The Essential Peptide Guide

A Plain-English, Science-Backed Breakdown of 19 Popular Peptides & Stacks

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About This Guide

Peptides are short chains of amino acids. Think of them as text messages your body sends to its own cells: *repair this*, *build that*, *burn this*, *calm down*. Your body already makes hundreds of them. Peptide therapy just sends a few of those messages on purpose.

Most peptide information online is either written for scientists or written to sell you something. This guide is written for a normal person. For each peptide you get: what it is, what it does, who uses it, a link to a real published study, and the dosing most people actually run. I also share my own personal stack and exact dosing so you can see what a real protocol looks like.

This guide educates. It does not diagnose, prescribe, or replace your doctor. Talk to a licensed medical provider before starting anything in here.

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Peptides & Stacks Covered	Dosing Protocols	Real-Injury Protocol

Peptide Words, Translated

Read this page once and the rest of the guide reads like English. Every term below shows up in the dosing sections.

Term	What it actually means
mg vs mcg	1 mg = 1,000 mcg. Peptide doses are usually in mcg (micrograms). Fat-loss drugs like semaglutide are in mg.
SubQ	Subcutaneous — a shallow shot into the fat layer just under the skin (belly, love handle, thigh). Tiny needle. Not into muscle, not into a vein.
Lyophilized	Freeze-dried powder. That's how peptides ship. You add liquid before you can use it.
Reconstitute	Turning that powder into a liquid by adding bacteriostatic water to the vial.
BAC water	Bacteriostatic water. Sterile water with a preservative so the vial stays clean for weeks after you open it.
"Units"	The tick marks on an insulin syringe. 100 units = 1 mL = a full syringe. 10 units = one-tenth of a syringe.
Half-life	How long the peptide sticks around. Short half-life = shoot it daily or multiple times a day. Long half-life = once a week.

Titrate	Start low, go up slowly. Almost every protocol in this guide titrates.
Cycle	Time on, then time off — so your receptors stay sensitive and the peptide keeps working.
GH secretagogue	A peptide that tells your own pituitary to release growth hormone. It is not growth hormone itself.
GLP-1 / GIP	Natural gut hormones that control appetite and blood sugar. Semaglutide, tirzepatide, and retatrutide are copies of them.
Research-use only	Sold for lab research, not FDA-approved as a drug for humans. Know that before you buy anything.

Peptide Breakdowns

BPC-157 — The Healing Peptide

What it is: A synthetic peptide derived from a protein found in stomach acid, known for its regenerative properties.

> **In plain English:** The repair guy. Speeds up healing in tendons, ligaments, muscle, and the gut lining.

Key Benefits: Accelerates tissue repair, reduces inflammation, supports gut health, promotes joint & tendon healing.

Common Use Cases: Injury recovery, gut issues, joint pain, post-surgery healing.

Source: Sikiric et al., Curr Pharm Des, 2018 (PubMed)

TB-500 — The Recovery Peptide

What it is: A synthetic version of Thymosin Beta-4, a naturally occurring peptide involved in cell repair and regeneration.

> **In plain English:** The traffic controller. It moves your repair cells to wherever the damage is, and works body-wide rather than just at the injection site.

Key Benefits: Speeds recovery, reduces inflammation, improves flexibility, supports muscle & tendon healing.

Common Use Cases: Athletic recovery, chronic injuries, muscle repair.

Source: Goldstein & Kleinman, Ann NY Acad Sci, 2012 (PubMed)

Retatrutide — The Metabolic Game-Changer

What it is: A next-generation triple agonist peptide targeting GLP-1, GIP, and glucagon receptors for weight and metabolic support.

> **In plain English:** The strongest of the fat-loss shots. It hits three appetite and metabolism switches instead of one or two. Newest, so the least long-term safety data.

Key Benefits: Significant fat loss, improved insulin sensitivity, appetite regulation, metabolic optimization.

Common Use Cases: Weight loss, metabolic health, diabetes support.

Source: Jastreboff et al., NEJM, 2023

Tirzepatide — The Dual-Action Fat Loss Shot

What it is: A once-weekly dual agonist that activates both the GIP and GLP-1 receptors. FDA-approved as Mounjaro (diabetes) and Zepbound (weight).

> **In plain English:** Semaglutide's stronger cousin. It pulls two appetite levers instead of one, so most people eat less without white-knuckling it. Weekly shot, no daily grind.

Key Benefits: Large appetite reduction, significant weight loss, better blood-sugar control, improved insulin sensitivity.

Common Use Cases: Weight loss, type 2 diabetes, metabolic health.

Source: Jastreboff et al., NEJM, 2022 — SURMOUNT-1 (PubMed)

Semaglutide — The Original GLP-1

What it is: A once-weekly GLP-1 receptor agonist. FDA-approved as Ozempic (diabetes) and Wegovy (weight).

> **In plain English:** The one everybody's heard of. It slows your stomach down and quiets food noise, so you're satisfied on much less. Gentler than tirzepatide, and usually cheaper.

Key Benefits: Appetite suppression, steady weight loss, better blood sugar, cardiovascular benefit shown in trials.

Common Use Cases: Weight loss, type 2 diabetes, metabolic health.

Source: Wilding et al., NEJM, 2021 — STEP 1 (PubMed)

GHK-Cu — The Skin & Anti-Aging Peptide

What it is: A naturally occurring copper peptide with powerful regenerative and anti-aging properties.

