THE BODIE CO

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The Ultimate *Peptide* Guide

An honest account of modern peptide science — what is approved, what is investigational, what is merely popular, and how to tell the difference.

Revealing the Beauty Beneath

THE BODIE CO · NOMAD, NEW YORK

A considered *introduction*

This publication exists to inform, not to persuade. Peptide science moves quickly and most of what circulates online is incomplete or overstated. What follows is the field as the published literature describes it — including the parts that are not settled, and the compounds that warrant caution.

PLEASE READ FIRST

Important *notice*

This publication is educational. It describes a category of compounds as documented in published scientific literature. It does not recommend, prescribe, advertise, or make available any compound described within it.

NOT AN OFFER OR SOLICITATION

Nothing in this publication constitutes an offer, advertisement, solicitation, or representation regarding the availability of any product, compound, or service. The inclusion of any compound is descriptive of the published research record only. It is not an endorsement, not a recommendation, and does not indicate that the compound is prescribed, stocked, dispensed, or administered by any particular practice.

NOT MEDICAL ADVICE

This publication does not constitute medical advice, diagnosis, or treatment, and reading it does not establish a clinician–patient relationship. It should not be relied upon to self-diagnose, self-treat, or make any health decision. Those decisions belong with a licensed healthcare professional who knows your history.

NOT INSTRUCTIONS FOR USE

No dosing schedules, administration techniques, sourcing routes, or protocols appear in this publication, by design. Nothing here should be read as guidance for obtaining or self-administering any compound.

REGULATORY STANDING VARIES AND CHANGES

Each compound is labelled with its regulatory standing as understood at the date of publication. Several are not approved by the FDA for the uses discussed; some are not approved for any use. Approval status, availability, and compounding eligibility change over time and by jurisdiction. Statements herein have not been evaluated by the FDA, and no claim of FDA endorsement is made or intended.

CURRENT AS OF

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SECTION

01

What Are *Peptides*

Before therapy, before protocols — a plain-language account of what these molecules are, how they signal the body, and why they are not what the internet often claims.

The body's own *language*

A peptide is a short chain of amino acids — the same building blocks that form proteins, assembled in smaller and more specific sequences. The human body already makes thousands of them.

Where proteins are long and structural, peptides are brief and instructional. They act as messengers, binding to receptors on cells and delivering a narrow instruction: repair this tissue, release that hormone, regulate appetite, quiet inflammation. Insulin is a peptide. So is the satiety signal that tells the brain a meal was sufficient. Therapeutic peptides are designed or refined to deliver one particular message with precision.

How they work

Consider a cell as a locked room and a receptor as the keyhole. A peptide is a key cut for one keyhole. Where it fits, it opens a specific response and comparatively little else. That selectivity is the scientific appeal: a well-chosen peptide may prompt a single pathway without broadly overriding the system, which is part of why side-effect profiles can differ from those of blunter pharmaceutical agents.

> **IN ONE LINE**
>
> Proteins build. Hormones broadcast. Peptides instruct — short, targeted signals asking the body to do something it is already capable of doing.

Peptides and hormones

The categories overlap. Some hormones are peptides — insulin and growth hormone among them. The practical distinction is one of role. Hormones are standing chemical messengers that travel widely and regulate large systems. The peptides studied in therapeutic contexts are more often chosen to influence a single defined process. Many work by encouraging the body's own hormone production rather than replacing a hormone outright.

Peptides are not *pharmaceuticals*, and not a category of safety

"Pharmaceutical" describes how a compound is regulated and manufactured, not what it is chemically. Several peptides are approved pharmaceuticals — semaglutide and tirzepatide among them. Others are studied in research settings but are not approved for the uses to which they are sometimes attached in consumer discussion.

The honest position is this: the word **peptide** tells you about molecular structure. It tells you nothing about safety, nothing about evidence, and nothing about legal standing. Each compound must be evaluated on its own record — which is how this publication treats them.

> **THE QUESTION ASKED MOST OFTEN**
>
> **Are peptides steroids?** No. Anabolic steroids are synthetic derivatives of testosterone that drive muscle growth by flooding the body with hormonal signal. Peptides are not steroids and do not work this way. The peptides associated with body composition generally act indirectly — for instance by encouraging the pituitary to release growth hormone in its natural pulsing rhythm rather than overriding it. Different molecules, different mechanisms, different risk profiles. Conflating the two is the most common misconception in this field.

Four misconceptions worth retiring

i
"They are a shortcut."
Peptides are studied as support for a system. Nothing in the literature suggests they substitute for nutrition, sleep, training, or medical care.

ii
"They are all the same."
Regulatory status, quality of evidence, and safety record vary enormously between compounds — often between compounds sold side by side.

iii
"More is better."
Peptide signalling is dose- and rhythm-dependent. Excess can blunt the very receptor response being sought.

iv
"If it is natural, it is risk-free."
Endogenous origin does not confer safety, particularly in the absence of medical oversight and verified sourcing.

Nine systems, one *body*

Peptide research is not one field. It is a family of targeted enquiries, each addressing a different system. Below, the principal areas of study — described as areas of research interest, never as established cure.

i
Weight & Metabolic
GLP-1 and multi-agonist compounds studied for appetite regulation and blood-sugar signalling.

ii
Recovery
Compounds investigated for soft-tissue repair, exercise recovery, and gastrointestinal comfort.

iii
Skin & Collagen
Cosmetic and regenerative peptides studied for firmness, texture, and barrier quality.

iv
Longevity
Cellular-energy and mitochondrial research explored in the context of healthspan.

v
Cognition
Compounds studied for attention, memory consolidation, and resilience to mental fatigue.

vi
Performance
Growth-hormone-axis research relating to training adaptation and tissue resilience.

vii
Sleep
Compounds explored for their relationship to sleep architecture and restorative depth.

viii
Immune & Gut
Thymic and antimicrobial peptides researched for immune modulation and barrier integrity.

ix
Hormonal Signalling
Peptides acting on reproductive and central pathways, including approved agents.

A NOTE ON STRUCTURE

Each section that follows opens with the evidence, and closes with what the evidence does *not* establish.

SECTION

02

Reading a Peptide *Honestly*

The literacy that matters most: what regulatory labels actually mean, how to weigh a research finding, and how to recognise a claim that has outrun its evidence.

What the labels *mean*

Every compound in this publication carries one of the following marks. They describe regulatory standing at the date of publication — not quality, not desirability, and not availability.

