

THE PEPTIDES REPORT: PART 2

Your Weekly Newsletter

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The Peptides Report - Part 2

Expanding the Frontier of Functional & Regenerative Medicine

Last week, we discussed the definition of a peptide, the explosive growth in peptide research and clinical interest, and the evolving regulatory landscape surrounding compounded peptide therapies. To review last week's newsletter, [click here](#).

A Quick Recap

A peptide is a short chain of amino acids linked together by peptide bonds. In general, peptides contain fewer than 50 amino acids, while larger chains are typically classified as proteins. The distinction is not absolute. For example, one of the most widely recognized "peptide" hormones is insulin, which contains 51 amino acids and was discovered at the University of Toronto in 1921.

Today, peptide medicine is rapidly expanding. There are now more than 2,000 peptides in various stages of development, with over 300 active clinical trials underway in 2026. Research is exploring applications in metabolic health, longevity medicine, cognitive optimization, immune regulation, tissue repair, hormone support, and sexual wellness.

Regulatory Update

In September 2023, the U.S. Food and Drug Administration reclassified approximately 19 commonly prescribed peptides from "Category 1" to "Category 2," significantly restricting routine pharmacy compounding of these therapies.

The FDA is expected to reconvene in July 2026 to reevaluate several peptides for possible return to Category 1 status. If approved, licensed compounding pharmacies may again be permitted to prepare these therapies under physician prescription and supervision.

As always, patients should only receive peptide therapies from reputable physicians and high-quality compounding pharmacies that emphasize sterility,

Previously Reviewed Peptide Categories

1. Growth Hormone Secretagogues

These peptides stimulate the body's natural release of growth hormone rather than replacing growth hormone directly.

- Sermorelin
- Tesamorelin
- Ipamorelin
- CJC-1295
- Tesamorelin/Ipamorelin combinations
- Ipamorelin/CJC-1295 combinations

2. Regenerative & Healing Peptides

These peptides are commonly used to support recovery, tissue healing, and cellular repair.

- BPC-157
- TB-500
- BPC-157/TB-500 combinations
- GHK-Cu

In Part II We Review Four Additional Categories

1. Weight Loss & Metabolic Control Peptides
2. Neurologically Enhancing Peptides
3. Immune Support Peptides
4. Sexual Health & Wellbeing Peptides

1. Weight Loss & Metabolic Control Peptides

(See our dedicated GLP newsletter for a more in-depth review.)



Semaglutide

- GLP-1 Receptor Agonist
- 31 Amino Acids
- FDA Approved
- Benefits:
 1. Reduces appetite and food cravings
 2. Slows gastric emptying to improve satiety
 3. Improves insulin sensitivity and glucose control
 4. Supports substantial weight loss
 5. May reduce cardiovascular risk in certain patients

Common Side Effects

- Nausea
- Constipation or diarrhea
- Fatigue
- Acid reflux
- Delayed gastric emptying
- Rare risk of pancreatitis or gallbladder disease

Tirzepatide

- GLP-2
- 39 Amino Acids
- GLP-1 + GIP Dual Receptor Agonist
- GIP= Glucose-Dependent Insulinotropic Polypeptide
- FDA Approved

- Benefits:
 1. Powerful appetite suppression
 2. Enhanced metabolic control
 3. Significant fat loss and body composition improvement
 4. Improved insulin sensitivity
 5. Often produces greater weight reduction than first-generation GLP therapies

Common Side Effects

- Nausea
- Bloating
- Constipation
- Fatigue
- Muscle loss if protein intake is inadequate
- Rare risk of pancreatitis or gallbladder complications

Retatrutide

- GLP-3
- 39 Amino Acids
- Triple Receptor Agonist: GLP-1 + GIP + Glucagon
- Glucagon Receptor = Increases Fat Burning + Drops Appetite + Increases Energy Expenditure
- Currently Under FDA Review (Approval is anticipated as early as late 2026).
- Benefits:
 1. Next-generation metabolic therapy
 2. Significant weight reduction potential
 3. Increased energy expenditure
 4. Improved insulin resistance and metabolic flexibility
 5. May produce unprecedented reductions in visceral fat

Common Side Effects

- Gastrointestinal discomfort
- Nausea
- Diarrhea
- Appetite suppression that may become excessive in some patients
- Ongoing long-term safety evaluation



AOD-9604

- “Anti-Obesity Drug” Fragment
- 16 Amino Acids
- FDA Status: AOD-9604 is not FDA-approved for weight loss
- Benefits:
 1. May promote fat metabolism
 2. Supports weight management efforts
 3. Designed from a modified fragment of growth hormone
 4. Does not appear to significantly increase blood sugar or IGF-1 levels

Common Side Effects

- Injection site irritation
- Headache
- Mild water retention
- Limited long-term human data compared with GLP therapies

Does AOD-9604 work?

Many clinicians report patients may experience:

- Mild appetite reduction
- Subtle improvements in body composition
- Does not have the same G.I. Side effects as the GLP class of peptides
- Easier fat loss when combined with:
 - calorie control
 - high protein intake
 - exercise

- GLP therapy



But it is generally **not in the same league** as:

- Semaglutide
- Tirzepatide
- Retatrutide

for total body weight reduction.

2. Neurotrophic / Neurologically Enhancing Peptides



Cerebrolysin

- Intramuscular Injection or I.V. Infiltration
- A mixture of small neuropeptides
- FDA Status:

Cerebrolysin is not FDA-approved in the United States. However, it is utilized clinically in more than 50 countries worldwide and has been studied for neuroprotection, stroke recovery, cognitive decline, and traumatic brain injury.

