Evidence interpretation

The evidence label for this peptide is: **Human phase 2 research; not a routine wellness drug**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Investigational drug-development compound; gray-market use is outside trial safeguards.

BOTTOM-LINE READING

Promising phase 2 data should be read as drug-development evidence, not as permission for unsupervised gray-market use.

EVIDENCE TIER

Tier 2: controlled human data

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Triple-Hormone-Receptor Agonist Retatrutide for Obesity
   Human phase 2 randomized trial; NEJM 2023
   HUMAN STUDY

2. Retatrutide for People with Type 2 Diabetes: a Randomised Trial
   Human phase 2 trial; Lancet 2023
   HUMAN STUDY

3. Retatrutide for Metabolic Dysfunction-Associated Steatotic Liver Disease
   Human phase 2a trial; 2024
   HUMAN STUDY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 04 / RECOVERY, TISSUE REPAIR & INJURY CLAIMS

BPC-157

#04

Experimental gastric peptide fragment; gray-market recovery peptide

MECHANISM IN ONE SENTENCE

A synthetic fragment associated with gastric-protection and tissue-repair pathways in preclinical models.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

COMMONLY DISCUSSED USE CASES

- Injury-recovery discussions
- Tendon and ligament claims
- Gut-barrier and inflammation claims

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

The plain-English model

BPC-157 is marketed as a healing peptide, especially for tendons, ligaments, and gut complaints. The name comes from 'body protection compound,' and much of the original research comes from animal models of tissue injury. For dummies: people talk about it as if it were a repair foreman that tells damaged tissue to organize and heal faster.

Why it shows up in biohacking

That reputation is why it is one of the most famous biohacker peptides. It appears in discussions of nagging joint pain, tendon strains, gut irritation, and 'Wolverine stack' combinations with TB-500. The problem is that popularity is far ahead of clean human evidence for those use cases.

What a serious reader should notice

The published studies include many rat models showing effects on tendon, ligament, and other injury outcomes. A small human safety-style study exists, but safety signals and proof of real-world injury healing are not the same thing. Treat this as a research compound with a large evidence gap, not as an established orthopedic or gut therapy.

PROFILE 04 CONTINUED / EVIDENCE AND REFERENCES

BPC-157

Evidence interpretation

The evidence label for this peptide is: **Mostly preclinical; very limited human safety data**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Not an established orthopedic or gut therapy; human evidence is very limited.

BOTTOM-LINE READING

The online reputation is much stronger than the human evidence; most claims rely on animal repair models and extrapolation.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Safety of Intravenous Infusion of BPC157 in Humans
   Small human safety study; 2025
   HUMAN PHYSIOLOGY

2. BPC 157 Accelerates Healing of Transected Rat Achilles Tendon
   Animal tendon-healing study
   ANIMAL/PRECLINICAL

3. Pentadecapeptide BPC 157 Improves Ligament Healing in the Rat
   Animal ligament-healing study
   ANIMAL/PRECLINICAL

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 05 / RECOVERY, TISSUE REPAIR & INJURY CLAIMS

TB-500 / Thymosin beta-4 fragment

#05

Thymosin beta-4-related peptide; tissue-repair research peptide

MECHANISM IN ONE SENTENCE

A thymosin beta-4-related repair peptide area tied to actin dynamics, cell migration, and wound biology.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

COMMONLY DISCUSSED USE CASES

- Soft-tissue recovery discussions
- Wound-healing research
- Cardiac and corneal repair interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

The plain-English model

TB-500 is the biohacking name usually linked to thymosin beta-4 or fragments inspired by it. Thymosin beta-4 is a naturally occurring peptide involved in actin, cell movement, inflammation, and repair signaling.

Why it shows up in biohacking

In simple terms, it is studied because healing requires cells to migrate, organize, and rebuild tissue. In the biohacking world, TB-500 is usually paired with BPC-157 and talked about for flexibility, tendon recovery, muscle strains, and injury resilience.

What a serious reader should notice

The story is plausible enough to attract attention because thymosin beta-4 has real wound- healing and repair biology behind it. The catch is that 'thymosin beta-4 biology' and 'a gray-market vial called TB-500' are not automatically the same thing. The strongest published work is not a set of large trials proving that self-directed TB-500 fixes sports injuries. It is a patchwork of wound, cornea, heart, and tissue-repair studies that should be read as research evidence, not a how-to guide.

PROFILE 05 CONTINUED / EVIDENCE AND REFERENCES

TB-500 / Thymosin beta-4 fragment

Evidence interpretation

The evidence label for this peptide is: **Preclinical and early clinical wound-repair literature; gray-market versions vary**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Research and clinical wound-repair literature should not be equated with unverified TB-500 products.

BOTTOM-LINE READING

Repair biology is credible, but gray-market TB-500 claims are broader than the controlled human data support.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Thymosin beta4 Accelerates Wound Healing
   Animal wound-healing study
   ANIMAL/PRECLINICAL

2. Thymosin beta4 Activates ILK and Promotes Cardiac Repair
   Preclinical cardiac-repair study; Nature 2004
   PEER-REVIEWED RESOURCE

3. Thymosin beta 4 Promotes Corneal Wound Healing
   Corneal wound-healing study
   PEER-REVIEWED RESOURCE

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 06 / SKIN, TISSUE REMODELING & AESTHETICS

GHK-Cu

#06

Copper-binding tripeptide; skin and tissue-remodeling peptide

MECHANISM IN ONE SENTENCE

A copper-binding tripeptide studied for extracellular-matrix remodeling, collagen biology, and skin repair.

The plain-English model

GHK-Cu is a tiny three-amino-acid peptide that binds copper. It is found naturally in the body and is widely discussed because copper is involved in wound repair, collagen organization, and antioxidant enzyme systems. The simplest explanation is that GHK-Cu is treated as a skin-and-repair signal rather than a hormone.

Why it shows up in biohacking

Biohackers like it because it sits at the intersection of beauty and repair: skin texture, wrinkles, hair, wound healing, and inflammation. Unlike many peptides, it also has a long cosmetic history, especially in topical products. That makes it feel more familiar than injectable research peptides.

What a serious reader should notice

The big distinction is delivery route. A topical cosmetic peptide, a microneedle delivery experiment, and an injectable peptide marketed online are not the same risk category. The research supports interesting tissue-remodeling biology, but the evidence does not justify assuming every marketed format is safe or effective.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

COMMONLY DISCUSSED USE CASES

- Skin aging and collagen discussions
- Hair and wound-healing interest
- Tissue remodeling research

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 06 CONTINUED / EVIDENCE AND REFERENCES

GHK-Cu

Evidence interpretation

The evidence label for this peptide is: **Cosmetic and preclinical tissue-remodeling literature; route matters**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Common in cosmetic discussions; route of use changes risk dramatically.

BOTTOM-LINE READING

Topical cosmetic use and injectable research-peptide use are very different risk categories; route and product quality matter.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. The Human Tripeptide GHK and Tissue Remodeling
   Peer-reviewed review of biology and repair claims
   REVIEW

2. Microneedle-Mediated Delivery of Copper Peptide Through Skin
   Skin-delivery research study
   PEER-REVIEWED RESOURCE

3. GHK-Cu Improved Intra-Articular Graft Healing After ACL Reconstruction in Rats
   Animal orthopedic-healing study
   ANIMAL/PRECLINICAL

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 07 / GROWTH-HORMONE AXIS

CJC-1295

#07

Long-acting GHRH analog; growth-hormone secretagogue pathway

MECHANISM IN ONE SENTENCE

A modified GHRH analog that can prolong growth-hormone and IGF-1 signaling.

EVIDENCE POSTURE

Tier 3

human physiology / narrow trials

The plain-English model

CJC-1295 is a modified version of growth-hormone-releasing hormone, or GHRH. GHRH is one of the body's upstream signals telling the pituitary gland to release growth hormone.

Why it shows up in biohacking

For dummies: CJC-1295 is not growth hormone itself; it is more like pressing the body's 'release some growth hormone' button for longer. Biohackers discuss it for sleep, recovery, lean mass, fat loss, and aging.

COMMONLY DISCUSSED USE CASES

- Growth-hormone pathway discussions
- Recovery and body-composition claims
- Sleep and IGF-1 interest

What a serious reader should notice

It is often paired with another secretagogue, such as ipamorelin, because the marketing story is that one compound provides the signal and the other provides the pulse. That explanation is simplified and often overconfident. Human studies show that CJC-1295 can increase growth hormone and IGF-1 markers, but marker changes are not the same as proven anti-aging benefits. Pushing the GH/IGF-1 axis can have tradeoffs, and the gray-market setting adds product-quality and medical-screening problems.

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 07 CONTINUED / EVIDENCE AND REFERENCES

CJC-1295

Evidence interpretation

The evidence label for this peptide is: **Small human endocrine studies plus animal data**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

FDA safety-risk discussions have raised concerns for compounded CJC-1295, including adverse events and limited data.

BOTTOM-LINE READING

It can move endocrine markers, but marker movement is not evidence of safer aging, better performance, or durable body-composition benefit.

EVIDENCE TIER

Tier 3: human physiology / narrow trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Prolonged Stimulation of GH and IGF-I Secretion by CJC-1295
   Human randomized endocrine study
   HUMAN STUDY

2. Pulsatile Secretion of Growth Hormone Persists During Continuous CJC-1295 Stimulation
   Human endocrine study
   HUMAN PHYSIOLOGY

3. Once-Daily CJC-1295 in Growth Hormone-Releasing Hormone Knockout Mice
   Animal endocrine study
   ANIMAL/PRECLINICAL

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 08 / GROWTH-HORMONE AXIS

Ipamorelin

#08

Growth-hormone secretagogue; ghrelin-receptor pathway

MECHANISM IN ONE SENTENCE

A ghrelin-receptor growth-hormone secretagogue designed to stimulate GH release more selectively than older GHRPs.

EVIDENCE POSTURE

Tier 3

human physiology / narrow trials

The plain-English model

Ipamorelin is a growth-hormone secretagogue, meaning it stimulates the body to release growth hormone. It works through a pathway related to ghrelin, the hunger hormone, but it was designed to be more selective than older secretagogues.

Why it shows up in biohacking

In plain English, it nudges a hormone-release system instead of replacing the hormone outright. Biohackers like ipamorelin because it is marketed as a 'cleaner' growth-hormone peptide, especially when compared with older GHRPs that may strongly affect appetite or other hormones.