FDA-APPROVED

Reviewed and approved by the Food and Drug Administration for one or more specific indications, with published prescribing information. Approval is indication-specific: a compound approved for one purpose is not thereby approved for another.

INVESTIGATIONAL

Currently progressing through the clinical trial process. Trial data may exist and may be encouraging, but the compound has not completed regulatory review and is not available as an approved product.

RESEARCH

Studied in laboratory, animal, or limited human settings, without an active path to approval for the uses commonly discussed. Evidence quality in this tier varies from genuinely interesting to almost entirely anecdotal.

COSMETIC

Used topically in cosmetic formulation, regulated as a cosmetic ingredient rather than as a drug. Cosmetic regulation addresses safety of the ingredient; it does not evaluate efficacy claims in the way drug approval does.

TWO LABELS THAT ARE NOT REGULATORY CATEGORIES

“Compounded” describes a preparation made by a pharmacy for an individual, rather than a product manufactured under FDA approval. Compounding is lawful in defined circumstances, but a compounded preparation has not itself been through FDA review. **“Research use only”** is not a category at all — it is a phrase printed by sellers to distance themselves from liability, and it carries no assurance about identity, purity, or sterility.

Weighing a *finding*

01 Ask what was studied

Cells in a dish, animals, or people? Preclinical work establishes plausibility, not effect in humans. A great deal of peptide enthusiasm rests on findings that have never left the laboratory.

02 Ask how many, and for how long

Twelve participants over four weeks and four thousand over eighteen months are not the same evidence. Duration matters especially where a compound would be taken continuously.

03 Ask what the comparison was

Findings against placebo in a randomised, controlled, blinded design carry weight that uncontrolled observation does not. Without a comparison group, improvement cannot be attributed.

04 Ask whether the average is being sold as a promise

A published mean describes a population. Individual responses distribute widely around it, and some participants in every trial do not respond at all. A figure quoted without its range has been stripped of its meaning.

05 Ask who is telling you

A finding reported by an independent investigator, a finding reported by a manufacturer, and a finding reported by someone selling the compound are three different things.

THE STANDARD APPLIED HERE

Where the evidence is thin, this publication says so — in the same *breath* as the promise.

SECTION

03 Weight & *Metabolic*

The most studied category, and the most misrepresented. Approved medicines, a deep pipeline of investigational agents, and an honest account of what the trials measured — and what they did not.

Semaglutide

the established GLP-1

FDA-APPROVED

MECHANISM

A GLP-1 receptor agonist. It mimics a gut hormone that signals fullness to the brain, slows gastric emptying, and supports insulin response — so meals satisfy sooner and food preoccupation quiets.

EFFECTS OBSERVED IN RESEARCH

Trial participants reported reduced appetite and more measured eating. Alongside nutrition and activity support, gradual weight reduction and improvement across several metabolic markers were recorded.

REPORTED TOLERABILITY

Most documented effects are gastrointestinal — nausea, early fullness, constipation — typically dose-related and reported to ease with gradual titration. Less common effects are documented in the approved prescribing information.

CONTRAINDICATIONS IN LABELLING

Approved labelling identifies pregnancy and certain thyroid cancer histories among its contraindications, with further precautions listed. A licensed prescriber assesses suitability individually.

STEP	68	~15%
TRIAL PROGRAMME	WEEKS STUDIED	MEAN REDUCTION

WHAT THE RESEARCH RECORDS

In the STEP programme, adults receiving the highest dose lost approximately **15% of body weight on average** over 68 weeks, paired with diet and activity support. That figure is a published trial average across a defined study population — not a projection for any individual and not a promise of outcome. Ranges around the mean were wide, and some participants did not respond.

ON DISCONTINUATION AND ON COMPOUNDED PREPARATIONS

Published follow-up indicates appetite signalling returns toward baseline after stopping, and that regain is common without a sustained maintenance approach. Separately, a compounded preparation is not the same regulatory product as an approved manufactured one; the circumstances permitting compounding of this compound have shifted repeatedly and continue to.

Tirzepatide

the dual-agonist evolution

FDA-APPROVED

MECHANISM

A dual agonist activating both GLP-1 and GIP receptors. Engaging two complementary metabolic pathways appears, in the published data, to amplify appetite regulation and to influence how the body handles glucose and fat.

EFFECTS OBSERVED IN RESEARCH

Strong appetite regulation and, across trial programmes, greater mean weight reduction than single-pathway GLP-1 agents, alongside favourable movement in blood sugar and other metabolic measures.

REPORTED TOLERABILITY

A profile broadly similar to semaglutide — predominantly gastrointestinal, dose-related, and reported to be mitigated by gradual titration. Full documentation appears in the approved prescribing information.

CONTRAINDICATIONS IN LABELLING

Approved labelling carries contraindications and precautions comparable to other agents in this class. Suitability is a clinical determination made individually by a licensed prescriber.

SURMOUNT	72	~20–22%
TRIAL PROGRAMME	WEEKS STUDIED	MEAN REDUCTION

WHAT THE SECOND PATHWAY ADDS

The practical difference between the two approved agents is GIP. In the SURMOUNT programme, adults on higher doses recorded mean reductions of approximately **20 to 22% of body weight** over 72 weeks with lifestyle support. Larger average effect does not make a compound automatically preferable for a given person — tolerability, medical history, goals, and cost all bear on the decision, which belongs in a clinical consultation rather than on a label.

Retatrutide

the triple agonist

INVESTIGATIONAL

MECHANISM

A triple agonist targeting GLP-1, GIP, and the glucagon receptor. The added glucagon activity is hypothesised to raise energy expenditure in addition to reducing appetite — a third lever the earlier compounds do not pull.

WHY IT DRAWS ATTENTION

Early- and mid-stage trial data have reported some of the largest mean weight reductions published in this class. The combination of appetite and energy-expenditure effects is the design hypothesis behind those figures.

WHAT THE DATA ARE

Phase 2 findings in study conditions. Phase 2 results have historically not always been reproduced at the same magnitude in larger Phase 3 populations, and safety characterisation continues.

CURRENT STANDING

Investigational and progressing through late-stage clinical trials. Not FDA-approved and not available as an approved prescription product. Research into metabolic and liver applications is also ongoing.

Phase 2	48	~24%
STAGE REPORTED	WEEKS STUDIED	MEAN REDUCTION

EXCITEMENT IS NOT APPROVAL

In a Phase 2 trial, participants at the highest dose recorded a mean reduction of approximately **24% of body weight** at 48 weeks. Those are research findings under study conditions. They are not an approved-product expectation, and they are not a figure any individual should plan around. Promising trial numbers are exactly that — promising, and provisional. This compound appears in this publication because clients ask about it, and because honest education describes what is coming as well as what is here.