> **In plain English:** The collagen builder. Skin, hair, and wound healing. The liquid turns turquoise — that's the copper, not a bad vial.

Key Benefits: Boosts collagen, improves skin elasticity, reduces wrinkles, supports hair growth and wound healing.

Common Use Cases: Anti-aging, skin repair, hair restoration.

Source: Pickart & Margolina, Biomed Res Int, 2015 (PubMed)

KPV — The Anti-Inflammatory Tripeptide

What it is: The last three amino acids of alpha-MSH (Lys-Pro-Val). It keeps the parent hormone's anti-inflammatory power without causing any skin darkening.

> **In plain English:** The fire extinguisher. It doesn't build anything — it turns inflammation down. Great alongside repair peptides, and it's the go-to for gut and skin flare-ups.

Key Benefits: Calms inflammatory signaling, supports gut lining repair, helps inflammatory skin conditions, works with repair peptides rather than competing with them.

Common Use Cases: IBD / colitis / leaky gut protocols, eczema and psoriasis, systemic inflammation, added to injury stacks.

Source: Dalmasso et al., Gastroenterology, 2008 (PubMed)

GLOW Stack — Skin, Hair & Tissue Repair in One Vial

What it is: A pre-blended vial of three peptides — GHK-Cu + BPC-157 + TB-500. The common format is 70 mg total: 50 mg GHK-Cu, 10 mg BPC-157, 10 mg TB-500.

> **In plain English:** One shot that covers looks and repair at the same time — collagen from GHK-Cu, healing from BPC-157, whole-body recovery from TB-500. Popular because it's three peptides for one injection.

Key Benefits: Skin quality and elasticity, hair support, faster soft-tissue healing, less inflammation.

Common Use Cases: Anti-aging and skin, recovery from training, nagging soft-tissue injuries.

No trial has tested these three together — the evidence is per-peptide. Sources: Pickart & Margolina, 2015 · Sikiric et al., 2018 · Goldstein & Kleinman, 2012

KLOW Stack — GLOW Plus an Anti-Inflammatory

What it is: The GLOW blend with KPV added. The common format is 80 mg total: 50 mg GHK-Cu, 10 mg BPC-157, 10 mg TB-500, 10 mg KPV.

> **In plain English:** GLOW with the fire extinguisher included. If your issue is inflammatory — gut problems, angry skin, a joint that stays swollen — KLOW is usually the better pick over GLOW.

Key Benefits: Everything GLOW does, plus stronger inflammation control from KPV.

Common Use Cases: Skin and anti-aging, injury recovery, gut and inflammatory conditions — all at once.

No trial has tested these four together — the evidence is per-peptide. Sources: Pickart & Margolina, 2015 · Sikiric et al., 2018 · Goldstein & Kleinman, 2012 · Dalmasso et al., 2008

Tesamorelin — The Lean Body Peptide

What it is: A growth hormone-releasing hormone (GHRH) analog that stimulates natural GH production through the pituitary gland.

> **In plain English:** The belly-fat one. It's the strongest of the GH peptides for visceral fat — the deep fat around your organs.

Key Benefits: Reduces visceral fat, improves body composition, supports cognition and energy.

Common Use Cases: Fat loss (especially belly fat), anti-aging, metabolic support.

Source: Falutz et al., J Clin Endocrinol Metab, 2010 (PubMed)

Glutathione — The Master Antioxidant

What it is: The body's most powerful antioxidant, essential for detoxification and immune support.

> **In plain English:** Your liver's cleanup crew. Handles the day-to-day damage from stress, alcohol, and pollution. Also why people's skin brightens on it.

Key Benefits: Detoxifies the liver, strengthens immunity, brightens skin, reduces oxidative stress.

Common Use Cases: Detox, immune support, skin health, anti-aging.

Source: Pizzorno, Integr Med (Encinitas), 2014 (PubMed)

NAD+ — The Cellular Energy Cofactor

What it is: A coenzyme present in every living cell, central to mitochondrial ATP production and sirtuin/PARP signaling. Not technically a peptide, but lives in the same longevity and biohacking stack.

> **In plain English:** Battery fluid for your cells. You make less of it every decade, and low levels show up as fatigue and brain fog. Fair warning — it stings going in.

Key Benefits: Cellular energy, mitochondrial function, cognitive performance, DNA-repair support, sirtuin activation.

Common Use Cases: Longevity protocols, fatigue, mental clarity, recovery support.

Source: Rajman, Chwalek & Sinclair, Cell Metab, 2018 (PubMed)

Ipamorelin — The Clean GH Releaser

What it is: A selective pentapeptide GHRP (ghrelin-receptor agonist) that stimulates pulsatile growth hormone release without spiking cortisol or prolactin.

> **In plain English:** Presses a different GH button than the GHRH peptides — which is exactly why the two get paired. "Clean" means no hunger spike and no stress-hormone bump.

Key Benefits: GH pulse without an appetite or cortisol bump, recovery, lean body composition, sleep support.

Common Use Cases: GH support (typically stacked with a GHRH analog), anti-aging, recovery.

Source: Raun et al., Eur J Endocrinol, 1998 (PubMed)

Sermorelin — The GH Pulse Restorer

What it is: A 29-amino-acid GHRH analog — the active fragment of natural growth-hormone-releasing hormone — that restores endogenous pulsatile GH release through the pituitary.