What a serious reader should notice

The common claims involve recovery, sleep, body composition, and maintaining youthful hormone patterns. The evidence shows endocrine activity, not broad proof that it improves healthy adults' performance or longevity. Small pharmacology studies can tell us that a hormone marker changes; they cannot prove that a clinic-style anti-aging stack is beneficial or safe over time.

COMMONLY DISCUSSED USE CASES

- Growth-hormone release discussions
- Recovery and sleep claims
- Body-composition interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 08 CONTINUED / EVIDENCE AND REFERENCES

Ipamorelin

Evidence interpretation

The evidence label for this peptide is: **Human pharmacology and animal studies; limited outcome trials**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Mostly human pharmacology and endocrine literature; product-quality and long-term safety questions remain.

BOTTOM-LINE READING

The central evidence is pharmacology, not proof that a wellness stack improves healthy adults over the long term.

EVIDENCE TIER

Tier 3: human physiology / narrow trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Ipamorelin, the First Selective Growth Hormone Secretagogue
   Human and pharmacology-oriented endocrine study
   HUMAN PHYSIOLOGY

2. Pharmacokinetic-Pharmacodynamic Modeling of Ipamorelin
   Human volunteer pharmacology study
   HUMAN PHYSIOLOGY

3. Ipamorelin Counteracts Glucocorticoid-Induced Decrease in Bone Formation
   Animal bone/metabolism study
   ANIMAL/PRECLINICAL

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 09 / GROWTH-HORMONE AXIS

Sermorelin

#09

GHRH(1-29) analog; growth-hormone-releasing peptide hormone

MECHANISM IN ONE SENTENCE

A GHRH(1-29) analog that asks the pituitary gland to release growth hormone rather than replacing GH directly.

The plain-English model

Sermorelin is the 1-29 fragment of growth-hormone-releasing hormone. It is meant to stimulate the pituitary gland to release growth hormone.

Why it shows up in biohacking

The easy mental model is that sermorelin asks the body to make its own pulse, rather than supplying growth hormone from outside. It is popular in anti-aging and men's-health clinics because it sounds more physiological than direct growth hormone use.

What a serious reader should notice

People discuss it for sleep quality, recovery, body composition, and age-related decline in GH output. Those are common use-case discussions, not proof that every adult benefits. The strongest older human literature includes endocrine and growth studies, especially in children or older adults under controlled settings. The anti-aging leap is where caution is needed: a measurable hormone response does not automatically translate into better lifespan, better joints, or safer long-term outcomes.

EVIDENCE POSTURE

Tier 3

human physiology / narrow trials

COMMONLY DISCUSSED USE CASES

- Growth-hormone testing and stimulation
- Anti-aging clinic discussions
- Sleep and recovery claims

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 09 CONTINUED / EVIDENCE AND REFERENCES

Sermorelin

Evidence interpretation

The evidence label for this peptide is: **Human endocrine and pediatric growth literature; anti-aging extrapolation is weaker**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Historically used in endocrine contexts; anti-aging use is a separate extrapolation.

BOTTOM-LINE READING

A physiologic-sounding mechanism does not remove the need for diagnosis, monitoring, and realistic expectations.

EVIDENCE TIER

Tier 3: human physiology / narrow trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Effects of GHRH(1-29)-NH2 in Age-Advanced Men and Women
   Human randomized study in older adults
   HUMAN STUDY

2. Once-Daily GHRH Therapy Accelerates Growth in GH-Deficient Children
   Human pediatric growth study
   HUMAN PHYSIOLOGY

3. GHRH(1-29)NH2 in Children with Idiopathic Short Stature
   Human pediatric growth study
   HUMAN PHYSIOLOGY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 10 / GROWTH-HORMONE AXIS / VISCERAL FAT

Tesamorelin

#10

GHRH analog; prescription drug for a specific fat-distribution condition

MECHANISM IN ONE SENTENCE

A GHRH analog with human trial evidence for reducing excess visceral abdominal fat in HIV-associated lipodystrophy.

EVIDENCE POSTURE

Tier 2

controlled human data

The plain-English model

Tesamorelin is another growth-hormone-releasing hormone analog, but it has a more established drug-development story than many clinic peptides. Its best-known use is reducing excess abdominal fat in people with HIV-associated lipodystrophy.

Why it shows up in biohacking

In simple terms, it pushes the GH axis in a way that can reduce certain visceral-fat stores in a specific medical population. Biohackers discuss tesamorelin because visceral fat is closely tied to metabolic risk and because body-composition changes are easy to market.

What a serious reader should notice

It is often mentioned by people who want fat loss without talking about appetite- suppressing incretin drugs. The key limitation is population. A trial in HIV-associated abdominal fat accumulation does not automatically apply to a healthy person who wants a sharper waistline. The use case is medically narrower than many online discussions imply, and GH-axis manipulation needs clinical oversight.

COMMONLY DISCUSSED USE CASES

- Visceral-fat research
- HIV-associated lipodystrophy treatment
- Body-composition discussions

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 10 CONTINUED / EVIDENCE AND REFERENCES

Tesamorelin

Evidence interpretation

The evidence label for this peptide is: **Human randomized trials in HIV-associated abdominal fat accumulation**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Approved clinical context is narrow: excess abdominal fat in HIV-associated lipodystrophy.

BOTTOM-LINE READING

The best evidence is for a specific medical population; general visceral-fat claims require much more caution.

EVIDENCE TIER

Tier 2: controlled human data

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Effects of Tesamorelin in HIV-Infected Patients with Abdominal Fat Accumulation
   Human randomized trial
   HUMAN STUDY

2. Effects of Tesamorelin on Visceral Adipose Tissue in HIV-Associated Lipodystrophy
   Human 52-week study
   HUMAN PHYSIOLOGY

3. Effect of Tesamorelin on Visceral Fat and Liver Fat
   Human randomized trial; JAMA 2014
   HUMAN STUDY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 11 / FAT-LOSS FRAGMENT RESEARCH

AOD-9604

Modified fragment of human growth hormone; lipolysis research peptide

#11

MECHANISM IN ONE SENTENCE

A modified growth-hormone fragment studied for lipolytic and fat-oxidation effects, mostly outside modern obesity-drug evidence.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

The plain-English model

AOD-9604 is based on a fragment of human growth hormone that was studied for fat metabolism. The pitch is that it might keep the fat-burning part of growth hormone signaling while avoiding broader growth-hormone effects.

Why it shows up in biohacking

That simple story is why it became popular in physique and biohacking communities. People discuss it as a 'fat-loss peptide,' but the research base is much thinner than for semaglutide or tirzepatide.

What a serious reader should notice

AOD-9604 appears in animal studies of fat oxidation and weight change, and in drug-development discussions, but it is not a major mainstream obesity medicine. The plain-English takeaway is that AOD-9604 is a hypothesis-heavy compound. It is not enough to say, 'growth hormone burns fat, therefore this fragment will safely burn fat in me.' The leap from animal metabolic studies to unsupervised human fat-loss use is large.

COMMONLY DISCUSSED USE CASES

- Fat-loss claims
- Metabolic research
- Bodybuilding and physique forums

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 11 CONTINUED / EVIDENCE AND REFERENCES

AOD-9604

Evidence interpretation

The evidence label for this peptide is: **Mostly animal metabolic studies; weak clinical adoption**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Popular in physique circles but not a mainstream obesity medicine.

BOTTOM-LINE READING

Treat it as metabolic-fragment research with weak modern clinical adoption, not as a validated fat-loss drug.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Metabolic Studies of AOD9604, a Synthetic Lipolytic Domain of Human Growth Hormone
   Animal metabolic study
   ANIMAL/PRECLINICAL

2. Effects of Human GH and Its Lipolytic Fragment AOD9604
   Animal obesity/metabolism study
   ANIMAL/PRECLINICAL

3. Increase of Fat Oxidation and Weight Loss in Obese Mice Caused by AOD9604
   Animal fat-oxidation study
   ANIMAL/PRECLINICAL

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 12 / MITOCHONDRIAL & LONGEVITY RESEARCH

MOTS-c

#12

Mitochondrial-derived peptide; metabolism and aging research

MECHANISM IN ONE SENTENCE

A mitochondrial DNA-encoded peptide studied as a cellular stress and metabolic signaling molecule.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

The plain-English model

MOTS-c is a small peptide encoded by mitochondrial DNA. Mitochondria are often called the cell's power plants, but they are also signaling hubs. MOTS-c is interesting because it suggests mitochondria may send peptide messages that influence whole-body metabolism.

Why it shows up in biohacking

Biohackers talk about MOTS-c for energy, exercise response, insulin sensitivity, and longevity. The story is attractive: instead of just adding a supplement, you are supposedly tuning a deep cellular energy signal. That framing is why it has become a popular longevity-clinic peptide.

What a serious reader should notice

The science is real but still early. There are important animal and mechanistic studies, plus human studies looking at MOTS-c levels and exercise or metabolic states. That is not the same as proving that taking MOTS-c improves lifespan, athletic performance, or diabetes outcomes in healthy people.

COMMONLY DISCUSSED USE CASES

- Mitochondrial health claims
- Insulin-sensitivity and exercise discussions
- Longevity research interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 12 CONTINUED / EVIDENCE AND REFERENCES

MOTS-c

Evidence interpretation

The evidence label for this peptide is: **Preclinical plus early human physiology associations**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Longevity-clinic popularity is ahead of controlled human outcome evidence.

BOTTOM-LINE READING

The biology is interesting and early; human performance or longevity claims remain unproven.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. MOTS-c Promotes Metabolic Homeostasis and Reduces Obesity and Insulin Resistance
   Foundational animal/mechanistic study; Cell Metabolism 2015
   ANIMAL/PRECLINICAL

2. MOTS-c Interacts Synergistically with Exercise to Regulate Glucose Metabolism
   Human exercise/metabolism study
   HUMAN PHYSIOLOGY

3. Lipids and Insulin Regulate MOTS-c in PCOS and Healthy Subjects
   Human physiology study
   HUMAN PHYSIOLOGY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 13 / MITOCHONDRIAL & LONGEVITY RESEARCH

SS-31 / Elamipretide

#13

Mitochondrial cardiolipin-targeted peptide; clinical drug- development compound

MECHANISM IN ONE SENTENCE

A mitochondria-targeted peptide designed to interact with cardiolipin and support inner-membrane function under stress.

EVIDENCE POSTURE

Tier 3

human physiology / narrow trials

The plain-English model

SS-31, also called elamipretide, is designed to target mitochondria, especially a mitochondrial membrane lipid called cardiolipin. For dummies: if mitochondria are power plants, cardiolipin helps keep their inner machinery organized. Elamipretide is studied as a way to stabilize that machinery under stress.