CagriSema

amylin, added to the picture

INVESTIGATIONAL

MECHANISM

A combination of cagrilintide, a long-acting amylin analogue, with semaglutide. Amylin is a separate satiety pathway from GLP-1, released alongside insulin and involved in signalling fullness and slowing gastric emptying.

WHAT IS REPORTED

Phase 3 findings in the REDEFINE programme reported mean reductions in the region of 22%. Notably, this is the first widely studied approach to pair GLP-1 with amylin rather than with a second incretin.

Not FDA-approved. Regulatory review timelines are subject to change and figures reported at one stage of development may be revised at another.

Survodutide

GLP-1 with glucagon

INVESTIGATIONAL

MECHANISM

A dual agonist engaging GLP-1 and the glucagon receptor. Retatrutide adds glucagon to a GLP-1/GIP base; survodutide pairs glucagon with GLP-1 alone — a different combination of the same underlying levers.

WHAT IS REPORTED

Phase 2 findings reported mean reductions of roughly 19%. The compound has attracted parallel research attention in metabolic liver disease, where the glucagon component is of specific interest.

Not FDA-approved. Described here for completeness of the research landscape.

Orforglipron

the oral question

INVESTIGATIONAL

MECHANISM

A GLP-1 receptor agonist that is not itself a peptide — a small molecule designed to activate the same receptor. That distinction is what permits oral dosing without the absorption constraints peptides face in the gut.

WHY IT MATTERS

Reported Phase 2 mean reductions of roughly 10 to 12% are below the injectable agents. The interest is not magnitude but form: a daily tablet changes who is willing to begin, and changes manufacturing scale.

Not FDA-approved. Included here partly to illustrate that not everything discussed within “peptide therapy” is a peptide.

Liraglutide

the historical anchor

FDA-APPROVED

MECHANISM

A daily GLP-1 receptor agonist, and the first of this class to achieve approval for weight management. Same pathway as semaglutide, shorter duration of action, daily rather than weekly administration.

WHERE IT SITS NOW

The SCALE programme reported mean reductions of approximately 8%. Largely superseded by later agents in this indication, it remains useful as the reference point against which the field’s progress is measured.

Approved for specific indications; approval does not extend to every use to which the class is colloquially applied.

The metabolic field, *side by side*

A simplified reference. Figures are averages drawn from separate trials with different designs, durations, and populations — they are not head-to-head results and not a forecast for any individual.

COMPOUND	PATHWAYS	STANDING	MEAN REDUCTION*	NOTE
Liraglutide	GLP-1 (daily)	FDA-approved	~8% (SCALE)	The historical anchor; largely superseded
Semaglutide	GLP-1	FDA-approved	~15% (STEP)	Proven, widely prescribed
Tirzepatide	GLP-1 + GIP	FDA-approved	~20–22% (SURMOUNT)	Second incretin pathway; larger average effect
CagriSema	GLP-1 + Amylin	Investigational	~22% (REDEFINE)	Amylin is a distinct satiety pathway
Retatrutide	GLP-1 + GIP + Glucagon	Investigational	~24% (Phase 2)	Adds energy expenditure; not available
Survodutide	GLP-1 + Glucagon	Investigational	~19% (Phase 2)	Also studied in metabolic liver disease
Orforglipron	GLP-1 (oral, non-peptide)	Investigational	~10–12% (Phase 2)	A tablet — the reason for the interest

*Averages from distinct clinical trials, each paired with lifestyle support and conducted under controlled conditions in specific populations. Cross-trial comparison is indicative only and should not be read as ranking. Individual outcomes vary widely, and a proportion of participants in every programme did not respond. Investigational compounds are not FDA-approved; they are described here because they are the subject of public discussion, not because they are available.

WORTH HOLDING ONTO

Every figure above describes a population.
None of them describes a *person*.

SECTION

04
Recovery & *Repair*

Compounds studied for tissue repair, mobility, and resilience. Widely discussed among athletes — and, importantly, classified as research compounds rather than approved medicines.

BPC-157

the repair signal

RESEARCH

ORIGIN AND MECHANISM

A synthetic sequence derived from a protein found in gastric juice. Preclinical work has examined its apparent role in repair signalling and in angiogenesis — the formation of the new blood vessels that healing tissue depends upon.

CONNECTIVE TISSUE

Much of the research interest concerns tendon and ligament, where recovery is typically slow and where the preclinical signal has been most consistent. Human data in this application remain limited.

GASTROINTESTINAL RESEARCH

Given its origin, it has also been studied in relation to gastrointestinal comfort and gut-lining integrity, largely in animal models.

REGULATORY STANDING

Not FDA-approved for any indication. Its eligibility for pharmacy compounding has been the subject of regulatory review and restriction. Standing in this category has changed and may change further.

WHAT THE EVIDENCE DOES — AND DOES NOT — ESTABLISH

The preclinical signal is genuinely interesting. The controlled human evidence is thin. That gap is the honest account of BPC-157, and it is the sentence most often omitted when the compound is discussed enthusiastically. **Any source presenting animal findings as human outcomes has overstated what is known.**

ON THE POPULARITY GAP

Few compounds in this field carry so wide a distance between how much they are discussed and how much has been demonstrated in people. Popularity is a measure of interest. It is not a measure of evidence, and the two are frequently confused in this category.

TB-500

the mobility fragment

RESEARCH

WHAT IT IS

A synthetic version of a region of Thymosin Beta-4, a naturally occurring protein involved in cell migration and tissue repair. Research has examined its role in helping repair cells reach areas of injury.

WHAT IS CLAIMED, AND BY WHOM

Reports of improved range of motion and reduced stiffness are largely anecdotal and come from athletic-recovery communities rather than controlled trials. Human evidence is preliminary.

Not an approved medicine. It is also a prohibited substance under anti-doping regulations, which is material for anyone subject to testing.

Pentadeca Arginate

the successor compound

RESEARCH

WHY IT APPEARED

Often abbreviated PDA. It emerged into wider discussion following regulatory restriction of BPC-157, positioned as a structurally related and more stable alternative.

WHAT IS ACTUALLY KNOWN

Very little in the published literature. The comparative claims made for it rest largely on inference from BPC-157 research rather than on studies of PDA itself — which is a materially weaker basis than it is usually presented as.

> **A PATTERN WORTH RECOGNISING**
>
> When a compound draws regulatory attention, a structurally adjacent compound frequently appears in the market carrying the original's reputation but not its research. Inheriting a claim is not the same as earning one.