> **In plain English:** The gentlest GH option. Nudges your pituitary back toward the GH rhythm you had in your twenties. Most people notice sleep first.

Key Benefits: Improved sleep, recovery, body composition, and a softer GH profile than Tesamorelin.

Common Use Cases: Anti-aging, sleep quality, GH support.

Source: Walker et al., Endocrinol Metab Clin North Am (PubMed)

CJC-1295 with DAC — The Long-Acting GHRH

What it is: A GHRH analog modified with a Drug Affinity Complex (DAC) that binds albumin, extending the half-life to 6–8 days and allowing weekly dosing.

> **In plain English:** The once-a-week version. It parks in your bloodstream and keeps GH elevated for days. Convenient, but it gives you a steady hum instead of natural pulses.

Key Benefits: Sustained GH and IGF-1 elevation, recovery, body composition, weekly-cadence convenience.

Common Use Cases: GH support, often paired with Ipamorelin.

Source: Teichman et al., J Clin Endocrinol Metab, 2006 (PubMed)

CJC-1295 *no DAC* (Mod GRF 1-29) — The Short-Acting GHRH

What it is: The same GHRH analog **without** the albumin-binding DAC attachment. Half-life is roughly 30 minutes instead of 6–8 days, so it produces a sharp GH spike and then clears out.

> **In plain English:** Same peptide family, opposite personality. With-DAC is once a week and steady. No-DAC is a quick pulse you shoot 1–3 times a day, which looks a lot more like what your body does naturally. That's why most people who care about staying natural pick this one — and why it's the standard partner for Ipamorelin.

Key Benefits: Natural-looking GH pulses, recovery, sleep, lean body composition, less receptor blunting than a constant-elevation approach.

Common Use Cases: GH support, almost always stacked with Ipamorelin in the same syringe.

Source: Ionescu & Frohman, J Clin Endocrinol Metab, 2006 (PubMed)

MOTS-c — The Mitochondrial Exercise Mimetic

What it is: A 16-amino-acid mitochondrial-derived peptide encoded in the 12S rRNA gene of mitochondrial DNA. It circulates like a hormone, declines with age, and works largely by activating AMPK — the cell's master energy sensor.

> **In plain English:** It flips the same cellular switch a hard workout flips. It amplifies training — it does not replace it. Human dosing data does not exist yet.

Key Benefits: AMPK activation and mitochondrial biogenesis, support for insulin sensitivity and glucose handling (preclinical), reduced fat mass in animal models, exercise-mimetic profile.

Common Use Cases: Body-composition and metabolic-support stacks, longevity and mitochondrial protocols, performance and recovery.

Source: Lee et al., Cell Metab, 2015 (PubMed)

Selank — The Calm-Without-Sedation Peptide

What it is: A synthetic heptapeptide developed in Russia from the immune peptide tuftsin, prescribed there as an anti-anxiety nasal spray.

> **In plain English:** Takes the edge off without making you foggy or sleepy. No buzz, no hangover, no dependence reported. People use it before stressful days, not to check out.

Key Benefits: Reduces anxiety, improves focus under stress, mood support, no sedation and no reported withdrawal.

Common Use Cases: Anxiety, high-stress periods, focus, often paired with Semax for cognition.

Source: Zozulia et al., Zh Nevrol Psikhiatr, 2008 (PubMed)

Melanotan 2 (MT-2) — The Tanning Peptide

What it is: A melanocortin receptor agonist that stimulates melanin production in the skin. It also hits the receptor involved in sexual arousal.

> **In plain English:** It tells your skin to make pigment, so you tan faster and with less sun. Two things to know up front: nausea and flushing are common, and it darkens moles and freckles — so get a skin check before you touch it. This is the one on the list with the smallest gap between "works" and "feels terrible."

Key Benefits: Faster and deeper tanning with less UV exposure, increased libido, appetite suppression in some users.

Common Use Cases: Tanning and pigmentation, libido support.

Source: Dorr et al., Photochem Photobiol, 2000 (PubMed)

Reconstitution — Mixing Your Vial

Peptides ship as a freeze-dried powder. You add bacteriostatic water to turn it into a liquid you can inject. How much water you add decides how strong each unit on your syringe is. Get this one step right and everything after it is easy.

The Essentials

BAC water: Sterile water with 0.9% benzyl alcohol. The preservative is what lets you use the same vial for weeks.

U-100 insulin syringes: 100 units = 1 mL, so the unit number is just the percent of a full syringe. 50 units = half a syringe.

Technique: Swab the vial top with alcohol. Inject the BAC water slowly down the inside wall of the vial — not blasted straight onto the powder. Swirl gently, never shake. Give it 5–10 minutes to dissolve, then refrigerate.

The only two formulas you need:

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Strength (mg/mL) = vial size (mg) ÷ BAC water (mL)
Units to draw = (dose you want ÷ strength) × 100
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Worked Example — walk through it once

You have a **10 mg BPC-157 vial** and you want a **500 mcg** dose.

Step 1. Add 2 mL BAC water. Strength = 10 mg ÷ 2 mL = **5 mg/mL**, which is 5,000 mcg/mL.

Step 2. A full 100-unit syringe holds 1 mL = 5,000 mcg. So **1 unit = 50 mcg**.

Step 3. 500 mcg ÷ 50 mcg = **10 units**. Draw to the 10 mark. Done.