Why it shows up in biohacking

Biohackers discuss it for energy, fatigue, aging, and mitochondrial optimization. Compared with many gray-market peptides, this one has a more serious clinical-development record, including trials in rare mitochondrial diseases. That makes it scientifically interesting, but not automatically a general-purpose wellness peptide.

What a serious reader should notice

The clinical evidence is mixed. Some early studies suggested signals on walking distance, fatigue, or disease symptoms, while later controlled trials did not meet key endpoints in broader primary mitochondrial myopathy populations. The responsible interpretation is not 'it works for energy,' but 'this is a targeted mitochondrial therapy area with unresolved clinical questions.'

COMMONLY DISCUSSED USE CASES

- Mitochondrial-disease research
- Fatigue and energy discussions
- Longevity and cellular-stress interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 13 CONTINUED / EVIDENCE AND REFERENCES

SS-31 / Elamipretide

Evidence interpretation

The evidence label for this peptide is: **Human trials in mitochondrial disorders; mixed results**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Clinical research has focused on mitochondrial disease, with mixed efficacy signals.

BOTTOM-LINE READING

This is a serious mitochondrial drug-development area with mixed trial results, not a generic energy supplement.

EVIDENCE TIER

Tier 3: human physiology / narrow trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. A Randomized Crossover Trial of Elamipretide in Adults with Primary Mitochondrial Myopathy
   Human randomized crossover trial
   HUMAN STUDY

2. A Phase 2/3 Randomized Clinical Trial of Elamipretide in Barth Syndrome
   Human rare-disease trial with open-label extension
   HUMAN STUDY

3. Efficacy and Safety of Elamipretide in Primary Mitochondrial Myopathy: MMPOWER-3
   Human randomized clinical trial with negative primary findings
   HUMAN STUDY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 14 / LONGEVITY & AGING-MARKER RESEARCH

Epitalon / Epithalon

Synthetic tetrapeptide; aging and pineal-gland research

#14

MECHANISM IN ONE SENTENCE

A synthetic tetrapeptide associated with pineal, neuroendocrine, telomerase, and aging-marker research.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

The plain-English model

Epitalon, also spelled epithalon, is a short synthetic peptide often linked to pineal-gland and aging research. It is usually discussed as a longevity peptide because some studies looked at lifespan, tumors, neuroendocrine regulation, and telomerase-related biology.

Why it shows up in biohacking

The biohacking story is easy to understand: aging is associated with changes in hormones, sleep, cell repair, and telomeres, so a peptide that appears to influence those systems becomes attractive. People talk about it for sleep rhythms, anti-aging, and cellular renewal.

What a serious reader should notice

The evidence is not in the same league as modern obesity-drug trials. Much of the literature is older, preclinical, or mechanistic. Interesting signals in mice, monkeys, or cells do not prove a human longevity intervention. Read epitalon as a research curiosity with bold claims around it, not as a validated anti-aging medication.

COMMONLY DISCUSSED USE CASES

- Longevity claims
- Sleep and circadian discussions
- Telomere and aging-marker interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 14 CONTINUED / EVIDENCE AND REFERENCES

Epitalon / Epithalon

Evidence interpretation

The evidence label for this peptide is: **Mostly older preclinical and cell studies; limited modern clinical evidence**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Most evidence is preclinical, mechanistic, or older translational work.

BOTTOM-LINE READING

Longevity claims should be separated from the limited, older, and mostly preclinical evidence base.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Effect of Epitalon on Biomarkers of Aging, Life Span, and Tumor Incidence in Mice
   Animal aging/lifespan study
   ANIMAL/PRECLINICAL

2. Epithalon Peptide Induces Telomerase Activity and Telomere Elongation in Human Somatic Cells
   Cell/mechanistic study
   MECHANISTIC

3. Epitalon Restores Disturbed Neuroendocrine Regulation in Senescent Monkeys
   Nonhuman-primate study
   HUMAN PHYSIOLOGY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 15 / IMMUNE MODULATION

Thymosin Alpha-1 / TA-1

Immune-modulating thymic peptide

#15

MECHANISM IN ONE SENTENCE

A thymic peptide studied for context-specific immune modulation rather than blunt immune stimulation.

The plain-English model

Thymosin alpha-1 is a peptide originally associated with immune regulation. It is discussed as a way to influence T-cell and antiviral immune responses.

Why it shows up in biohacking

In plain language, it is not a vitamin-like immune booster; it is an immune-signaling molecule with drug-like effects. Biohackers and functional-medicine circles talk about TA-1 for immune resilience, viral recovery, chronic infections, and general immune balance.

What a serious reader should notice

Some of that interest comes from trials in conditions such as chronic hepatitis B and severe inflammatory illness. The important caution is that the immune system is not a simple volume knob. More activation is not always better, and different diseases involve different immune problems. TA-1 has real clinical literature, but wellness extrapolation should be treated carefully.

EVIDENCE POSTURE

Tier 3

human physiology / narrow trials

COMMONLY DISCUSSED USE CASES

- Immune-function discussions
- Chronic-infection and resilience claims
- Inflammatory-state research

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 15 CONTINUED / EVIDENCE AND REFERENCES

Thymosin Alpha-1 / TA-1

Evidence interpretation

The evidence label for this peptide is: **Human trials in infectious and inflammatory conditions; context-specific**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Used internationally in some immune-related contexts; availability and regulatory status vary.

BOTTOM-LINE READING

Immune modulation can be clinically meaningful, but it is not a universal immune booster.

EVIDENCE TIER

Tier 3: human physiology / narrow trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Efficacy of Thymosin Alpha-1 in Patients with Chronic Hepatitis B
   Human randomized trial/meta-analysis-era hepatitis study
   HUMAN STUDY

2. Thymosin Alpha-1 Versus Interferon-Alpha in Chronic Hepatitis B
   Human randomized controlled trial
   HUMAN STUDY

3. Thymosin Alpha-1 in Severe Acute Pancreatitis
   Human double-blind randomized control study
   HUMAN STUDY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 16 / **INFLAMMATION & GUT RESEARCH**

KPV

Anti-inflammatory tripeptide derived from alpha-MSH

#16

MECHANISM IN ONE SENTENCE

A tiny alpha-MSH-derived tripeptide studied for anti-inflammatory signaling, especially in gut models.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

COMMONLY DISCUSSED USE CASES

- Gut-inflammation discussions
- Skin and immune-calming claims
- Inflammatory bowel disease research interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

The plain-English model

KPV is a three-amino-acid fragment related to alpha-melanocyte-stimulating hormone, a molecule involved in inflammation and immune signaling. The simple version: KPV is studied as a tiny anti-inflammatory message, especially in tissues like the gut.

Why it shows up in biohacking

Biohackers discuss it for gut health, inflammatory bowel problems, skin inflammation, and immune calming. It is appealing because it sounds targeted and gentler than broad immunosuppressive drugs.

What a serious reader should notice

That appeal should not be confused with proof for self-treatment. Most of the evidence is preclinical, including cell, animal, and delivery-system studies. These papers support biological plausibility, especially around intestinal inflammation, but they do not prove that over-the-counter or gray-market KPV products treat human inflammatory disease.

PROFILE 16 CONTINUED / EVIDENCE AND REFERENCES

KPV

Evidence interpretation

The evidence label for this peptide is: **Mostly preclinical gut and inflammation studies**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Human clinical evidence for self-directed gut or skin use is not established.

BOTTOM-LINE READING

The gut-inflammation rationale is plausible, but human disease-treatment claims are ahead of the evidence.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. PepT1-Mediated Tripeptide KPV Uptake Reduces Intestinal Inflammation
   Gut inflammation mechanistic study
   MECHANISTIC

2. Melanocortin-Derived Tripeptide KPV Has Anti-Inflammatory Potential for Colitis
   Animal colitis/inflammation study
   ANIMAL/PRECLINICAL

3. Orally Targeted Delivery of Tripeptide KPV via Hyaluronic Acid-Functionalized Nanoparticles
   Animal delivery and colitis study
   ANIMAL/PRECLINICAL

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 17 / INNATE IMMUNITY & ANTIMICROBIAL PEPTIDES

LL-37

Human antimicrobial cathelicidin peptide

#17

MECHANISM IN ONE SENTENCE

A natural human cathelicidin antimicrobial peptide that also participates in immune signaling and inflammation.

The plain-English model

LL-37 is a natural human antimicrobial peptide. It is part of innate immunity, the first-line defense system that responds before the more specific antibody response is built. It can interact with microbes, immune cells, inflammation, and wound-repair pathways.

Why it shows up in biohacking

Biohackers discuss LL-37 because 'antimicrobial peptide' sounds like a targeted immune weapon. The use-case chatter often includes infections, skin problems, gut issues, and immune defense. But antimicrobial peptides are not simple natural antibiotics; they can also influence inflammation and tissue behavior.

What a serious reader should notice

This is a high-caution category. A peptide that can affect microbes and immune signaling may behave very differently depending on disease context, tissue, and route. Published studies include basic antimicrobial biology, animal infection models, and even cancer-immunology work, but that does not make LL-37 a casual wellness tool.

EVIDENCE POSTURE

Tier 5

mixed or limited evidence

COMMONLY DISCUSSED USE CASES

- Antimicrobial-defense research
- Immune signaling discussions
- Skin, infection, and cancer-immunology interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 17 CONTINUED / EVIDENCE AND REFERENCES

LL-37

Evidence interpretation

The evidence label for this peptide is: **Strong biology; therapeutic use remains complex and context-specific**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

High-caution immune-active peptide; disease context is central.

BOTTOM-LINE READING

Antimicrobial and immune-active peptides require high caution because context determines benefit versus harm.

EVIDENCE TIER

Tier 5: mixed or limited evidence

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Activities of LL-37, a Cathelin-Associated Antimicrobial Peptide
   Foundational antimicrobial study
   PEER-REVIEWED RESOURCE

2. LL-37 and IDR-1 Ameliorate MRSA Pneumonia in Mice
   Animal infection study
   ANIMAL/PRECLINICAL

3. Intratumoral LL-37 in Malignant Melanoma: Clinicopathologic Features
   Human cancer-immunology clinical report
   HUMAN STUDY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 18 / NOOTROPIC & NEUROPROTECTION RESEARCH

Semax

#18

ACTH(4-10)-related nootropic peptide

MECHANISM IN ONE SENTENCE

An ACTH(4-10)-related peptide discussed for neurotrophic, cognitive, and stress-response pathways.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

COMMONLY DISCUSSED USE CASES

- Focus and cognition claims
- Stroke and neuroprotection research
- Stress and brain-recovery discussions

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

The plain-English model

Semax is a peptide derived from a fragment of ACTH, a hormone better known for its role in the stress axis. Semax is not used in biohacking as a steroid signal; it is discussed as a brain and nootropic peptide, with interest in neurotrophic factors like BDNF.