The recovery *pairing*

BPC-157 and TB-500 are frequently discussed together — the most common combination in recovery-focused peptide conversation. The rationale offered is one of complementary roles rather than demonstrated synergy.

THE REASONING OFFERED

That the two act at different points of repair: BPC-157 associated in research with localised tissue and vascular support, TB-500 with broader cell migration. Combined, the proposition is that recovery is addressed from more than one direction.

THE EVIDENCE FOR THE COMBINATION

Controlled human studies of the two together are essentially absent. Reports of more complete recovery are anecdotal. The pairing is accurately described as popular practice, and inaccurately described as proven protocol.

WHY COMBINATION RESEARCH IS HARDER

Establishing that two compounds work better together than either alone requires comparing four groups, not two — each compound alone, both, and neither. That work has not been done here. In its absence, a combination cannot be said to be synergistic; it can only be said to be common.

HOLD THE LINE

No compound replaces rest, rehabilitation, sleep, and progressive loading. Recovery is *earned*, then supported.

SECTION

05 Brain & *Mood*

Two nootropic peptides developed and studied primarily in Russia, for stress, focus, and cognitive resilience. Outside approved use in the United States — and presented here with that stated plainly.

Selank

the calm signal

RESEARCH

WHAT IT IS

A synthetic peptide derived from tuftsin, a naturally occurring immune-regulating fragment. Studied principally in Russia for anxiety-related effects without the sedation associated with conventional anxiolytic medication.

WHAT IS REPORTED

Research interest centres on influence over neurotransmitter balance and stress response. Reports of a calmer, more even baseline exist; evidence outside the original research context is limited.

Not FDA-approved and not an established treatment for any anxiety or mood condition in the United States.

Semax

the focus signal

RESEARCH

WHAT IT IS

A peptide related to a fragment of ACTH, studied — again largely in Russia — for effects on attention and mental sharpness, particularly under cognitive load.

WHAT IS REPORTED

Research has explored possible influence on learning and memory consolidation, with proposed involvement of brain-derived neurotrophic factor. Reports of sustained concentration are consistent but anecdotal.

Not FDA-approved and not an established cognitive treatment in the United States.

Selank and Semax, *compared*

CONSIDERATION	SELANK	SEMAX
Reputation	Calm; anxiety-related	Focus; drive
Studied for	Stress resilience, even mood	Attention, mental stamina
Cognitive angle	Clarity as a consequence of reduced stress	Direct attention and memory pathways
Reported sedation	Described as non-sedating	Described as stimulating without jitter
Origin of research	Primarily Russian institutions	Primarily Russian institutions
US regulatory standing	Not FDA-approved	Not FDA-approved
Evidence quality	Limited outside origin context	Limited outside origin context

WHY THE RESEARCH ORIGIN MATTERS

Both compounds were developed and studied within a single national research tradition, and much of the primary literature has not been independently replicated in Western trials. That is not an accusation of poor science — it is a statement about the breadth of the evidence base. Replication across independent groups is how confidence in a finding is built, and here it is largely absent.

WHERE THIS BELONGS

Persistent anxiety, low mood, and cognitive difficulty are clinical concerns with established evaluations and established treatments. Anyone experiencing them is best served by assessment from a qualified clinician rather than by a compound with a thin evidence base.

SECTION

06

Longevity & *Cellular*

The frontier of the field — compounds studied for cellular energy, metabolic resilience, and the biology of aging. Genuinely promising, and genuinely early.

NAD+

the cellular battery

SUPPLEMENT / RESEARCH

WHAT IT IS

Nicotinamide adenine dinucleotide, a coenzyme present in every cell and essential to converting food into usable energy. It is not a peptide, and is included here because it appears throughout this conversation.

THE PREMISE

Cellular levels decline with age. The research question is whether supporting those levels influences markers of cellular aging — a question that remains open rather than settled.

MITOCHONDRIAL ROLE

Central to mitochondrial function, which connects it to energy metabolism, stamina, and cellular aging in the research literature.

DELIVERY ROUTES STUDIED

Injectable forms, intravenous infusion, and oral precursors including NMN and NR. Absorption and conversion efficiency of oral precursors remain under active investigation.

HONEST FRAMING

NAD+ is simultaneously one of the most active threads in longevity research and one of the least conclusively demonstrated for anti-aging outcomes in humans. Reported improvements in energy and clarity are largely subjective and uncontrolled. **Enthusiasm in this area has consistently run ahead of the data.**

A NOTE ON INTRAVENOUS DELIVERY

Intravenous administration is a medical procedure carrying its own considerations regardless of what is being infused — access, sterility, rate, and supervision among them. Those considerations apply to the route, not to the compound, and are frequently overlooked when the infusion is framed as a wellness amenity.

MOTS-c

the mitochondrial peptide

RESEARCH

WHAT IT IS

A peptide encoded within mitochondrial rather than nuclear DNA — a comparatively recent discovery, and interesting on those grounds alone. Studied for a role in metabolic regulation and energy use.

WHAT IS REPORTED

Sometimes described in the literature as an exercise mimetic, for indications that it may influence pathways activated by physical activity. Human data are early and limited.

Not approved and not established in humans for these applications.

Epitalon

the telomere claim

RESEARCH

WHAT IT IS

A synthetic tetrapeptide studied chiefly within Russian research for possible influence on telomerase, the enzyme maintaining the protective caps at the ends of chromosomes.

WHERE THE CLAIMS SIT

Interest centres on sleep, circadian rhythm, and general vitality. This is among the more speculative entries in this publication: the longevity claims attached to it substantially outpace the controlled evidence supporting them.

> **ON TELOMERE CLAIMS GENERALLY**
>
> Telomere length is a marker associated with aging, not a lever proven to control it. Compounds marketed on the basis of telomere effects are making an inferential leap that the research has not completed.

SS-31 (Elamipretide)

targeted to the mitochondrion

INVESTIGATIONAL

WHAT IT IS

A synthetic peptide designed to concentrate in the inner mitochondrial membrane, where it interacts with cardiolipin — a lipid essential to the structure and efficiency of the energy-producing machinery.

WHERE IT IS BEING STUDIED

Formal clinical development has focused on defined mitochondrial and rare metabolic conditions, not on general wellness. That distinction matters: the trial populations bear little resemblance to a healthy adult seeking energy.

Investigational; not FDA-approved. Trial results across its development programme have been mixed.