- Benefits:

1. Supports neuronal repair and neuroprotection
2. May improve memory, focus, and cognitive processing
3. Studied in traumatic brain injury, stroke recovery, and neurodegenerative conditions
4. Contains neuropeptides and amino acids that mimic natural neurotrophic factors

Common Side Effects

- Headache
- Dizziness
- Injection site discomfort
- Fatigue
- Rare agitation or overstimulation



Semax

- Intranasal Peptide
- 7 Amino Acids
- FDA Status: Semax is not FDA-approved in the United States. It is primarily used and studied in Russia and parts of Eastern Europe.
- Benefits
 1. Nootropic peptide originally developed in Russia
 2. Supports focus, concentration, and memory
 3. May improve mental clarity and stress resilience
 4. Neuroprotective and anti-inflammatory properties

Common Side Effects

- Nasal irritation
- Headache
- Mild overstimulation
- Temporary insomnia in sensitive individuals

Selank

- Intranasal Peptide
- 7 Amino Acids
- FDA Status: Selank is not FDA-approved in the United States. It remains an investigational neuropeptide that has been studied primarily in Russia and Eastern Europe for anxiety reduction, stress resilience, and cognitive support.
- Benefits
 1. May reduce anxiety and improve stress resilience
 2. Supports mood stabilization
 3. Can enhance cognitive performance without sedation
 4. Often described as calming without mental dullness

Common Side Effects

- Mild fatigue
- Nasal irritation

- Headache
- Rare dizziness

3. Immune Support Peptides

Thymosin Alpha-1

- Subcutaneous Injection
- 28 Amino Acids
- FDA Status: Thymosin Alpha-1 is not FDA-approved in the United States for any standard clinical indication. It is approved or utilized clinically in multiple countries outside the U.S., particularly for:
 - chronic hepatitis B
 - immune support
 - adjunctive oncology applications
- Benefits
 1. Immune-modulating peptide that supports T-cell function
 2. Enhances immune surveillance and host defense
 3. Studied in chronic infections, immune dysfunction, and inflammatory conditions
 4. May support recovery during periods of physiologic stress

Common Side Effects

- Injection site irritation
- Fatigue
- Mild flu-like symptoms
- Rare allergic reactions

4. Sexual Health & Wellbeing Peptides



Bremelanotide

- “PT-141”
- FDA Status: Approved for FDA-approved under the brand name **Vyleesi** for acquired generalized hypoactive sexual desire disorder (HSDD) in women.
- Benefits
 1. Acts centrally on brain pathways involved in sexual desire and arousal
 2. Enhances libido in both women and men
 3. Can support erectile function in men (off-label use)
 4. Does not work through the vascular nitric oxide pathway like traditional erectile medications

Common Side Effects

- Nausea
- Facial flushing
- Headache
- Temporary increases in blood pressure
- Fatigue

Kisspeptin

- aka “KISS1” peptide
- 54 Amino Acids
- FDA Status: Kisspeptin is not FDA-approved in the United States and remains an investigational neuroendocrine peptide being studied for fertility, hormone optimization, reproductive health, and sexual wellness applications.
- May Improve Libido

Early studies suggest kisspeptin may:

- Increase sexual desire
- Enhance arousal pathways
- Improve emotional/sexual brain processing
- FDA Status: currently investigational and not formally FDA-approved for routine clinical use.
- Other benefits:
 1. Plays a major role in regulating the hypothalamic-pituitary-gonadal axis
 2. May support fertility, libido, and reproductive hormone signaling
 3. Stimulates natural release of luteinizing hormone (LH) and follicle-stimulating hormone (FSH)
 4. Potential role in optimizing testosterone production and reproductive health

Common Side Effects

- Headache
- Flushing
- Injection site irritation
- Temporary hormone fluctuations



Human Chorionic Gonadotropin (hCG)

Although often grouped with peptide therapies, hCG is technically not a true peptide. It is a glycoprotein hormone containing 237 amino acids along with attached carbohydrate side chains.

- FDA status: FDA-approved for several medical indications including fertility treatment and hypogonadism-related applications.
- Benefits
 1. Stimulates the testes to produce endogenous testosterone
 2. Helps preserve fertility during testosterone replacement therapy
 3. Supports testicular size and function
 4. May improve libido, mood, and energy in properly selected patients
 5. Frequently used in hormone optimization protocols for both men and women

Common Side Effects

- Water retention
- Breast tenderness or gynecomastia
- Mood fluctuations
- Elevated estradiol levels
- Injection site irritation

Final Thoughts

Peptide medicine is rapidly evolving and represents one of the most exciting frontiers in modern functional and regenerative medicine. While many peptides remain investigational, ongoing research continues to expand our understanding

of how these therapies may support metabolism, cognition, immune resilience, tissue repair, hormone balance, and longevity.

As always, peptide therapy should be individualized, medically supervised, and incorporated into a comprehensive treatment strategy that includes nutrition, exercise, sleep optimization, stress management, and metabolic health.

At **Ageless Solutions**, our goal is not simply symptom management, but helping patients optimize health, performance, and quality of life from the inside out.

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Receive 20% OFF your first vial of
Wolverine*.

Come experience the healing potential of this peptide first
hand.

**Patients must be deemed eligible following brief medical history questionnaire. Offer expires 5/29/26.*

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STAY TUNED!

Be on the lookout for next week's newsletter, "**Building Muscle After Age 55.**"



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