Why it shows up in biohacking

People talk about Semax for focus, motivation, mood, and brain recovery. Some literature also examines ischemic stroke and gene-expression changes after brain injury.

What a serious reader should notice

The simple idea is that Semax may influence how brain cells respond to stress and repair demands. The evidence is uneven. There are real peer-reviewed papers, including animal and human studies, but not the same large global development program seen with major prescription drugs. It is best understood as a neuroscience research peptide with regional clinical history and limited generalizability.

PROFILE 18 CONTINUED / EVIDENCE AND REFERENCES

Semax

Evidence interpretation

The evidence label for this peptide is: **Russian and preclinical neurobiology literature; limited broad international trials**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Regional clinical history and animal work exist; international validation is limited.

BOTTOM-LINE READING

It has real neurobiology literature, but the evidence is not equivalent to modern, large international nootropic trials.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Semax Binds to Receptors in Rat Basal Forebrain and Stimulates BDNF Synthesis
   Animal/mechanistic neurobiology study
   ANIMAL/PRECLINICAL

2. Semax Affects Expression of Vascular-System Genes in Rat Brain Focal Ischemia
   Animal stroke/gene-expression study
   ANIMAL/PRECLINICAL

3. Efficacy of Semax in Patients at Different Stages of Ischemic Stroke
   Human clinical study; English abstract available
   HUMAN STUDY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 19 / NOOTROPIC, ANXIETY & STRESS RESEARCH

Selank

#19

Tuftsin-related anxiolytic/nootropic peptide

MECHANISM IN ONE SENTENCE

A tuftsin-related peptide discussed for anxiety, stress resilience, and neurotransmission-related gene expression.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

The plain-English model

Selank is a synthetic peptide related to tuftsin, an immune-linked peptide. In biohacking, it is discussed mostly for anxiety, stress resilience, and cognition.

Why it shows up in biohacking

For dummies: it is marketed as a calmer-brain peptide rather than a stimulant. The science story often centers on GABA, which is one of the brain's main calming neurotransmitter systems, plus effects on gene expression and immune signaling.

What a serious reader should notice

That makes Selank attractive to people looking for less sedating stress control or nootropic support. The evidence is real but narrow. Some human studies come from Russian-language or regional literature, and mechanistic papers show changes in gene expression and brain connectivity. That is useful research, but it is not a clean guarantee of benefit for every anxious or high-performing adult.

COMMONLY DISCUSSED USE CASES

- Anxiety and stress discussions
- Nootropic claims
- GABA and immune-signaling research

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 19 CONTINUED / EVIDENCE AND REFERENCES

Selank

Evidence interpretation

The evidence label for this peptide is: **Small human and preclinical neurobiology studies; limited broad validation**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Regional and mechanistic literature exists; broad clinical validation is limited.

BOTTOM-LINE READING

Potential anxiety and stress-signaling effects are research-relevant, but broad consumer claims remain under-validated.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Efficacy and Possible Mechanisms of Action of Selank in Anxiety Disorders
   Human clinical-biological study
   HUMAN STUDY

2. Selank Administration Affects Expression of Genes Involved in Neurotransmission
   Animal gene-expression study
   ANIMAL/PRECLINICAL

3. Functional Connectomic Approach to Studying Selank and Semax Effects
   Human resting-state fMRI/connectivity study
   HUMAN PHYSIOLOGY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 20 / ADVANCED NOOTROPIC / NEUROREPAIR RESEARCH

Dihexa

Angiotensin IV-derived procognitive peptide analog

#20

MECHANISM IN ONE SENTENCE

An angiotensin IV-derived compound studied for HGF/c-Met-linked synaptogenic and procognitive activity.

The plain-English model

Dihexa is a synthetic peptide-like compound derived from angiotensin IV research. It is discussed for cognition because it appears to interact with the hepatocyte growth factor/c-Met system, a pathway involved in cell growth and synapse- related biology.

Why it shows up in biohacking

In simple terms, it is marketed as a synapse-support compound. Biohackers talk about Dihexa as an 'advanced nootropic' because animal and cell studies suggest procognitive or synaptogenic effects.

What a serious reader should notice

That makes it sound powerful, especially in communities interested in memory, neurodegeneration, and brain repair. This is one of the clearest examples of hype outrunning human evidence. The published work is mostly preclinical, and pathways involving growth and c-Met are biologically serious. A compound that may affect synapse formation is not automatically safe for casual experimentation.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

COMMONLY DISCUSSED USE CASES

- Extreme nootropic claims
- Alzheimer-model research
- Synapse-formation and neurorepair interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 20 CONTINUED / EVIDENCE AND REFERENCES

Dihexa

Evidence interpretation

The evidence label for this peptide is: **Preclinical cognition and HGF/c-Met pathway studies**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Preclinical nootropic compound; growth-pathway biology warrants caution.

BOTTOM-LINE READING

The mechanism sounds powerful because it touches growth and synapse pathways; that is also why self-experimentation carries serious uncertainty.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Procognitive and Synaptogenic Effects of Angiotensin IV-Derived Peptides
   Preclinical HGF/c-Met mechanism study
   PEER-REVIEWED RESOURCE

2. AngIV-Analog Dihexa Rescues Cognitive Impairment in Alzheimer Disease Models
   Animal Alzheimer-model study
   ANIMAL/PRECLINICAL

3. Hepatocyte Growth Factor Mimetic Protects Lateral Line Hair Cells from Aminoglycoside Exposure
   Zebrafish/ototoxicity model including Dihexa-related biology
   ANIMAL/PRECLINICAL

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 21 / SLEEP & RECOVERY RESEARCH

DSIP / Delta Sleep-Inducing Peptide

#21

Sleep-associated peptide with unresolved biology

MECHANISM IN ONE SENTENCE

An older sleep-associated peptide with debated biology and limited modern validation.

The plain-English model

DSIP stands for delta sleep-inducing peptide. The name is the marketing hook: delta waves are associated with deep sleep, so a 'delta sleep' peptide sounds like it should improve sleep architecture. The real biology has been debated for decades.

Why it shows up in biohacking

Biohackers discuss DSIP for insomnia, recovery, stress, and sleep depth. The appeal is obvious: sleep affects performance, mood, hormones, glucose control, and appetite. Anything that might improve sleep becomes a major biohacking topic.

What a serious reader should notice

The caution is that DSIP is not a modern, well-validated sleep medication. The human literature is older and small, and reviews have described the peptide as an unresolved riddle. It is a real research topic, but the claims around it are much cleaner than the evidence.

EVIDENCE POSTURE

Tier 5

mixed or limited evidence

COMMONLY DISCUSSED USE CASES

- Sleep-quality claims
- Stress and recovery discussions
- Insomnia research interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 21 CONTINUED / EVIDENCE AND REFERENCES

DSIP / Delta Sleep-Inducing Peptide

Evidence interpretation

The evidence label for this peptide is: **Older small human sleep studies; unclear mechanism and modern role**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Older, small sleep studies; mechanism remains unsettled.

BOTTOM-LINE READING

The name overpromises; the modern evidence base is small and unresolved.

EVIDENCE TIER

Tier 5: mixed or limited evidence

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Effects of Delta Sleep-Inducing Peptide on Sleep of Chronic Insomniac Patients
   Human sleep study
   HUMAN PHYSIOLOGY

2. Study of DSIP Efficacy in Improving Sleep in Insomniac Patients
   Human sleep study
   HUMAN PHYSIOLOGY

3. A Clinical Trial With DSIP
   Human clinical trial report
   HUMAN STUDY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 22 / REPRODUCTIVE-AXIS SIGNALING

Kisspeptin-10

Reproductive-axis signaling peptide

#22

MECHANISM IN ONE SENTENCE

A reproductive-axis signal upstream of GnRH, LH, FSH, and sex-hormone production.

The plain-English model

Kisspeptin-10 is a short peptide that helps control the reproductive hormone axis. It signals upstream of gonadotropin-releasing hormone, which then influences LH and FSH, which then affect sex-hormone production.

Why it shows up in biohacking

For dummies: it is near the top of the hormonal command chain for reproduction. Biohackers discuss it for testosterone, fertility, libido, and restarting or supporting the reproductive axis.

What a serious reader should notice

The reason is that kisspeptin can stimulate LH release in humans, and LH is one of the main signals telling the testes to make testosterone. The research is legitimate endocrine physiology, but not a simple testosterone hack. Hormone systems are feedback loops. Pushing one signal can produce different results depending on sex, age, metabolic status, fertility status, and baseline hormone function.

EVIDENCE POSTURE

Tier 3

human physiology / narrow trials

COMMONLY DISCUSSED USE CASES

- Fertility-axis research
- Testosterone signaling discussions
- Libido and reproductive-hormone interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 22 CONTINUED / EVIDENCE AND REFERENCES

Kisspeptin-10

Evidence interpretation

The evidence label for this peptide is: **Human endocrine studies showing LH/testosterone pathway effects**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Human endocrine effects are real, but fertility and hormone care are specialist domains.

BOTTOM-LINE READING

It clearly touches reproductive hormones, but endocrine feedback loops make simple testosterone-hack framing misleading.

EVIDENCE TIER

Tier 3: human physiology / narrow trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Kisspeptin-10 Stimulates LH and Increases Pulse Frequency in Men
   Human endocrine study
   HUMAN PHYSIOLOGY

2. Effects of Kisspeptin-10 on Reproductive Hormone Release Show Sexual Dimorphism
   Human endocrine study
   HUMAN PHYSIOLOGY

3. Kisspeptin-10 Stimulates Testosterone and LH Secretion in Men with Type 2 Diabetes
   Human endocrine study
   HUMAN PHYSIOLOGY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 23 / SEXUAL FUNCTION & MELANOCORTINS

PT-141 / Bremelanotide

#23

Melanocortin receptor agonist; sexual-desire medication pathway

MECHANISM IN ONE SENTENCE

A melanocortin receptor agonist that acts centrally on sexual desire and arousal pathways.

The plain-English model

PT-141, also called bremelanotide, works through melanocortin receptors. Unlike drugs that mainly change blood flow, bremelanotide acts more centrally through brain pathways involved in sexual desire and arousal.

Why it shows up in biohacking

In simple terms, it is not just a plumbing drug; it is a desire-signaling drug. Biohackers discuss it for libido, sexual performance, and relationship or hormone optimization.