5-Amino-1MQ

the metabolic enzyme approach

RESEARCH

WHAT IT IS

A small molecule — again, not a peptide, despite where it is usually filed. It inhibits NNMT, an enzyme involved in the metabolism of nicotinamide, linking it conceptually to the NAD+ conversation.

WHAT IS KNOWN

Findings to date are preclinical, in cell and animal models examining fat cell metabolism. Human data supporting the body-composition claims made for it are, at present, absent.

> **THE RECURRING CAUTION IN THIS SECTION**
>
> Longevity research is where mechanism is most seductive and human evidence is thinnest. A plausible pathway explained convincingly is not a demonstrated outcome, and this category contains more of the former than the latter.

SECTION

07

Growth Hormone *Axis*

Compounds studied for their capacity to prompt the body's own growth-hormone release in its natural rhythm — a different proposition from synthetic hormone replacement.

Encouraging, not *overriding*

A secretagogue prompts a gland to secrete its own hormone. Rather than introducing growth hormone directly, these compounds are studied for their capacity to ask the pituitary to release it — a distinction that bears on both effect and risk.

Sermorelin

the GHRH analogue

RESEARCH / COMPOUNDED

MECHANISM

An analogue of growth-hormone-releasing hormone, signalling the pituitary to release growth hormone in its natural pulses rather than at a sustained artificial level.

STUDIED IN RELATION TO

Sleep depth, recovery, and gradual change in lean body composition over a period of months. It holds a prior approval history in other clinical contexts.

Ipamorelin

the selective signal

RESEARCH / COMPOUNDED

MECHANISM

A selective growth hormone secretagogue acting at the ghrelin receptor, noted in research for a comparatively clean signal with limited effect on other hormonal axes.

STUDIED IN RELATION TO

Sleep and recovery, without the appetite and cortisol effects associated with less selective compounds in this class. Considered among the gentler options studied.

Neither compound is FDA-approved for anti-aging or performance applications. Reported effects include injection-site reactions and flushing. The growth-hormone axis is powerful and individual; it is not a self-directed area.

CJC-1295

the longer-acting analogue

RESEARCH / COMPOUNDED

MECHANISM

A longer-acting GHRH analogue. It is frequently discussed alongside Ipamorelin on the reasoning that the two act at complementary points of the release pathway.

ON THE POPULAR PAIRING

The combination is common in practice and is proposed to support steadier signalling while preserving natural pulsatility. As with the recovery pairing in Section 04, its popularity exceeds the controlled evidence for the combination specifically.

Reported effects include water retention and flushing. Not FDA-approved for these applications.

Tesamorelin

approved, narrowly

APPROVED — SPECIFIC USE

ITS ACTUAL APPROVAL

A GHRH analogue approved by the FDA to reduce excess abdominal fat in HIV-associated lipodystrophy. That is the whole of the approval — a specific compound for a specific population.

WHY IT APPEARS ELSEWHERE

It has been studied beyond its label in relation to body composition and cognitive markers. Those applications are off-label and investigational, and the approval does not extend to them.

> **A COMMON MISREADING**
>
> “FDA-approved” attached to a compound name, without the indication, is one of the most frequent distortions in this field. Approval attaches to a use, not to a molecule.

Distinguishing the *class*

CONSIDERATION	SERMORELIN	IPAMORELIN	CJC-1295	TESAMORELIN
Class	GHRH analogue	Ghrelin-receptor agonist	Long-acting GHRH analogue	GHRH analogue
Action	Prompts natural pulses	Selective release	Sustained signalling	Prompts release
Selectivity	Moderate	High	Moderate	Moderate
Duration	Shorter-acting	Shorter-acting	Longer-acting	Daily
Commonly paired with	Used alone or stacked	CJC-1295	Ipamorelin	Not typically paired
Standing	Research / compounded	Research / compounded	Research / compounded	Approved — specific indication

WHY "NATURAL RHYTHM" IS THE RECURRING ARGUMENT

Introducing growth hormone directly overrides the body's feedback loops. Secretagogues are studied on the premise that asking the pituitary to perform its own work preserves the natural pulse — the reasoning behind this class's gentler reputation. That reasoning is mechanistically coherent. It is not, by itself, a safety demonstration.

WHAT THIS CLASS IS NOT

These compounds are not anabolic steroids and do not act as they do. Neither are they a substitute for evaluation of genuine growth hormone deficiency, which is a diagnosable endocrine condition with an established clinical pathway.

SECTION

08

Skin, Hair & *Topical*

Where peptide science meets aesthetics. The best-evidenced and least regulated corner of this field at once — and the one most likely to appear in a bathroom cabinet already.

GHK-Cu

the copper peptide

COSMETIC / RESEARCH

WHAT IT IS

A naturally occurring copper-binding tripeptide present in human plasma, with concentrations that decline markedly with age. Among the most studied peptides in dermatological science.

REPORTED IN STUDIES

Studies of topical formulations have reported improvements in firmness, smoothness, and tone. It has also been examined in relation to wound healing and skin-barrier support.

COLLAGEN AND MATRIX

Research has examined its relationship to collagen and elastin synthesis — the structural scaffolding underlying firmness — and to the regulation of enzymes involved in matrix remodelling.

HAIR RESEARCH

Studied for a possible role in follicle health, generally through topical or scalp application. Evidence here is less developed than for skin quality.

WHY THIS COMPOUND IS DIFFERENT FROM MOST IN THIS PUBLICATION

GHK-Cu is applied topically, regulated as a cosmetic ingredient, and supported by a comparatively substantial body of published work including controlled studies in human skin. Among peptides discussed in aesthetic contexts, **it carries one of the stronger evidence bases relative to the claims made for it** — a sentence that cannot be written for most entries in this guide.

THE CAVEAT THAT STILL APPLIES

Cosmetic regulation evaluates ingredient safety, not efficacy claims. Concentration, formulation, pH, and delivery vehicle determine whether an ingredient reaches the layer where it might act. A named peptide on a label is not evidence that the product performs.

The peptides already on your *shelf*

Four cosmetic peptides appear across a great many serums and creams, usually under trade names. They are the most widely used peptides in the world, and almost never discussed in a peptide guide.

MATRIXYL — PALMITOYL PENTAPEPTIDE-4

COSMETIC

A matrikine — a fragment that mimics a collagen breakdown product, which the skin reads as a signal to synthesise more. Studied in topical formulation for effects on fine lines and dermal density. The palmitoyl group is a fatty acid chain added to improve penetration.