Shortcut: add 2 mL to any 10 mg vial and 1 unit always equals 50 mcg. That covers most peptides in this guide.

My Current Peptide Stack & Dosing

⚠️ **This is my personal regimen.** Not medical advice. Not a recommendation. Dosing is individual — what works for me will not match what works for you. Body weight, training load, goals, blood work, age, and tolerance all change the math. **Start low, titrate slow, monitor your labs, and work with a licensed medical provider.**

Wolverine Stack — BPC-157 + TB-500 combined vial (10 mg + 10 mg)

Reconstitution: 2 mL BAC water added directly to the combined vial → **5,000 mcg/mL of EACH peptide** (10,000 mcg/mL total). Each unit on a U-100 syringe delivers **50 mcg BPC-157 + 50 mcg TB-500 simultaneously.**

Combined dose per injection: 10 units = 500 mcg of each · 15 units = 750 mcg of each · 20 units = 1 mg of each

Protocol (personal): 10 units subQ once daily — delivers 500 mcg BPC + 500 mcg TB-500 per day, every day

Loading option: Wk 1–2 at 15 units/day (boosts TB-500 weekly total to ~5.25 mg during loading) → Wk 3+ drop to 10 units/day for maintenance

Cycle: 6–8 weeks on, 4+ weeks off

Vial duration: ~20 days at 10 units daily · ~13 days at 15 units daily

Sites: SubQ abdomen, rotate sites each injection

Notes: Single injection delivers both peptides — daily dosing only (TB-500 is normally dosed 2× weekly when separate, but the combined-vial format requires daily). Both are pro-angiogenic — screen for active malignancy before starting. If your vial uses a different ratio (e.g. 5 mg BPC + 10 mg TB-500), recalculate using the formulas above. *Recovering from a real injury? See the injury protocol section that follows.*

Tesamorelin — 10 mg vial

Reconstitution: 2 mL BAC water → 5 mg/mL

Dose: 1 mg = 20 units · 2 mg = 40 units

Starting dose: 1 mg subQ once daily

Titration: Wk 1–2 at 1 mg → Wk 3+ at 2 mg/day (FDA-approved dose for visceral fat reduction)

Maintenance: 1–2 mg/day

Frequency: Once daily, evening (preserves the morning GH pulse)

Cycle: 12 weeks on, 4 weeks off

Notes: Strongest GHRH analog for visceral fat. Do **not** stack with Sermorelin or either CJC-1295 — GHRH receptor competition (see Stacking Considerations below).

Ipamorelin — 10 mg vial

Reconstitution: 2 mL BAC water → 5,000 mcg/mL

Dose: 200 mcg = 4 units · 300 mcg = 6 units

Starting dose: 200 mcg subQ before bed

Titration: Wk 1 — 200 mcg once daily → Wk 2+ — 200–300 mcg, 2–3× daily (AM, post-training, bedtime)

Maintenance: 200–300 mcg per dose, 2–3× daily

Cycle: 8–12 weeks on, 4 weeks off (preserves GH pulsatility)

Notes: Ghrelin-receptor agonist — does **not** spike cortisol or prolactin. Pairs cleanly with one GHRH analog. Avoid carbs/fats 1 hr before or 30 min after dosing (insulin blunts GH release).

Sermorelin — 10 mg vial

Reconstitution: 2.5 mL BAC water → 4 mg/mL (4,000 mcg/mL)

Dose: 200 mcg = 5 units · 300 mcg = 7.5 units

Starting dose: 200 mcg subQ before bed

Titration: Wk 1 — 200 mcg nightly → Wk 2+ — 200–300 mcg nightly

Maintenance: 200–300 mcg/day

Cycle: 12 weeks on, 4 weeks off

Notes: Softer GH profile than Tesamorelin. Do **not** stack with Tesamorelin or either CJC-1295 — same receptor.

CJC-1295 with DAC — 2 mg vial

Reconstitution: 1 mL BAC water → 2 mg/mL (2,000 mcg/mL)

Dose: 1 mg = 50 units · 2 mg = 100 units (full syringe)

Starting dose: 1 mg subQ once weekly

Titration: Wk 1–2 at 1 mg/wk → Wk 3+ at 2 mg/wk

Maintenance: 1–2 mg once weekly

Cycle: 12 weeks on, 4 weeks off

Notes: The **with-DAC** version is long-acting (half-life 6–8 days). Pairs flagship with Ipamorelin. Never run it alongside the no-DAC version, Sermorelin, or Tesamorelin.

GHK-Cu — 50 mg vial

Reconstitution: 2.5 mL BAC water → 20 mg/mL

Dose: 1 mg = 5 units · 1.5 mg = 7.5 units · 2 mg = 10 units

Starting dose: 1 mg subQ daily

Titration: Wk 1 — 1 mg/day → Wk 2+ — 1.5–2 mg/day

Maintenance: 1.5–2 mg/day

Cycle: 8–12 weeks on, 2–4 weeks off

Notes: Turquoise color from the copper is normal. Mild burn at the injection site. Pair with 15–30 mg zinc to maintain copper/zinc balance on longer runs.