What a serious reader should notice

Some of that discussion is broader than the approved medical use, especially when people generalize from trial populations to all men and women. The evidence includes real human trials, especially in premenopausal women with hypoactive sexual desire disorder and earlier studies in men with erectile dysfunction. The practical caution is that sexual function has psychological, vascular, hormonal, medication-related, and relationship causes; one pathway is not a universal answer.

EVIDENCE POSTURE

Tier 2

controlled human data

COMMONLY DISCUSSED USE CASES

- Sexual desire and arousal discussions
- Erectile-function research history
- Melanocortin pathway interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 23 CONTINUED / EVIDENCE AND REFERENCES

PT-141 / Bremelanotide

Evidence interpretation

The evidence label for this peptide is: **Human randomized trials for specific sexual-function indications**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Bremelanotide has an approved drug pathway for a specific sexual-desire indication.

BOTTOM-LINE READING

Evidence is indication-specific; sexual function is multi-factorial and not reducible to one peptide pathway.

EVIDENCE TIER

Tier 2: controlled human data

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Bremelanotide for Hypoactive Sexual Desire Disorder: Two Phase 3 Trials
   Human phase 3 randomized trials
   HUMAN STUDY

2. Bremelanotide for Female Sexual Dysfunctions in Premenopausal Women
   Human randomized dose-finding trial
   HUMAN STUDY

3. Intranasal PT-141 in Healthy Males and Men with Mild-to-Moderate Erectile Dysfunction
   Human placebo- controlled study
   HUMAN PHYSIOLOGY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

REFERENCE SUPPLIER

Research-only peptide catalog

Scan to review the catalog. Confirm legal status, handling requirements, documentation, and institutional compliance before any laboratory procurement.

PROFILE 24 / **MELANOCORTIN / TANNING GRAY MARKET**

Melanotan II

#24

Melanocortin receptor agonist; tanning and libido gray-market peptide

MECHANISM IN ONE SENTENCE

A melanocortin receptor agonist affecting pigmentation, sexual signaling, and appetite-related pathways.

EVIDENCE POSTURE

Tier 5

mixed or limited evidence

COMMONLY DISCUSSED USE CASES

- Tanning claims
- Libido and erectile-response discussions
- Appetite and melanocortin pathway interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

The plain-English model

Melanotan II is a melanocortin receptor agonist. It was originally studied because melanocortin signaling affects pigmentation, meaning skin tanning, but the pathway also touches appetite and sexual arousal.

Why it shows up in biohacking

That multi-effect profile is exactly why it became a gray-market favorite. Biohackers and appearance-focused communities discuss it for tanning with less sun exposure and sometimes for libido.

What a serious reader should notice

Those are powerful incentives, but they also encourage risky, nonmedical use because the visible effect can make the compound feel immediately effective. The safety caution is substantial. Pigment biology, nausea, cardiovascular-type symptoms, sexual effects, and skin-lesion monitoring are not trivial. The literature includes early human studies and later user-experience or case-based concerns, but this is not a casual cosmetic product.

PROFILE 24 CONTINUED / EVIDENCE AND REFERENCES

Melanotan II

Evidence interpretation

The evidence label for this peptide is: **Small human studies plus safety/case and user-experience literature**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Gray-market tanning use has safety and dermatology concerns.

BOTTOM-LINE READING

Visible tanning effects do not make it a safe cosmetic; pigmentation and melanocortin biology require medical caution.

EVIDENCE TIER

Tier 5: mixed or limited evidence

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Evaluation of Melanotan-II in a Pilot Phase-I Clinical Study
   Small human phase 1 study
   HUMAN STUDY

2. Melanocortin Receptor Agonists, Penile Erection, and Sexual Motivation
   Human study of Melanotan II sexual effects
   HUMAN PHYSIOLOGY

3. Melanotan II User Experience: A Qualitative Study of Online Discussion Forums
   Peer-reviewed qualitative user- experience study
   REVIEW

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 25 / FAT-LOSS FRAGMENT RESEARCH

HGH Fragment 176-191

#25

Growth-hormone fragment; overlaps with AOD-9604 literature

MECHANISM IN ONE SENTENCE

A growth-hormone fragment area marketed around lipolytic signaling but supported mainly by fragment/AOD research.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

The plain-English model

HGH Fragment 176-191 refers to a short region near the end of human growth hormone that is associated with lipolytic, or fat-mobilizing, activity. In biohacking language, it is usually marketed as the 'fat-loss part' of growth hormone without the full growth-hormone package.

Why it shows up in biohacking

This entry overlaps heavily with AOD-9604, which is a modified version of a related human growth hormone fragment. That is why the study base for HGH Fragment 176-191 and AOD-9604 is not cleanly separable in many online discussions.

What a serious reader should notice

The main caution is that a molecular fragment with interesting animal effects is not the same as a proven human fat-loss drug. Most of the useful PubMed literature is animal metabolic work, and modern obesity medicine has moved toward better-studied incretin drugs.

COMMONLY DISCUSSED USE CASES

- Fat-loss claims
- Physique and bodybuilding discussions
- Growth-hormone pathway interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 25 CONTINUED / EVIDENCE AND REFERENCES

HGH Fragment 176-191

Evidence interpretation

The evidence label for this peptide is: **Mostly animal metabolic studies; direct human outcome evidence is weak**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Often overlaps with AOD-9604 literature rather than direct human outcome evidence.

BOTTOM-LINE READING

This is best read as fragment-based metabolic research, not as proven human fat-loss pharmacology.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Metabolic Studies of AOD9604, a Synthetic Lipolytic Domain of Human Growth Hormone
   Animal metabolic study relevant to hGH fragment literature
   ANIMAL/PRECLINICAL

2. Effects of Human GH and Its Lipolytic Fragment AOD9604
   Animal obesity/metabolism study relevant to hGH fragment literature
   ANIMAL/PRECLINICAL

3. Increase of Fat Oxidation and Weight Loss in Obese Mice Caused by AOD9604
   Animal fat-oxidation study relevant to hGH fragment literature
   ANIMAL/PRECLINICAL

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 26 / **GROWTH-FACTOR / BODYBUILDING RESEARCH**

IGF-1 LR3

Longer-acting IGF-1 analog; growth-signaling compound

#26

MECHANISM IN ONE SENTENCE

A modified IGF-1 analog that engages growth and nutrient-signaling pathways with higher enhancement and safety concerns.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

The plain-English model

IGF-1 LR3 is a modified form of insulin-like growth factor 1. IGF-1 is one of the body's major growth and nutrient- signaling molecules, closely connected with growth hormone. LR3 modifications make the molecule behave differently than ordinary IGF-1, especially in binding and duration.

Why it shows up in biohacking

Biohackers and bodybuilding communities discuss IGF-1 LR3 for muscle growth, recovery, and nutrient partitioning. The name alone attracts attention because IGF-1 sits near the center of growth biology. That same reason makes it a higher- caution compound.

What a serious reader should notice

The research base is not a set of human hypertrophy trials proving safe enhancement. Much of the literature is animal, fetal, metabolic, or anti-doping oriented. Growth pathways can also be relevant to unwanted cell growth and metabolic disruption, so this is not a casual peptide category.

COMMONLY DISCUSSED USE CASES

- Muscle-growth claims
- Recovery and hypertrophy discussions
- Anti-doping and growth-factor research

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 26 CONTINUED / EVIDENCE AND REFERENCES

IGF-1 LR3

Evidence interpretation

The evidence label for this peptide is: **Mostly animal and experimental physiology studies; not mainstream wellness medicine**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Not mainstream wellness medicine; growth-factor manipulation is high risk.

BOTTOM-LINE READING

Growth-factor signaling is a high-caution category; bodybuilding claims are not matched by clean human enhancement trials.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. LR3IGF-I Ameliorates Loss of Body Weight During Food Restriction
   Animal/metabolism study
   ANIMAL/PRECLINICAL

2. IGF-1 LR3 Does Not Promote Growth in Fetal Sheep with Placental Insufficiency
   Animal/fetal physiology study
   ANIMAL/PRECLINICAL

3. Attenuated Glucose-Stimulated Insulin Secretion During IGF-1 LR3 Infusion
   Animal/fetal metabolic study
   ANIMAL/PRECLINICAL

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 27 / **MUSCLE REPAIR & IGF-1 SPLICE-VARIANT RESEARCH**

PEG-MGF

Pegylated mechano-growth-factor concept; IGF-1 splice- variant peptide area

#27

MECHANISM IN ONE SENTENCE

A pegylated version of the mechano-growth-factor concept, connected to IGF-1 splice-variant repair biology.

The plain-English model

PEG-MGF is the biohacking name for a pegylated version of mechano-growth factor, a peptide sequence associated with an IGF-1 splice variant. 'Pegylated' means a polyethylene glycol chain is added to change how long a molecule lasts.

Why it shows up in biohacking

The basic claim is that it extends a local repair signal. Bodybuilding forums discuss PEG-MGF for muscle repair, satellite-cell activation, hypertrophy, and post-training recovery.

What a serious reader should notice

The concept is attractive because exercise itself creates mechanical stress, and mechano-growth factor sounds like the body's response to that stress captured in a vial. The evidence caveat is major: much of the peer-reviewed literature is on MGF or IGF-1Ec-derived peptides, not necessarily the exact gray-market PEG-MGF product being sold. That means the study base supports biological plausibility, not a verified enhancement protocol.

EVIDENCE POSTURE

Tier 4

preclinical / mechanistic

COMMONLY DISCUSSED USE CASES

- Muscle-repair claims
- Tendon and injury-recovery discussions
- Bodybuilding hypertrophy interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 27 CONTINUED / EVIDENCE AND REFERENCES

PEG-MGF

Evidence interpretation

The evidence label for this peptide is: **Mostly MGF/IGF-1Ec preclinical studies; direct PEG-MGF human evidence is sparse**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Evidence is often inferred from MGF/IGF-1Ec research rather than exact commercial products.

BOTTOM-LINE READING

The concept is biologically plausible, but exact-product evidence is sparse and often inferred from related MGF research.

EVIDENCE TIER

Tier 4: preclinical / mechanistic

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Mechano Growth Factor E Peptide and Human Muscle Satellite Cells
   Cell/mechanistic muscle study
   MECHANISTIC

2. Mechano-Growth Factor Reduces Loss of Cardiac Function After Myocardial Infarction
   Animal cardiac-repair study
   ANIMAL/PRECLINICAL

3. Mechano-Growth Factor E Peptide Promotes Healing of Rat Injured Tendon
   Animal tendon-healing study
   ANIMAL/PRECLINICAL

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 28 / GROWTH-HORMONE AXIS

GHRP-2

#28

Growth-hormone-releasing peptide; ghrelin-receptor secretagogue

MECHANISM IN ONE SENTENCE

An older ghrelin-receptor growth-hormone secretagogue used in endocrine stimulation research.