ARGIRELINE — ACETYL HEXAPEPTIDE-8

COSMETIC

Frequently marketed as a topical alternative to neuromodulator injection, on the basis that it interferes with the vesicle machinery of neurotransmitter release. Reported effects in studies are modest and confined to superficial expression lines; it is not equivalent to injection and should not be presented as such.

SNAP-8 — ACETYL OCTAPEPTIDE-3 COSMETIC

An extended version of the Argireline sequence, developed on the proposition of greater affinity at the same target. Published independent evidence distinguishing the two in practice is limited.

PALMITOYL TRIPEPTIDE-1 COSMETIC

Another matrikine, commonly formulated alongside palmitoyl tetrapeptide-7 in blends marketed for firmness and for calming visible irritation. The pairing is the more studied form.

THE USEFUL DISTINCTION IN THIS SECTION

Topical cosmetic peptides carry the lowest regulatory risk and the most accessible evidence of anything in this publication. They also carry the most modest effects. That trade — small, demonstrated, low-risk against large, claimed, unverified — is worth recognising as the recurring shape of choices in this field.

Reading a cosmetic *label*

01 Find the trade name, then the INCI name

Marketing names such as Matrixyl or Argireline are trademarks. The ingredient list carries the INCI name — palmitoyl pentapeptide-4, acetyl hexapeptide-8 — which is what actually tells you what is present.

02 Check where it falls in the list

Ingredients are ordered by concentration down to one percent. A peptide named near the end of a long list is present, but the quantity may be far below what studies used.

03 Ask whether the study was on the ingredient or the product

Manufacturers frequently cite research on a raw ingredient at a specific concentration, then apply it to a finished product containing considerably less.

04 Note the delivery format

A peptide in a rinse-off cleanser has little opportunity to act. Leave-on serums and creams are the formats in which topical peptide research is generally conducted.

> **ON HAIR SPECIFICALLY**
>
> Peptide approaches to hair — GHK-Cu among them, and zinc thymulin in early research — remain considerably less established than the treatments with regulatory approval for hair loss. Anyone experiencing meaningful hair loss is better served by clinical evaluation first, since cause determines what is likely to help.

THE AESTHETIC READ

Modest and demonstrated will outperform dramatic and *unverified*, given time.

SECTION

09

Intimacy & Hormonal *Signalling*

A category rarely covered in guides of this kind, and one that includes an FDA-approved peptide indicated specifically for women.

PT-141 (Bremelanotide)

a central, not vascular, pathway

APPROVED — SPECIFIC USE

ITS APPROVAL

Approved by the FDA under the brand name Vyleesi for hypoactive sexual desire disorder in premenopausal women — a defined diagnosis, not a general enhancement indication.

MECHANISM

A melanocortin receptor agonist acting on central nervous system pathways associated with desire. This differs fundamentally from the vascular mechanism of the more familiar erectile-dysfunction medications.

REPORTED EFFECTS

Nausea is the most commonly documented, alongside flushing and headache. Transient increases in blood pressure are described in the labelling, which is why cardiovascular history bears on suitability.

WHY IT BELONGS HERE

Sexual desire is a common and under-discussed concern, and this is one of the few approved peptide options addressing it. Uses beyond the approved indication are off-label and are not covered by that approval.

Approval is indication-specific and population-specific. Persistent changes in desire can also reflect hormonal, medication-related, relational, or mood factors, which is why evaluation precedes any consideration of treatment.

Kisspeptin-10

upstream of the hormonal cascade

RESEARCH

WHAT IT IS

A peptide central to the regulation of reproductive hormone signalling, acting upstream of the pathway that governs sex-hormone production.

WHERE RESEARCH SITS

Investigated in reproductive endocrinology and, more recently, in relation to aspects of desire and arousal. Research-stage; not an approved therapy for any of these applications.

SECTION

10

Immune & *Gut*

Thymic and antimicrobial peptides studied for immune modulation and barrier integrity — an area where regional approvals exist abroad but not in the United States.

Thymosin Alpha-1

the thymic peptide

RESEARCH / REGIONAL APPROVALS

WHAT IT IS

A peptide derived from the thymus, the gland responsible for T-cell maturation. Studied for a role in modulating immune response — supporting regulation rather than broadly stimulating activity.

REGULATORY PICTURE

Approved in a number of countries for specific conditions, including as an adjunct in certain viral and oncological contexts. It is not FDA-approved in the United States for general wellness applications.

Approval elsewhere is not approval here, and the indications approved abroad are narrower than the wellness framing this compound is often given.

KPV

the tripeptide fragment

RESEARCH

WHAT IT IS

A three-amino-acid fragment of alpha-MSH, studied preclinically for anti-inflammatory activity, including in models of intestinal inflammation.

STANDING

Research-stage. Evidence is largely from cell and animal models; controlled human data are not established.

LL-37

the antimicrobial peptide

RESEARCH

WHAT IT IS

A naturally occurring human antimicrobial peptide, part of innate immune defence, studied for antimicrobial and immune-modulating properties.

THE COMPLICATION

Research has associated elevated LL-37 activity with certain inflammatory skin conditions. Its biology is not uniformly beneficial, which makes the wellness framing it sometimes receives an oversimplification.

SECTION

II

On the *Horizon*

Names encountered as the field evolves. Brief, honest overviews — what each is studied for, and where the research currently stands.

A short field *guide*

Inclusion here is educational and reflects presence in public discussion. Most entries are investigational or research-stage, and none should be read as a recommendation.

AOD-9604 RESEARCH

A fragment of the growth hormone molecule, explored for a possible role in fat metabolism without the broader effects of the full hormone. Not approved for weight management; human evidence is limited and results in trials have been unremarkable relative to the claims made.

THYMALIN RESEARCH

A thymic peptide preparation studied primarily within Russian research in relation to immune function and aging. Shares the replication limitation described in Section 05.

LARAZOTIDE INVESTIGATIONAL

Studied in relation to intestinal permeability, principally in coeliac disease. It has progressed further through formal clinical development than most compounds in this section, without achieving approval.

DSIP RESEARCH

Delta Sleep-Inducing Peptide, studied since the 1970s for effects on sleep architecture and stress modulation. Despite a long research history, the evidence base has remained preliminary rather than accumulating toward approval.

DIHEXA RESEARCH

A compound studied preclinically for effects on synapse formation, attracting attention in cognitive contexts. Human safety data are essentially absent, which is a material gap for anything acting on the brain.

HEXARELIN & THE GHRPS RESEARCH

Earlier-generation growth hormone secretagogues, including GHRP-2 and GHRP-6. Generally less selective than Ipamorelin, with more pronounced effects on appetite and cortisol — which is why the newer compounds displaced them.