Retatrutide — 10 mg vial

Reconstitution: 1 mL BAC water → 10 mg/mL (clean math: 10 units = 1 mg)

Dose: 0.5 mg = 5 units · 1 mg = 10 units · 2 mg = 20 units · 4 mg = 40 units

Starting dose: 0.5 mg subQ once weekly

Titration: +0.5 mg every 2–4 weeks, holding at any dose that triggers significant GI symptoms

Maintenance (personal): 2 mg once weekly

Cycle (personal): 12 weeks on, 4 weeks off — what I run

Cycle (clinical standard): Continuous weekly per TRIUMPH trials (48–80 wk); taper 50% every 2–4 wk to stop (4 mg → 2 mg → 1 mg → 0.5 mg → off) while locking in protein intake and resistance training

Notes: GI side effects (nausea, reflux) are worst in the first 2 wk of each new dose level. Monitor lean mass — losing weight too fast costs muscle.

MOTS-c — 10 mg vial

Reconstitution: 2 mL BAC water → 5 mg/mL (5,000 mcg/mL) — each U-100 unit = 50 mcg

Dose: 500 mcg = 10 units · 1 mg = 20 units · 2.5 mg = 50 units · 5 mg = 100 units (one full syringe)

Starting dose: 500 mcg–1 mg (10–20 units) subQ, to gauge individual response and any blood-sugar effect before increasing

Titration: Increase gradually over several weeks — ~250–500 mcg (5–10 units) at a time — toward the typical per-injection amount; ease off if blood sugar runs low (illustrative — no clinical dose-finding data exists for MOTS-c)

Maintenance (personal): ~5 mg (100 units) per injection once worked up; lighter users hold at 1–2.5 mg (20–50 units) — keeping the weekly total in the commonly cited 5–10 mg range

Frequency: Once–twice weekly subQ (a 10 mg vial covers ~1–2 doses at 5 mg). Microdosers instead run ~0.5–1 mg daily, or 5-days-on/2-off, to a similar 5–7 mg weekly total

Cycle: 8–12 weeks on, ~4 weeks off, ~2–3× per year — cycled as a precaution; tolerance to MOTS-c is not established in humans

Notes: SubQ only — abdomen/thigh/upper-arm fat, rotate sites. Store the reconstituted vial refrigerated (2–8 °C) and use within ~28 days. Many dose 30–60 min before resistance or high-intensity training on the theory that MOTS-c amplifies rather than replaces exercise. Most-cited pairing is **SS-31** (the "mito stack"), sometimes with NAD+ or a GHRH/GHRP combo. AMPK activation lowers blood sugar — the effect is additive with insulin, metformin, or GLP-1/GIP agonists, so start low and monitor glucose. Anecdotal side effects: injection-site reactions, faster heart rate, insomnia, headache, flushing, mild GI upset. Not FDA-approved and prohibited at all times in tested sport. Dosing here is anecdotal and community-derived — no completed human trial has established a MOTS-c dose.

NAD+ — 500 mg vial

Reconstitution: 2.5 mL BAC water → 200 mg/mL

Dose: 50 mg = 25 units · 100 mg = 50 units · 200 mg = 100 units (full syringe)

Starting dose: 50 mg subQ (test sting tolerance first)

Titration: Wk 1 — 25–50 mg/day or EOD → Wk 2 — 50–75 mg/day → Wk 3 — 75–100 mg/day → Wk 4+ — 100–200 mg/day

Maintenance: 100–200 mg/day subQ

Frequency: Daily AM (evening dosing can disrupt sleep)

Cycle: Ongoing — NAD+ replenishes a depleted endogenous coenzyme, so there's no receptor downregulation

Notes: Stings hard subQ. Pre-ice the site, push slowly over 30–60 seconds, and rotate sites. The most expensive item in most longevity stacks.

Glutathione — 1500 mg vial

Reconstitution: 5 mL BAC water → 300 mg/mL

Dose: 300 mg = 100 units (one full syringe) · 600 mg = two 100-unit injections

Starting dose: 300 mg subQ or IM

Titration: Wk 1 — 300 mg per session → Wk 2+ — 600 mg per session

Maintenance: 300–600 mg, 2–3× weekly

Frequency: 2–3× weekly (not daily — large molecule, no need)

Cycle: Ongoing, or 8–12 wk blocks

Notes: IV is the most bioavailable route but clinic-only. SubQ/IM works for at-home use. Rotate injection sites.

Commonly Used Dosing — Other Popular Peptides

These are not part of my personal stack, but they're the ones I get asked about most. Everything below is the dosing most commonly used and most commonly published — the FDA-approved schedules where one exists (tirzepatide, semaglutide), and community-standard protocols where no human trial has set a dose (the blends, Selank subQ, MT-2). Same rule applies: start at the bottom of the range and work with a provider.

KLOW Stack — 80 mg blend vial (50 GHK-Cu / 10 BPC-157 / 10 TB-500 / 10 KPV)

Reconstitution: 3 mL BAC water → 26.7 mg/mL total blend. Because the four peptides are in the vial at a fixed ratio, **every unit delivers all four at once**: 1 unit ≈ 167 mcg GHK-Cu + 33 mcg BPC-157 + 33 mcg TB-500 + 33 mcg KPV.

Dose: 10 units ≈ 1.67 mg GHK-Cu + 333 mcg each of BPC-157, TB-500, KPV · 15 units ≈ 2.5 mg GHK-Cu + 500 mcg each of the other three

Starting dose: 10 units subQ once daily

Titration: Wk 1 at 10 units → Wk 2+ at 10–15 units daily if well tolerated

Cycle: 4–8 weeks on, then roughly the same amount of time off

Sites: SubQ, rotate. If you're targeting one area (a joint, a scar, a tendon), inject in the fat near it — BPC-157 has a strong local effect.