EVIDENCE POSTURE

Tier 3

human physiology / narrow trials

The plain-English model

GHRP-2 is an older growth-hormone-releasing peptide. It stimulates GH release partly through the ghrelin receptor system.

Why it shows up in biohacking

For dummies: it tells the pituitary to release growth hormone, but it may also touch appetite and stress-hormone systems depending on context. Biohackers discuss GHRP-2 for GH pulses, recovery, fat loss, and lean mass.

What a serious reader should notice

It is less fashionable than ipamorelin in many circles because it is often viewed as less selective, but it remains part of bodybuilding and hormone-optimization discussions. The human research shows that GHRP-2 can stimulate GH and has been studied in diagnostic testing and endocrine protocols. That is not the same as evidence that repeated use improves performance, slows aging, or changes body composition safely in healthy adults.

COMMONLY DISCUSSED USE CASES

- Growth-hormone testing and stimulation
- Body-composition claims
- Appetite and recovery discussions

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 28 CONTINUED / EVIDENCE AND REFERENCES

GHRP-2

Evidence interpretation

The evidence label for this peptide is: **Human endocrine studies; limited outcome evidence for healthy biohackers**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Studied as an endocrine stimulator and diagnostic tool; wellness claims are broader.

BOTTOM-LINE READING

Human endocrine stimulation does not prove durable body-composition or anti-aging outcomes in healthy users.

EVIDENCE TIER

Tier 3: human physiology / narrow trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. A Simple Diagnostic Test Using GH-Releasing Peptide-2 in Adult GH Deficiency
   Human diagnostic endocrine study
   HUMAN PHYSIOLOGY

2. Sustained Elevation of Pulsatile GH Secretion by Intermittent GHRP-2 and GHRH in Older Adults
   Human endocrine study
   HUMAN PHYSIOLOGY

3. Effects of GHRP-2 and Hexarelin on GH, Prolactin, ACTH, and Cortisol
   Human endocrine study in children and adults
   HUMAN PHYSIOLOGY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 29 / GROWTH-HORMONE AXIS

GHRP-6

#29

Older growth-hormone-releasing peptide; ghrelin-like secretagogue

MECHANISM IN ONE SENTENCE

A classic ghrelin-like growth-hormone-releasing peptide also associated with appetite effects.

The plain-English model

GHRP-6 is one of the classic growth-hormone-releasing peptides. It was studied for its ability to trigger growth hormone release, including after oral administration in some early studies.

Why it shows up in biohacking

It also became known in bodybuilding circles for appetite-related effects. The biohacking use-case story is similar to GHRP-2: more GH pulses, more recovery, better body composition, and sometimes increased hunger for bulking.

What a serious reader should notice

The appetite angle is why it appears in some physique discussions even when newer peptides are preferred for 'cleaner' GH stimulation. The published human work is mainly endocrine physiology, not proof of safe enhancement. Older studies can show that a peptide changes hormone levels under controlled conditions, but that does not answer long-term safety, product- quality, or real-world outcome questions.

EVIDENCE POSTURE

Tier 3

human physiology / narrow trials

COMMONLY DISCUSSED USE CASES

- Growth-hormone release discussions
- Bulking and appetite claims
- Bodybuilding recovery interest

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 29 CONTINUED / EVIDENCE AND REFERENCES

GHRP-6

Evidence interpretation

The evidence label for this peptide is: **Human endocrine studies; older and narrower than modern claims**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Older endocrine physiology literature; modern enhancement claims remain underproven.

BOTTOM-LINE READING

Older GH-release physiology studies should not be mistaken for modern long-term enhancement evidence.

EVIDENCE TIER

Tier 3: human physiology / narrow trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Growth Hormone-Releasing Activity of GHRP-6 After Oral Administration in Elderly Women
   Human endocrine study
   HUMAN PHYSIOLOGY

2. Arginine Enhances GH-Releasing Activity of GHRP-6 in Elderly Subjects
   Human endocrine study
   HUMAN PHYSIOLOGY

3. Effects of GHRH, Atropine, Pyridostigmine, or Hypoglycemia on GHRP-6-Induced GH Secretion
   Human endocrine study
   HUMAN PHYSIOLOGY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

PROFILE 30 / RARE-OBESITY APPETITE PATHWAY

Setmelanotide

#30

Melanocortin-4 receptor agonist; rare-obesity prescription pathway

MECHANISM IN ONE SENTENCE

An MC4R agonist targeting a specific brain appetite pathway involved in rare genetic obesity syndromes.

The plain-English model

Setmelanotide activates the melanocortin-4 receptor, or MC4R, a brain pathway involved in hunger and energy balance. This is not ordinary diet culture; MC4R sits in a biological circuit where certain rare genetic problems can cause severe early-onset obesity.

Why it shows up in biohacking

Biohackers discuss setmelanotide because it shows that appetite and body weight can be changed by very specific brain signaling pathways. It is also a reminder that not all obesity biology is the same: some people have identifiable pathway defects that require targeted medical treatment.

What a serious reader should notice

The use case is narrow. The strongest evidence is in rare genetic obesity syndromes and related hypothalamic obesity research, not general weight loss. This is a specialized medical drug pathway, not a broad substitute for GLP-1/GIP drugs or lifestyle treatment.

EVIDENCE POSTURE

Tier 3

human physiology / narrow trials

COMMONLY DISCUSSED USE CASES

- Rare genetic obesity treatment
- Appetite-pathway research
- MC4R and metabolic signaling discussions

NOT A PROTOCOL

This ebook explains concepts and evidence quality. It does not provide dosing, reconstitution, injection, sourcing, or self-experimentation instructions.

PROFILE 30 CONTINUED / EVIDENCE AND REFERENCES

Setmelanotide

Evidence interpretation

The evidence label for this peptide is: **Human trials in rare genetic and hypothalamic obesity conditions**. That phrase matters because biohacking communities often treat mechanism, animal data, small endocrine studies, and large outcome trials as if they carry the same weight. They do not.

Prescription pathway for rare genetic or hypothalamic obesity indications.

BOTTOM-LINE READING

It is a specialized appetite-pathway drug for rare obesity biology, not a broad weight-loss peptide.

EVIDENCE TIER

Tier 3: human physiology / narrow trials

Higher tiers mean more controlled human evidence for at least one clinical use. They do not eliminate contraindications, adverse effects, product-quality concerns, or legal restrictions.

Three linked study resources

1. Setmelanotide in Obesity Due to POMC or LEPR Deficiency
   Human phase 3 trial; NEJM 2020
   HUMAN STUDY

2. Setmelanotide in Bardet-Biedl Syndrome
   Human phase 3 trial; Lancet Diabetes Endocrinol 2022
   HUMAN STUDY

3. Setmelanotide for Acquired Hypothalamic Obesity
   Human phase 2 open-label trial Evidence review note: This guide intentionally separates popularity from proof. When a peptide has only preclinical evidence, that is stated directly. When a drug has real human trials, the guide still avoids dosing or personal-treatment advice because clinical use depends on diagnosis, contraindications, monitoring, product quality, and legal access.
   HUMAN STUDY

Links point to PubMed or journal-indexed records from the original research guide. They are included for evidence review, not as medical recommendations.

REFERENCE INDEX

Linked study resources 1-10

#01 Semaglutide

1. Once-Weekly Semaglutide in Adults with Overweight or Obesity
2. Effect of Continued Weekly Subcutaneous Semaglutide vs Placebo on Weight Loss Maintenance
3. Semaglutide and Cardiovascular Outcomes in Obesity without Diabetes

#02 Tirzepatide

1. Tirzepatide Once Weekly for the Treatment of Obesity
2. Continued Treatment With Tirzepatide for Maintenance of Weight Reduction
3. Tirzepatide as Compared with Semaglutide for the Treatment of Obesity

#03 Retatrutide

1. Triple-Hormone-Receptor Agonist Retatrutide for Obesity
2. Retatrutide for People with Type 2 Diabetes: a Randomised Trial
3. Retatrutide for Metabolic Dysfunction-Associated Steatotic Liver Disease

#04 BPC-157

1. Safety of Intravenous Infusion of BPC157 in Humans
2. BPC 157 Accelerates Healing of Transected Rat Achilles Tendon
3. Pentadecapeptide BPC 157 Improves Ligament Healing in the Rat

#05 TB-500 / Thymosin beta-4 fragment

1. Thymosin beta4 Accelerates Wound Healing
2. Thymosin beta4 Activates ILK and Promotes Cardiac Repair
3. Thymosin beta 4 Promotes Corneal Wound Healing

#06 GHK-Cu

1. The Human Tripeptide GHK and Tissue Remodeling
2. Microneedle-Mediated Delivery of Copper Peptide Through Skin
3. GHK-Cu Improved Intra-Articular Graft Healing After ACL Reconstruction in Rats

#07 CJC-1295

1. Prolonged Stimulation of GH and IGF-I Secretion by CJC-1295
2. Pulsatile Secretion of Growth Hormone Persists During Continuous CJC-1295 Stimulation
3. Once-Daily CJC-1295 in Growth Hormone-Releasing Hormone Knockout Mice

#08 Ipamorelin

1. Ipamorelin, the First Selective Growth Hormone Secretagogue
2. Pharmacokinetic-Pharmacodynamic Modeling of Ipamorelin
3. Ipamorelin Counteracts Glucocorticoid-Induced Decrease in Bone Formation

#09 Sermorelin

1. Effects of GHRH(1-29)-NH2 in Age-Advanced Men and Women
2. Once-Daily GHRH Therapy Accelerates Growth in GH-Deficient Children
3. GHRH(1-29)NH2 in Children with Idiopathic Short Stature

#10 Tesamorelin

1. Effects of Tesamorelin in HIV-Infected Patients with Abdominal Fat Accumulation
2. Effects of Tesamorelin on Visceral Adipose Tissue in HIV-Associated Lipodystrophy
3. Effect of Tesamorelin on Visceral Fat and Liver Fat

REFERENCE INDEX

Linked study resources 11-20

#11 AOD-9604

1. Metabolic Studies of AOD9604, a Synthetic Lipolytic Domain of Human Growth Hormone
2. Effects of Human GH and Its Lipolytic Fragment AOD9604
3. Increase of Fat Oxidation and Weight Loss in Obese Mice Caused by AOD9604