READING THE FIELD

"Emerging" means exactly that — early. Some compounds in this section have been emerging for decades, which is itself informative: a long research history without progression toward approval usually indicates that the evidence did not develop as hoped.

SECTION 12

Where caution is *warranted*

Not every compound circulating under the word “peptide” belongs in the same conversation. Some are misnamed. Some are unapproved everywhere. Some are sold through channels that can verify nothing at all. Recognising them is the most useful literacy this publication can offer.

Melanotan II UNAPPROVED

Marketed for tanning and distributed almost entirely outside regulated channels. It holds no approval for this use in the United States, and published case reports have described changes to existing moles among other concerns — an unfavourable exchange for a cosmetic effect. Regulatory bodies in several countries have issued public warnings.

MK-677 (Ibutamoren) NOT A PEPTIDE

Routinely grouped with peptides in consumer discussion. It is not one — it is an orally active non-peptide compound acting on the same receptor family. It remains investigational and has never been approved. Its appearance inside a list of “peptides” is a reliable signal that the source is not reading labels carefully.

Research-only labelling VERIFIES NOTHING

Vials sold online marked “for research purposes only, not for human consumption” carry no verified identity, purity, sterility, or concentration. That phrasing is a legal posture adopted by the seller, not a quality standard. Independent testing of such products has repeatedly found contents that do not match the label.

Outcome guarantees A WARNING SIGN

Published trial averages describe study populations under controlled conditions. Any party converting those averages into a personal promise — a figure, a timeline, a guarantee — has left the evidence behind. Promised certainty is the clearest indicator that something other than medicine is being sold.

THE STANDARD

Certainty is easy to sell.
Candour is the harder promise.

Considered, *always*

WHERE PEPTIDE APPROACHES ARE GENERALLY UNSUITABLE

Pregnancy and breastfeeding; active or prior cancers, depending on the compound; certain thyroid conditions; and any contraindication identified during clinical screening. Where there is uncertainty, the appropriate course is to wait and evaluate rather than to proceed.

WHY CLINICAL OVERSIGHT IS THE DECIDING VARIABLE

Oversight determines whether candidacy is correctly assessed, whether the preparation is appropriately sourced, whether dosing is suitable, and whether there is a qualified person to call when something changes. It is the single largest factor separating considered use from risky use.

EFFECTS DOCUMENTED ACROSS THE CATEGORIES

These vary by compound. Most frequently documented are injection-site reactions, gastrointestinal effects with GLP-1 agents, and water retention or flushing with growth-hormone-axis compounds. Approved products carry full documentation in their prescribing information.

INTERACTIONS AND EXISTING CONDITIONS

Peptides can interact with existing medications, and many conditions bear on suitability. A full medication and history review is standard practice before any protocol, and is not a formality.

THE FACTORS THAT INFLUENCE OUTCOMES MOST

Across every category in this publication, the published research is consistent on one point: sleep, protein-forward nutrition, resistance training, hydration, and stress management shape results more reliably than compound selection does. **Peptides are studied as support for a healthy system. They do not compensate for an unhealthy one.**

A realistic *timeline*

Where protocols are clinically indicated and supervised, this is the shape they generally take. It is a description of a typical pattern, not a schedule any individual should expect.

01 **Weeks one to two — adjustment**

Changes are typically subtle. Where effects occur, they tend to appear and settle in this window. This is the period in which tolerability is assessed rather than results.

02 **Weeks three to six — early signal**

Shifts in appetite, sleep, or recovery become noticeable for those who respond. A proportion of people notice nothing at this stage, which is a normal finding rather than a failure.

03 **Months two to three — measurable change**

Where a compound is working for a given person, this is generally when change becomes measurable rather than merely felt. It is also the point at which continuation is reconsidered.

04 **Beyond three months — refinement**

Protocols are adjusted as the body responds, and maintenance planned. Most peptide effects diminish following discontinuation, which is why an exit plan matters as much as a start.

THE TRUTH WE LEAD WITH

Peptides are not magic. They are tools — sometimes powerful ones — supporting a body already doing the *work* of nutrition, movement, sleep, and rest.

Plainly *answered*

Are peptides safe?

Safety is a property of a specific compound in a specific person under specific oversight — not of the category. Some have substantial safety records; others have almost no human data at all.

Are peptides steroids?

No. Different molecules, different mechanisms. Peptides signal the body; anabolic steroids impose a hormonal effect. This is the most common confusion in the field.

Are peptides FDA-approved?

Some are, for specific indications — semaglutide, tirzepatide, bremelanotide, tesamorelin among them. Many others are investigational or research-stage. Each entry in this publication is labelled.

Are peptides legal?

Approved peptides are prescribed in the ordinary way. Others occupy a research or compounding space with rules that vary and change. Legality, approval, and availability are three separate questions.

How long before results appear?

It varies by compound and by goal. Recovery and longevity compounds are generally subtler and slower than metabolic ones. Some people do not respond at all.

Do they require injection?

Many studied compounds are delivered subcutaneously; others exist in oral, topical, or intravenous form. Route is a clinical decision, not a preference.

Will weight return after stopping a GLP-1?

Published follow-up indicates appetite signalling returns toward baseline and that regain is common without a maintenance approach. A considered exit matters as much as the start.

Can peptides be combined?

Some are intentionally paired; others should not be. Combination is a medical judgement, and the evidence for most popular combinations is weaker than their popularity suggests.

Will they interact with my medications?

They can. A full medication and history review precedes any protocol for precisely this reason, and is not a box-ticking exercise.

Is bloodwork necessary?

Frequently, yes — to establish a baseline, confirm suitability, and monitor safely over time. Baseline values are also what make later change interpretable.

Are results permanent?

Generally not. Most peptide effects diminish after discontinuation. Results are maintained through continued protocol where appropriate, and through lifestyle in every case.

Will peptides build muscle?

Growth-hormone-axis compounds are studied in relation to recovery and body composition over time alongside training. They are not steroids and do not produce rapid muscle gain.

What does “compounded” mean?

A preparation made by a pharmacy for an individual rather than manufactured under FDA approval. It is lawful in defined circumstances but has not itself been through FDA review.

Are there long-term human data?

It varies enormously. GLP-1 agents have substantial long-term data. Many research peptides have essentially none, and that absence is itself information.

What if I have a chronic condition?

Disclose everything at evaluation. Many conditions bear on suitability and some are firm contraindications. Omission is the most common avoidable risk.

Should I buy peptides online?