Notes: 10–15 units is the sweet spot because it lands all four peptides inside their normal individual ranges at the same time — that's the whole point of the blend. Solution turns turquoise from the copper; that's normal. Mild sting is normal. Not a single published trial has tested these four together — the blend is a community formulation built from four separately-studied peptides. Pro-angiogenic peptides (BPC-157, TB-500, GHK-Cu) — screen for active cancer before starting.

GLOW Stack — 70 mg blend vial (50 GHK-Cu / 10 BPC-157 / 10 TB-500)

Reconstitution: 3 mL BAC water → 23.3 mg/mL total blend. 1 unit ≈ 167 mcg GHK-Cu + 33 mcg BPC-157 + 33 mcg TB-500.

Dose: 10 units ≈ 1.67 mg GHK-Cu + 333 mcg each of BPC-157 and TB-500 · 15 units ≈ 2.5 mg GHK-Cu + 500 mcg each

Starting dose: 10 units subQ once daily

Titration: Wk 1 at 10 units → Wk 2+ at 10–15 units daily

Cycle: 4–8 weeks on, equal time off

Notes: Same as KLOW without the anti-inflammatory piece. Choose GLOW when the goal is skin, hair, and tissue repair; choose KLOW when inflammation (gut, skin flares, a joint that stays swollen) is the main issue. Timeline people typically report: gut and inflammation changes around week 2, visible skin changes weeks 3–4. If you're brand new to peptides, running BPC-157 solo for two weeks first makes it far easier to tell what's causing what.

CJC-1295 no DAC (Mod GRF 1-29) — 5 mg vial

Reconstitution: 2 mL BAC water → 2,500 mcg/mL (1 unit = 25 mcg). A 2 mg vial + 2 mL → 1,000 mcg/mL (1 unit = 10 mcg).

Dose: 100 mcg = 4 units (5 mg vial) · 200 mcg = 8 units · 300 mcg = 12 units

Starting dose: 100 mcg subQ before bed

Titration: Wk 1 — 100 mcg nightly → Wk 2+ — 100 mcg, 2–3× daily (morning, post-training, bedtime)

Maintenance: 100 mcg per dose, 1–3× daily. Doses above ~100 mcg (about 1 mcg per kg of body weight) mostly waste product — the pituitary receptors are already saturated, so 300 mcg does *not* give you triple the GH.

Cycle: 8–12 weeks on, 4 weeks off

Timing: Empty stomach — no carbs or fat 1 hr before or 30 min after. Insulin blunts the GH pulse.

Notes: Almost always run with Ipamorelin 100–200 mcg, drawn into the same syringe, because the two hit different receptors and the combination is genuinely additive. Half-life is ~30 minutes, which is why it's dosed multiple times a day instead of weekly. Do **not** combine with Tesamorelin, Sermorelin, or CJC-1295 *with* DAC — they all compete for the same receptor.

Tirzepatide — 10 mg vial

Reconstitution: 1 mL BAC water → 10 mg/mL (1 unit = 0.1 mg — clean math)

Dose: 2.5 mg = 25 units · 5 mg = 50 units · 7.5 mg = 75 units · 10 mg = 100 units (full syringe)

Starting dose: 2.5 mg subQ once weekly for 4 weeks — this is a tolerance-building dose, not a treatment dose

Titration (FDA schedule): 2.5 mg × 4 wk → 5 mg × 4 wk → 7.5 mg × 4 wk → 10 mg × 4 wk → 12.5 mg × 4 wk → 15 mg (max). Never step up faster than 2.5 mg every 4 weeks.

Maintenance: 5 mg, 10 mg, or 15 mg weekly — whichever dose controls appetite with side effects you can live with. Plenty of people do great and stay at 5 mg.

Frequency: Once weekly, same day each week, any time of day, with or without food

Notes: Reaching a top maintenance dose takes about 5 months by design — rushing it is what makes people quit from nausea. Nausea, constipation, and reflux are worst in the first 1–2 weeks after every step up. Protect your muscle: high protein and resistance training, or a big chunk of what you lose is lean mass. Do **not** combine with semaglutide, retatrutide, or any other GLP-1 — same pathway, stacked side effects. Contraindicated in pregnancy and with a personal or family history of medullary thyroid carcinoma or MEN2.

Semaglutide — 5 mg vial

Reconstitution: 2 mL BAC water → 2.5 mg/mL (1 unit = 25 mcg)

Dose: 0.25 mg = 10 units · 0.5 mg = 20 units · 1 mg = 40 units · 1.7 mg = 68 units · 2.4 mg = 96 units

Starting dose: 0.25 mg subQ once weekly for 4 weeks

Titration (FDA schedule): 0.25 mg × 4 wk → 0.5 mg × 4 wk → 1.0 mg × 4 wk → 1.7 mg × 4 wk → 2.4 mg maintenance. A 16-week ramp.

Maintenance: 2.4 mg weekly. If 2.4 mg is too rough, 1.7 mg is an accepted maintenance dose — hold there rather than quitting.

Frequency: Once weekly, same day each week

Notes: Milder and slower than tirzepatide, which is exactly why some people tolerate it better. Same rules: don't rush the ramp, don't stack it with another GLP-1, prioritize protein and lifting to keep muscle. Same pregnancy and medullary thyroid carcinoma / MEN2 contraindications.