#12 MOTS-c

1. MOTS-c Promotes Metabolic Homeostasis and Reduces Obesity and Insulin Resistance
2. MOTS-c Interacts Synergistically with Exercise to Regulate Glucose Metabolism
3. Lipids and Insulin Regulate MOTS-c in PCOS and Healthy Subjects

#13 SS-31 / Elamipretide

1. A Randomized Crossover Trial of Elamipretide in Adults with Primary Mitochondrial Myopathy
2. A Phase 2/3 Randomized Clinical Trial of Elamipretide in Barth Syndrome
3. Efficacy and Safety of Elamipretide in Primary Mitochondrial Myopathy: MMPOWER-3

#14 Epitalon / Epithalon

1. Effect of Epitalon on Biomarkers of Aging, Life Span, and Tumor Incidence in Mice
2. Epithalon Peptide Induces Telomerase Activity and Telomere Elongation in Human Somatic Cells
3. Epitalon Restores Disturbed Neuroendocrine Regulation in Senescent Monkeys

#15 Thymosin Alpha-1 / TA-1

1. Efficacy of Thymosin Alpha-1 in Patients with Chronic Hepatitis B
2. Thymosin Alpha-1 Versus Interferon-Alpha in Chronic Hepatitis B
3. Thymosin Alpha-1 in Severe Acute Pancreatitis

#16 KPV

1. PepT1-Mediated Tripeptide KPV Uptake Reduces Intestinal Inflammation
2. Melanocortin-Derived Tripeptide KPV Has Anti-Inflammatory Potential for Colitis
3. Orally Targeted Delivery of Tripeptide KPV via Hyaluronic Acid-Functionalized Nanoparticles

#17 LL-37

1. Activities of LL-37, a Cathelin-Associated Antimicrobial Peptide
2. LL-37 and IDR-1 Ameliorate MRSA Pneumonia in Mice
3. Intratumoral LL-37 in Malignant Melanoma: Clinicopathologic Features

#18 Semax

1. Semax Binds to Receptors in Rat Basal Forebrain and Stimulates BDNF Synthesis
2. Semax Affects Expression of Vascular-System Genes in Rat Brain Focal Ischemia
3. Efficacy of Semax in Patients at Different Stages of Ischemic Stroke

#19 Selank

1. Efficacy and Possible Mechanisms of Action of Selank in Anxiety Disorders
2. Selank Administration Affects Expression of Genes Involved in Neurotransmission
3. Functional Connectomic Approach to Studying Selank and Semax Effects

#20 Dihexa

1. Procognitive and Synaptogenic Effects of Angiotensin IV-Derived Peptides
2. AngIV-Analog Dihexa Rescues Cognitive Impairment in Alzheimer Disease Models
3. Hepatocyte Growth Factor Mimetic Protects Lateral Line Hair Cells from Aminoglycoside Exposure

REFERENCE INDEX

Linked study resources 21-30

#21 DSIP / Delta Sleep-Inducing Peptide

1. Effects of Delta Sleep-Inducing Peptide on Sleep of Chronic Insomniac Patients
2. Study of DSIP Efficacy in Improving Sleep in Insomniac Patients
3. A Clinical Trial With DSIP

#22 Kisspeptin-10

1. Kisspeptin-10 Stimulates LH and Increases Pulse Frequency in Men
2. Effects of Kisspeptin-10 on Reproductive Hormone Release Show Sexual Dimorphism
3. Kisspeptin-10 Stimulates Testosterone and LH Secretion in Men with Type 2 Diabetes

#23 PT-141 / Bremelanotide

1. Bremelanotide for Hypoactive Sexual Desire Disorder: Two Phase 3 Trials
2. Bremelanotide for Female Sexual Dysfunctions in Premenopausal Women
3. Intranasal PT-141 in Healthy Males and Men with Mild-to-Moderate Erectile Dysfunction

#24 Melanotan II

1. Evaluation of Melanotan-II in a Pilot Phase-I Clinical Study
2. Melanocortin Receptor Agonists, Penile Erection, and Sexual Motivation
3. Melanotan II User Experience: A Qualitative Study of Online Discussion Forums

#25 HGH Fragment 176-191

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3. Increase of Fat Oxidation and Weight Loss in Obese Mice Caused by AOD9604

#26 IGF-1 LR3

1. LR3IGF-I Ameliorates Loss of Body Weight During Food Restriction
2. IGF-1 LR3 Does Not Promote Growth in Fetal Sheep with Placental Insufficiency
3. Attenuated Glucose-Stimulated Insulin Secretion During IGF-1 LR3 Infusion

#27 PEG-MGF

1. Mechano Growth Factor E Peptide and Human Muscle Satellite Cells
2. Mechano-Growth Factor Reduces Loss of Cardiac Function After Myocardial Infarction
3. Mechano-Growth Factor E Peptide Promotes Healing of Rat Injured Tendon

#28 GHRP-2

1. A Simple Diagnostic Test Using GH-Releasing Peptide-2 in Adult GH Deficiency
2. Sustained Elevation of Pulsatile GH Secretion by Intermittent GHRP-2 and GHRH in Older Adults
3. Effects of GHRP-2 and Hexarelin on GH, Prolactin, ACTH, and Cortisol

#29 GHRP-6

1. Growth Hormone-Releasing Activity of GHRP-6 After Oral Administration in Elderly Women
2. Arginine Enhances GH-Releasing Activity of GHRP-6 in Elderly Subjects
3. Effects of GHRH, Atropine, Pyridostigmine, or Hypoglycemia on GHRP-6-Induced GH Secretion

#30 Setmelanotide

1. Setmelanotide in Obesity Due to POMC or LEPR Deficiency
2. Setmelanotide in Bardet-Biedl Syndrome
3. Setmelanotide for Acquired Hypothalamic Obesity

EVIDENCE HYGIENE

A practical checklist for reading peptide claims

1. Identify the actual product. Approved drug, compounded medication, clinical-trial compound, topical cosmetic, or research chemical?

2. Identify the studied population. Healthy adults, people with obesity, rare genetic disease, HIV-associated lipodystrophy, animals, cells, or a disease model?

3. Identify the endpoint. Hormone marker, subjective symptom, body weight, wound size, walking distance, telomere activity, or clinical outcome?

4. Separate pathway plausibility from outcome proof. A plausible mechanism is a beginning, not an answer.

5. Treat self-injection and unverified sourcing as separate risk categories. Sterility, identity, strength, impurities, labeling, and adverse-event reporting are part of the intervention.

FINAL FRAMING

The safest interpretation of this ebook is evidence literacy: understand why the peptides are discussed, what the studies actually show, and where the claims outrun the data.

APPENDIX

Research Link Glossary

This appendix collects every linked study-resource entry used in the peptide profiles. Entries are organized by peptide and each title/URL is clickable. The links are included for evidence review only; they are not sourcing guidance, medical advice, or a protocol recommendation.

30	90	PubMed
peptide profiles	linked study entries	indexed resources

EVIDENCE-REVIEW USE ONLY

Use this glossary to inspect the cited research directly. Do not treat citation volume as a safety rating or as evidence that a peptide is appropriate for self-directed use.

#01 Semaglutide

1. Once-Weekly Semaglutide in Adults with Overweight or Obesity
pubmed.ncbi.nlm.nih.gov/33567185/

2. Effect of Continued Weekly Subcutaneous Semaglutide vs Placebo on Weight Loss Maintenance
pubmed.ncbi.nlm.nih.gov/33755728/

3. Semaglutide and Cardiovascular Outcomes in Obesity without Diabetes
pubmed.ncbi.nlm.nih.gov/37952131/

#02 Tirzepatide

1. Tirzepatide Once Weekly for the Treatment of Obesity
pubmed.ncbi.nlm.nih.gov/35658024/

2. Continued Treatment With Tirzepatide for Maintenance of Weight Reduction
pubmed.ncbi.nlm.nih.gov/38078870/

3. Tirzepatide as Compared with Semaglutide for the Treatment of Obesity
pubmed.ncbi.nlm.nih.gov/40353578/

#03 Retatrutide

1. Triple-Hormone-Receptor Agonist Retatrutide for Obesity
pubmed.ncbi.nlm.nih.gov/37366315/

2. Retatrutide for People with Type 2 Diabetes: a Randomised Trial
pubmed.ncbi.nlm.nih.gov/37385280/

3. Retatrutide for Metabolic Dysfunction-Associated Steatotic Liver Disease
pubmed.ncbi.nlm.nih.gov/38858523/

#04 BPC-157

1. Safety of Intravenous Infusion of BPC157 in Humans
pubmed.ncbi.nlm.nih.gov/40131143/

2. BPC 157 Accelerates Healing of Transected Rat Achilles Tendon
pubmed.ncbi.nlm.nih.gov/14554208/

3. Pentadecapeptide BPC 157 Improves Ligament Healing in the Rat
pubmed.ncbi.nlm.nih.gov/20225319/

#05 TB-500 / Thymosin beta-4 fragment

1. Thymosin beta4 Accelerates Wound Healing
pubmed.ncbi.nlm.nih.gov/10469335/

2. Thymosin beta4 Activates ILK and Promotes Cardiac Repair
pubmed.ncbi.nlm.nih.gov/15565145/

3. Thymosin beta 4 Promotes Corneal Wound Healing
pubmed.ncbi.nlm.nih.gov/11950239/

#06 GHK-Cu

1. The Human Tripeptide GHK and Tissue Remodeling
pubmed.ncbi.nlm.nih.gov/18644225/

2. Microneedle-Mediated Delivery of Copper Peptide Through Skin
pubmed.ncbi.nlm.nih.gov/25690343/

3. GHK-Cu Improved Intra-Articular Graft Healing After ACL Reconstruction in Rats
pubmed.ncbi.nlm.nih.gov/25731775/

#07 CJC-1295

1. Prolonged Stimulation of GH and IGF-I Secretion by CJC-1295
pubmed.ncbi.nlm.nih.gov/16352683/

2. Pulsatile Secretion of Growth Hormone Persists During Continuous CJC-1295 Stimulation
pubmed.ncbi.nlm.nih.gov/17018654/