Products sold without prescription and labelled for research carry no verified identity, purity, or sterility. Section 12 covers why this is the highest-risk decision in the field.

Can peptides replace diet and exercise?

No. This is the single most important expectation to hold. The published research consistently pairs these compounds with lifestyle support rather than substituting for it.

Can peptides help with sleep?

Some are studied in relation to sleep architecture, including certain GH secretagogues and DSIP. Evidence varies considerably by compound and is preliminary for most.

Why do some come from overseas research?

Several — Selank, Semax, Epitalon, Thymalin — were developed and studied primarily abroad. That context explains both their US regulatory standing and the limits of their evidence base.

Are there age considerations?

These are adult questions. Suitability depends on age, health status, and goals, and is assessed individually rather than by category.

Is any of this covered by insurance?

Wellness-oriented protocols are generally not. Approved medicines prescribed for approved indications may be, depending on the plan and the diagnosis.

How do I know if this is right for me?

Through evaluation by a licensed clinician who knows your history. There is no honest answer to this question in a document, and any source offering one is not being straight with you.

The questions worth asking *anyone*

If you are evaluating a provider, a product, or an article, these five questions separate considered practice from salesmanship faster than any other line of enquiry.

01 **"What is this compound's regulatory status, precisely?"**

A confident answer naming the indication is a good sign. "It's FDA-approved" without an indication is not an answer.

02 **"What human evidence exists, and how much?"**

The honest answer is sometimes "very little." A source unwilling to say so about a research-stage compound is not describing the field accurately.

03 **"Where is this sourced, and can that be documented?"**

Licensed, documented supply chains can answer this without hesitation. Vagueness here is the most consequential warning sign in the entire category.

04 **"What would make me unsuitable for this?"**

Anyone who cannot readily name contraindications for a compound they are proposing has not engaged with its risk profile.

05 **"What happens when I stop?"**

A considered answer addresses this at the outset. An answer that avoids it has planned for the sale rather than for the person.

STILL HAVE A QUESTION

The best answers are personal. Bring the full list — no question is too small, and candour is the whole *point*.

What to bring, and *why*

A consultation is more useful when the preparation has been done. None of the following requires effort so much as recollection — and each item changes what a clinician can safely consider.

A COMPLETE MEDICATION LIST

Prescriptions, over-the-counter products, supplements, and anything taken occasionally. Supplements are the category most often omitted and among the more likely to interact.

RECENT BLOODWORK, IF AVAILABLE

Anything within the past twelve months. Prior values establish a baseline and can spare duplicate testing.

WHAT YOU HAVE ALREADY TRIED

Including anything obtained independently. This is not a matter for embarrassment; it is clinically relevant, and omitting it removes information a clinician needs.

PERSONAL AND FAMILY MEDICAL HISTORY

Particularly thyroid conditions, cancers, pancreatic and gallbladder history, and cardiovascular history. Several contraindications in this field are familial rather than personal.

YOUR ACTUAL GOAL, STATED SPECIFICALLY

"More energy" and "I stop sleeping through the night around three" lead to very different evaluations. Specificity is the most useful thing you can offer.

YOUR HONEST BASELINE

Sleep, alcohol, training, stress, nutrition. These shape outcomes more than compound selection does, and a plan built on an inaccurate picture will not hold.

ONE THING WORTH DECIDING BEFOREHAND

How you would define success, and how long you are prepared to give it. Protocols without a defined endpoint tend to continue by default rather than by decision.

How a considered protocol is *built*

A protocol is not bought; it is built. Where peptide therapy is clinically appropriate, this is the sequence a careful practice follows.

01 Consultation

A private conversation about goals, history, and questions — and a genuine assessment of whether this avenue fits what is actually being sought. Sometimes the answer is that it does not.

02 Medical evaluation

Health review, screening, and bloodwork where indicated, confirming suitability and establishing a baseline before anything begins.

03 A plan, explained before it is agreed

Compound, rationale, timeline, expected effects, and known risks — reviewed in full, with the decision belonging to the person making it.

04 Monitoring

Scheduled review to track response, address effects, and confirm that the original rationale still holds.

05 Refinement, or discontinuation

Adjustment as the body responds — and a willingness to stop. A protocol that cannot end is not a protocol.

BEGIN

A single conversation is the only commitment.
Everything else follows from what it *finds*.

Terms and *references*

Agonist
A substance that binds a receptor and activates it, producing a response.

Glucagon
A hormone raising blood glucose; also implicated in energy expenditure.

Secretagogue
A substance prompting a gland to secrete its own hormone.

Matrikine
A peptide fragment of matrix protein that signals for repair or synthesis.

Preclinical
Research conducted in cells or animals, prior to human study.

Off-label
Prescribing an approved medicine for an indication other than the approved one.

Contraindication
A condition making a given treatment inadvisable or unsafe.

Telomere
The protective cap at a chromosome end, shortening with cell division.

GLP-1 / GIP
Incretin hormones released from the gut that influence insulin response and satiety.

Amylin
A hormone co-released with insulin, involved in satiety and gastric emptying.

GHRH
Growth-hormone-releasing hormone, the upstream signal to the pituitary.

INCI
The standardised naming system for cosmetic ingredients on a label.

Phase 2 / Phase 3
Successive stages of clinical trial; Phase 3 is larger and typically precedes review.

Compounding
Pharmacy preparation of a medication for an individual, outside manufactured supply.

Titration
Gradual adjustment of dose to find the lowest effective level.

Mitochondria
Cellular structures responsible for producing usable energy.

PRINCIPAL TRIAL PROGRAMMES REFERENCED

STEP — Semaglutide Treatment Effect in People with Obesity. Randomised, placebo-controlled programme; weight outcomes at 68 weeks with lifestyle intervention.

SURMOUNT — Tirzepatide obesity programme. Randomised, placebo-controlled; weight outcomes at 72 weeks with lifestyle intervention.

SCALE — Liraglutide weight-management programme; the earlier reference point for this class.

REDEFINE — CagriSema clinical programme evaluating combined GLP-1 and amylin agonism.

Retatrutide Phase 2 — Published dose-ranging trial reporting weight outcomes at 48 weeks. Phase 3 evaluation ongoing.

Findings referenced throughout are the work of independent investigators and trial sponsors. Readers seeking primary sources are encouraged to consult the published literature directly, or to ask a clinician to review it with them. Trial results, regulatory status, and availability change; this publication reflects the position as of July 2026.

IMPORTANT INFORMATION

Legal & medical *notice*

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Revealing the Beauty Beneath

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