Selank — 10 mg vial

Reconstitution: 2 mL BAC water → 5,000 mcg/mL (1 unit = 50 mcg)

Dose (subQ): 250 mcg = 5 units · 500 mcg = 10 units

Starting dose: 250–300 mcg subQ once daily for 1–2 weeks

Titration: Hold at 250–300 mcg for 1–2 wk → step to 500 mcg/day if you want more effect

Cycle (subQ): Once daily for 4 weeks, then 4 weeks off

Intranasal (the route with actual clinical data): 300 mcg three times daily = 900 mcg/day, in 10–21 day courses. Russian clinical protocols span 600–2,700 mcg/day split across 2–3 sprays, alternating nostrils. Rest 1–3 weeks between courses.

Notes: Only the nasal route has published human trial data behind it — injectable Selank is a community practice with no formal human studies. Non-sedating, so it won't make you drowsy

at work; no dependence or withdrawal has been reported. Frequently paired with Semax when the goal is focus as well as calm.

Melanotan 2 (MT-2) — 10 mg vial

Reconstitution: 2 mL BAC water → 5,000 mcg/mL (1 unit = 50 mcg)

Dose: 250 mcg = 5 units · 500 mcg = 10 units

Starting dose: 250 mcg (5 units) subQ — many start every other day rather than daily to gauge nausea

Loading phase: 250 mcg daily or every other day for 7–14 days, optionally working up to 500 mcg once you know how you react

Maintenance: 250–500 mcg, 1–2× weekly, to hold the color

Timing: Dose in the evening, with food — nausea and flushing peak 30–90 minutes after the shot, and most people would rather sleep through that

Notes: Read this one carefully. MT-2 has the narrowest gap on this list between "the dose that works" and "the dose that makes you miserable" — do not freelance upward. Expect flushing, nausea, and appetite suppression early on; men often get spontaneous erections. It darkens existing moles and freckles, so get a skin exam and mole mapping *before* starting, and skip it entirely with a history of melanoma or atypical moles. Serious toxicity, including rhabdomyolysis, has been reported at large self-administered doses (~6 mg). It is not FDA-approved. You still need some UV exposure for the tan to develop — MT-2 amplifies tanning, it does not replace sunlight.

KPV — 5 mg vial

Reconstitution: 2 mL BAC water → 2,500 mcg/mL (1 unit = 25 mcg)

Dose: 200 mcg = 8 units · 250 mcg = 10 units · 500 mcg = 20 units

Starting dose: 200 mcg subQ once daily in the morning for week 1

Titration: Wk 1 — 200 mcg/day → Wk 2+ — 250–500 mcg/day

Maintenance: 500 mcg each morning, 5 days on / 2 days off

Cycle: 4–8 weeks on; longer inflammatory protocols often run 8 weeks on / 8 weeks off

Oral route (for gut-specific issues): 500 mcg–1 mg per day of an enteric-coated oral form, split across meals — used for IBD, colitis, and leaky-gut protocols so the peptide reaches the intestinal lining directly

Notes: Inject subQ when the target is systemic — joints, widespread skin issues, general inflammation. Use the oral form when the target is the gut itself. Unlike its parent hormone

alpha-MSH, KPV causes **no** skin darkening. Human dosing comes from animal work and clinical observation, not completed human trials.

Real Injury Protocol — Wolverine Stack for an ACL or Achilles Tear

> ⚠️ **Read this first.** A **complete** ACL rupture or a **complete** Achilles rupture is a surgical injury. No peptide reattaches two separated ends of a tendon or ligament — anyone who tells you otherwise is selling something. What peptides can plausibly do is support healing *around* the repair and through rehab. Get the diagnosis, get the imaging, and clear anything you take with your surgeon.

Everyday recovery dosing (the "10 units daily" in my personal stack) is a maintenance dose. A real structural injury is a different situation: bigger doses, a longer run, and a front-loaded start. Below is how the injury version is typically structured, in plain terms.

How healing actually unfolds — and what each peptide does when

Days 1–5 — inflammation: The body floods the area. TB-500 turns the inflammatory response down; BPC-157 starts calling in growth-factor signaling.

Days 5–21 — rebuilding: New tissue gets laid down. BPC-157 drives the cells that make collagen; TB-500 keeps moving repair cells in and building blood supply.

Weeks 3–8 — remodeling: That new tissue reorganizes into something that can take load. Both peptides contribute here — the goal is stronger tissue and less junk scar.

Why the stack instead of BPC alone: BPC-157 works powerfully at the site you inject; TB-500 works body-wide. Local repair plus systemic cell recruitment. That's the whole logic of the combination.

Protocol A — Partial tear, sprain, tendinopathy (no surgery)

BPC-157: 250–500 mcg, 1–2× daily

TB-500: 250–500 mcg, 1–2× daily

Using a 10/10 mg combined Wolverine vial: 2 mL BAC → 50 mcg of each per unit. **10 units = 500 mcg of each.** Run 10 units twice daily (morning and evening) for the full 500/500 twice-a-day version.

Duration: 4–8 weeks

Sites: Morning dose subQ as close to the injury as you can safely inject (BPC-157's local effect is the point). Evening dose subQ abdomen for systemic coverage.