3. Once-Daily CJC-1295 in Growth Hormone-Releasing Hormone Knockout Mice
pubmed.ncbi.nlm.nih.gov/16822960/

#08 Ipamorelin

1. Ipamorelin, the First Selective Growth Hormone Secretagogue
pubmed.ncbi.nlm.nih.gov/9849822/

2. Pharmacokinetic-Pharmacodynamic Modeling of Ipamorelin
pubmed.ncbi.nlm.nih.gov/10496658/

3. Ipamorelin Counteracts Glucocorticoid-Induced Decrease in Bone Formation
pubmed.ncbi.nlm.nih.gov/11735244/

#09 Sermorelin

1. Effects of GHRH(1-29)-NH2 in Age-Advanced Men and Women
pubmed.ncbi.nlm.nih.gov/9141536/

2. Once-Daily GHRH Therapy Accelerates Growth in GH-Deficient Children
pubmed.ncbi.nlm.nih.gov/8772599/

3. GHRH(1-29)NH2 in Children with Idiopathic Short Stature
pubmed.ncbi.nlm.nih.gov/7955460/

#10 Tesamorelin

1. Effects of Tesamorelin in HIV-Infected Patients with Abdominal Fat Accumulation
pubmed.ncbi.nlm.nih.gov/20101189/

2. Effects of Tesamorelin on Visceral Adipose Tissue in HIV-Associated Lipodystrophy
pubmed.ncbi.nlm.nih.gov/20554713/

3. Effect of Tesamorelin on Visceral Fat and Liver Fat
pubmed.ncbi.nlm.nih.gov/25038357/

#11 AOD-9604

1. Metabolic Studies of AOD9604, a Synthetic Lipolytic Domain of Human Growth Hormone
pubmed.ncbi.nlm.nih.gov/11146367/

2. Effects of Human GH and Its Lipolytic Fragment AOD9604
pubmed.ncbi.nlm.nih.gov/11713213/

3. Increase of Fat Oxidation and Weight Loss in Obese Mice Caused by AOD9604
pubmed.ncbi.nlm.nih.gov/11673763/

#12 MOTS-c

1. MOTS-c Promotes Metabolic Homeostasis and Reduces Obesity and Insulin Resistance
pubmed.ncbi.nlm.nih.gov/25738459/

2. MOTS-c Interacts Synergistically with Exercise to Regulate Glucose Metabolism
pubmed.ncbi.nlm.nih.gov/33722744/

3. Lipids and Insulin Regulate MOTS-c in PCOS and Healthy Subjects
pubmed.ncbi.nlm.nih.gov/31066084/

#13 SS-31 / Elamipretide

1. A Randomized Crossover Trial of Elamipretide in Adults with Primary Mitochondrial Myopathy
pubmed.ncbi.nlm.nih.gov/32096613/

2. A Phase 2/3 Randomized Clinical Trial of Elamipretide in Barth Syndrome
pubmed.ncbi.nlm.nih.gov/33077895/

3. Efficacy and Safety of Elamipretide in Primary Mitochondrial Myopathy: MMPOWER-3
pubmed.ncbi.nlm.nih.gov/37268435/

#14 Epitalon / Epithalon

1. Effect of Epitalon on Biomarkers of Aging, Life Span, and Tumor Incidence in Mice
pubmed.ncbi.nlm.nih.gov/14501183/

2. Epithalon Peptide Induces Telomerase Activity and Telomere Elongation in Human Somatic Cells
pubmed.ncbi.nlm.nih.gov/12937682/

3. Epitalon Restores Disturbed Neuroendocrine Regulation in Senescent Monkeys
pubmed.ncbi.nlm.nih.gov/11524632/

#15 Thymosin Alpha-1 / TA-1

1. Efficacy of Thymosin Alpha-1 in Patients with Chronic Hepatitis B
pubmed.ncbi.nlm.nih.gov/9581695/

2. Thymosin Alpha-1 Versus Interferon-Alpha in Chronic Hepatitis B
pubmed.ncbi.nlm.nih.gov/8855175/

3. Thymosin Alpha-1 in Severe Acute Pancreatitis
pubmed.ncbi.nlm.nih.gov/20549321/

#16 KPV

1. PepT1-Mediated Tripeptide KPV Uptake Reduces Intestinal Inflammation
pubmed.ncbi.nlm.nih.gov/18061177/

2. Melanocortin-Derived Tripeptide KPV Has Anti-Inflammatory Potential for Colitis
pubmed.ncbi.nlm.nih.gov/18092346/

3. Orally Targeted Delivery of Tripeptide KPV via Hyaluronic Acid-Functionalized Nanoparticles
pubmed.ncbi.nlm.nih.gov/28143741/

#17 LL-37

1. Activities of LL-37, a Cathelin-Associated Antimicrobial Peptide
pubmed.ncbi.nlm.nih.gov/9736536/

2. LL-37 and IDR-1 Ameliorate MRSA Pneumonia in Mice
pubmed.ncbi.nlm.nih.gov/24021961/

3. Intratumoral LL-37 in Malignant Melanoma: Clinicopathologic Features
pubmed.ncbi.nlm.nih.gov/29665030/

#18 Semax

1. Semax Binds to Receptors in Rat Basal Forebrain and Stimulates BDNF Synthesis
pubmed.ncbi.nlm.nih.gov/16635254/

2. Semax Affects Expression of Vascular-System Genes in Rat Brain Focal Ischemia
pubmed.ncbi.nlm.nih.gov/24661604/

3. Efficacy of Semax in Patients at Different Stages of Ischemic Stroke
pubmed.ncbi.nlm.nih.gov/29798983/

#19 Selank

1. Efficacy and Possible Mechanisms of Action of Selank in Anxiety Disorders
pubmed.ncbi.nlm.nih.gov/18454096/

2. Selank Administration Affects Expression of Genes Involved in Neurotransmission
pubmed.ncbi.nlm.nih.gov/26924987/

3. Functional Connectomic Approach to Studying Selank and Semax Effects
pubmed.ncbi.nlm.nih.gov/32342318/

#20 Dihexa

1. Procognitive and Synaptogenic Effects of Angiotensin IV-Derived Peptides
pubmed.ncbi.nlm.nih.gov/25187433/

2. AngIV-Analog Dihexa Rescues Cognitive Impairment in Alzheimer Disease Models
pubmed.ncbi.nlm.nih.gov/34827486/

3. Hepatocyte Growth Factor Mimetic Protects Lateral Line Hair Cells from Aminoglycoside Exposure
pubmed.ncbi.nlm.nih.gov/25674052/

#21 DSIP / Delta Sleep-Inducing Peptide

1. Effects of Delta Sleep-Inducing Peptide on Sleep of Chronic Insomniac Patients
pubmed.ncbi.nlm.nih.gov/1299794/

2. Study of DSIP Efficacy in Improving Sleep in Insomniac Patients
pubmed.ncbi.nlm.nih.gov/3583493/

3. A Clinical Trial With DSIP
pubmed.ncbi.nlm.nih.gov/6391926/

#22 Kisspeptin-10

1. Kisspeptin-10 Stimulates LH and Increases Pulse Frequency in Men
pubmed.ncbi.nlm.nih.gov/21632807/

2. Effects of Kisspeptin-10 on Reproductive Hormone Release Show Sexual Dimorphism
pubmed.ncbi.nlm.nih.gov/21976724/

3. Kisspeptin-10 Stimulates Testosterone and LH Secretion in Men with Type 2 Diabetes
pubmed.ncbi.nlm.nih.gov/23153270/

#23 PT-141 / Bremelanotide

1. Bremelanotide for Hypoactive Sexual Desire Disorder: Two Phase 3 Trials
pubmed.ncbi.nlm.nih.gov/31599840/

2. Bremelanotide for Female Sexual Dysfunctions in Premenopausal Women
pubmed.ncbi.nlm.nih.gov/27181790/

3. Intranasal PT-141 in Healthy Males and Men with Mild-to-Moderate Erectile Dysfunction
pubmed.ncbi.nlm.nih.gov/14963471/

#24 Melanotan II

1. Evaluation of Melanotan-II in a Pilot Phase-I Clinical Study
pubmed.ncbi.nlm.nih.gov/8637402/

2. Melanocortin Receptor Agonists, Penile Erection, and Sexual Motivation
pubmed.ncbi.nlm.nih.gov/11035391/

3. Melanotan II User Experience: A Qualitative Study of Online Discussion Forums
pubmed.ncbi.nlm.nih.gov/34464955/

#25 HGH Fragment 176-191

1. Metabolic Studies of AOD9604, a Synthetic Lipolytic Domain of Human Growth Hormone
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pubmed.ncbi.nlm.nih.gov/11472075/

2. IGF-1 LR3 Does Not Promote Growth in Fetal Sheep with Placental Insufficiency
pubmed.ncbi.nlm.nih.gov/39679943/

3. Attenuated Glucose-Stimulated Insulin Secretion During IGF-1 LR3 Infusion
pubmed.ncbi.nlm.nih.gov/37114757/

#27 PEG-MGF

1. Mechano Growth Factor E Peptide and Human Muscle Satellite Cells
pubmed.ncbi.nlm.nih.gov/21354439/

2. Mechano-Growth Factor Reduces Loss of Cardiac Function After Myocardial Infarction
pubmed.ncbi.nlm.nih.gov/17581790/

3. Mechano-Growth Factor E Peptide Promotes Healing of Rat Injured Tendon
pubmed.ncbi.nlm.nih.gov/27334712/

#28 GHRP-2

1. A Simple Diagnostic Test Using GH-Releasing Peptide-2 in Adult GH Deficiency
pubmed.ncbi.nlm.nih.gov/17609397/

2. Sustained Elevation of Pulsatile GH Secretion by Intermittent GHRP-2 and GHRH in Older Adults
pubmed.ncbi.nlm.nih.gov/15126555/

3. Effects of GHRP-2 and Hexarelin on GH, Prolactin, ACTH, and Cortisol
pubmed.ncbi.nlm.nih.gov/9285939/

#29 GHRP-6

1. Growth Hormone-Releasing Activity of GHRP-6 After Oral Administration in Elderly Women
pubmed.ncbi.nlm.nih.gov/7952160/

2. Arginine Enhances GH-Releasing Activity of GHRP-6 in Elderly Subjects
pubmed.ncbi.nlm.nih.gov/8051337/

3. Effects of GHRH, Atropine, Pyridostigmine, or Hypoglycemia on GHRP-6-Induced GH Secretion
pubmed.ncbi.nlm.nih.gov/8421084/

#30 Setmelanotide

1. Setmelanotide in Obesity Due to POMC or LEPR Deficiency
pubmed.ncbi.nlm.nih.gov/33137293/

2. Setmelanotide in Bardet-Biedl Syndrome
pubmed.ncbi.nlm.nih.gov/36356613/

3. Setmelanotide for Acquired Hypothalamic Obesity
pubmed.ncbi.nlm.nih.gov/38697184/