Protocol B — Complete tear or post-surgical (ACL reconstruction, Achilles repair)

Loading, weeks 1–6: TB-500 **2–2.5 mg twice weekly** (4–5 mg per week total) + BPC-157 **250–500 mcg daily**

Maintenance, weeks 7–12: TB-500 2–2.5 mg **once** weekly + BPC-157 250–500 mcg daily

Buy separate vials for this one. A combined 10/10 blend can't deliver a TB-500 loading dose without dragging BPC-157 along to 2–2.5 mg per shot. Run a standalone TB-500 vial on its twice-weekly schedule and a standalone BPC-157 vial daily.

TB-500 math: 10 mg vial + 2 mL BAC → 5,000 mcg/mL. **2 mg = 40 units · 2.5 mg = 50 units.** SubQ abdomen, thigh, or delt — it's systemic, so the site barely matters.

BPC-157 math: 10 mg vial + 2 mL BAC → 50 mcg per unit. **250 mcg = 5 units · 500 mcg = 10 units.** Inject near the repair site once your surgeon clears injections around the surgical area.

Duration: 8–12 weeks for post-surgical and chronic cases — roughly double what you'd run for a tweak

When to start: Coordinate with your surgeon. Most people wait until the incision is closed and healing (commonly the 1–2 week mark) before injecting anywhere near the site. Systemic dosing in the abdomen is the usual starting point in the meantime.

What actually determines your outcome

Rehab does the heavy lifting. Tendon and ligament remodel in response to *load*. Progressive loading with a good physical therapist is what makes tissue strong. Peptides may improve the raw material — they will not build a knee you can cut on.

Feeling better ≠ healed. The most dangerous thing about a good response is going back to sport early because the pain quieted down. Follow the timeline and the return-to-play testing, not how it feels.

Cancer screening. Both peptides promote new blood-vessel growth. Anyone with an active or recent malignancy should not run this without oncology input.

Tested athletes: BPC-157 and TB-500 are both banned by WADA. If you're drug tested, this protocol ends your season.

Honest evidence note: No human trial has tested BPC-157 + TB-500 against BPC-157 alone, and neither is FDA-approved. These protocols are built from mechanism and years of clinical and community practice — not from a completed randomized trial.

> 🔄 **Stacking Considerations — Don't Double Up on the Same Receptor.**
>
> Tesamorelin, Sermorelin, CJC-1295 *with* DAC, and CJC-1295 *no* DAC are all **GHRH analogs** — they compete for the same pituitary receptor. Running two or three does *not* stack their effects; it splits the receptor pool and can lower peak GH output by 30–40% versus running one solo.

Cleanest GH stack: ONE GHRH analog (pick a single one) + Ipamorelin. Ipamorelin works through a different receptor (ghrelin), so that combination is genuinely additive.

Same rule for the fat-loss shots: semaglutide, tirzepatide, and retatrutide all work the GLP-1 pathway. Pick one. Stacking them stacks the side effects, not the results.

The **Wolverine stack** (BPC-157 + TB-500) is the opposite case — different mechanisms, local signaling plus systemic cell mobilization — so those stack cleanly. Same for adding KPV, which calms inflammation without competing with either.

Supplies You'll Need

Besides the peptide itself you need four things: **bacteriostatic water** to mix it, a **3 mL syringe** to move that water into the vial (so you're not wasting your small insulin syringes on mixing), **sub-Q insulin syringes** for the actual doses, and **alcohol swabs** to clean the vial top and your skin.

Bacteriostatic Water: Add it to your cart at Precision Wellness Peptides when you order your peptides.

3 mL Reconstitution Syringe: Used *only* to pull BAC water from the bottle and push it into the peptide vial — keep it separate from your dosing syringes. https://www.amazon.com/dp/B0DSBKMHVZ

Sub-Q Insulin Needles (U-100): https://www.amazon.com/dp/B0D8FLTLJ2

Alcohol Prep Swabs: https://a.co/d/09oOIAxY

How to Buy Peptides Without Getting Burned

Research peptides are affordable, easy to order, and available in a huge variety — which is also the problem. Quality swings wildly between suppliers, and there's very little regulation policing it. What's in the vial is only as good as the company's testing.

The two things to verify before you buy from anyone

1. A batch-specific COA. A Certificate of Analysis for *your* lot number — not a generic PDF from years ago. It should show HPLC purity (look for ≥98–99%) and mass-spec confirming the molecule is actually what the label says.

2. Third-party, not in-house. Testing means more when an independent lab did it and the company publishes the report instead of describing it.

If a supplier can't produce both on request, that answer *is* your answer.

Where to Buy Peptides

This is my own company. Every product is backed by a batch Certificate of Analysis with HPLC purity and mass-spec verification — the same standard I just told you to demand from anyone else.

Shop Precision Wellness Peptides →

https://precisionwellnesspeptides.com/

Not sure what to order or how to dose it? Message me directly on Instagram **@EyesOnEli** and I'll walk you through it.

Final Thoughts

The goal of this guide is simple: explain this stuff the way I'd explain it to a friend, so you understand what you're doing and can go deeper on your own. Start low. Change one variable at a time. Get bloodwork. And talk to a licensed medical provider before starting any peptide protocol.

This guide was researched, written, and designed in its entirety by **Dr. Goins, PharmD.**

This document is for educational purposes only and does not constitute medical advice. Consult your physician before beginning any new therapy.

Sources cited are peer-reviewed publications available via PubMed and NEJM. Several peptides described here are research-use-only and not FDA-approved.