THE COMPLETE BEGINNER'S GUIDE TO PEPTIDES

Research - Education - Storage - Reconstitution - Quick References

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DISCLAIMER: Educational and informational purposes only. This guide is not medical advice and is not intended to diagnose, treat, cure, or prevent disease. Research findings do not guarantee outcomes in humans.

PEPTIDES 101

Peptides are short chains of amino acids. Researchers study different peptides for pathways involving metabolism, body composition, skin and collagen, tissue remodeling, inflammation, cognition, cellular energy, mitochondria, and hormone signaling.

RESEARCH DIRECTORY

RETATRUTIDE	Metabolic regulation | Appetite | Body composition
Why people research it: People research it for appetite signaling, glucose regulation, energy expenditure, fat oxidation and body-composition pathways.	**Research study duration / cycle:** Human clinical trials: Phase 2 obesity research followed participants for about 48 weeks; later Phase 3 programs are longer and protocol-specific.

GHK-CU	Skin | Collagen | Hair | Tissue remodeling
Why people research it: People research it for skin remodeling, collagen and elastin-related pathways, tissue repair, antioxidant activity and hair-related research.	**Research study duration / cycle:** Human research duration varies by formulation. Topical studies do not establish a universal or injectable research cycle.

MT-1	Melanin | Pigmentation | Photoprotection
Why people research it: People research it for melanocortin signaling, melanin production, pigmentation and photoprotection-related pathways.	**Research study duration / cycle:** Human study duration varies by formulation and protocol; there is no single universal research cycle.

MT-2	Melanin | Pigmentation | Melanocortin signaling
Why people research it: People research it for melanin and pigmentation pathways plus broader melanocortin-receptor signaling.	**Research study duration / cycle:** Human research is limited and does not establish a standardized general research cycle.

GLUTATHIONE	Antioxidant | Oxidative stress | Cellular health
Why people research it: People research it for antioxidant defense, redox balance, oxidative-stress pathways, cellular protection and mitochondrial support.	**Research study duration / cycle:** Study duration varies widely by route, population and research question; no single universal cycle applies.

SEMAX	Cognition | Focus | Memory | Neuroplasticity
Why people research it: People research it for cognition, focus, memory, neuroplasticity, BDNF-related signaling and neuroprotective pathways.	**Research study duration / cycle:** Published human studies use differing protocols and durations; there is no single standardized research cycle.

SELANK	Stress response | Mood | Cognition
Why people research it: People research it for stress-response pathways, mood-related signaling, GABA activity, cognition and immune regulation.	**Research study duration / cycle:** Published human studies use differing protocols and durations; there is no single standardized research cycle.

BPC-157	Tissue repair | Tendons | Ligaments | GI pathways

Why people research it: People research it for tissue-repair pathways, tendon and ligament research, angiogenesis, growth-factor signaling and GI-barrier research.

Research study duration / cycle: Evidence is predominantly preclinical; there is no well-established human clinical-study cycle.

CJC-1295 + IPAMORELIN

GH signaling | Recovery | Sleep | Body composition

Why people research it: People research this combination for growth-hormone and IGF-1 signaling, recovery-related pathways, sleep and body-composition research.

Research study duration / cycle: There is no single standardized human research cycle established for the combined pair.

KLOW

GHK-Cu + BPC-157 + TB-500 + KPV

Why people research it: People research KLOW to combine skin/collagen, repair, tissue-remodeling, inflammatory and gut-barrier pathways in one blend.

Research study duration / cycle: The combined blend has no established human clinical-study cycle; its individual components have been researched separately.

MOTS-C

Mitochondria | Cellular energy | Metabolism

Why people research it: People research it for mitochondrial function, cellular energy, glucose utilization, metabolic signaling and exercise-adaptation pathways.

Research study duration / cycle: Human research is emerging and protocol-specific; no universal cycle should be inferred across studies.

NAD+

Cellular energy | Mitochondria | DNA pathways

Why people research it: People research it for cellular energy production, mitochondrial function, sirtuin activity, DNA-repair and stress-response pathways. NAD+ is not technically a peptide.

Research study duration / cycle: Study duration depends heavily on formulation, route and research question; no universal cycle applies.

GHRP-6

GH signaling | Appetite

Why people research it: People research it for ghrelin-receptor signaling, growth-hormone release, appetite signaling and GI-motility pathways.

Research study duration / cycle: Human endocrine research protocols vary; there is no single standardized research cycle.

IGF-1 LR3

IGF signaling | Cellular growth | Recovery

Why people research it: People research it for IGF-1 receptor signaling, protein-synthesis pathways, cellular growth, myogenesis and recovery-related research.

Research study duration / cycle: There is no standardized general human clinical-study cycle for IGF-1 LR3.

5-AMINO-1MQ

NAD+ metabolism | Metabolic pathways

Why people research it: People research it for NNMT inhibition, NAD+ metabolism, mitochondrial efficiency, energy expenditure and body-composition pathways. It is not a peptide.

Research study duration / cycle: Human evidence is insufficient to define a standardized research cycle.

TESAMORELIN

GH signaling | Body composition

Why people research it: People research it for GHRH/GH/IGF-1 signaling and body-composition pathways, especially visceral-fat research.

Research study duration / cycle: Controlled human studies have included a 26-week main phase followed by a 26-week extension.

SERMORELIN

GH signaling | Sleep | Recovery

Why people research it: People research it for endogenous growth-hormone signaling, pulsatile GH release, sleep and recovery-related pathways.

Research study duration / cycle: Duration varies by endocrine research protocol; there is no single standardized research cycle.

VITAMIN B12

Energy metabolism | Red blood cells | Neurological function

Why people research it: People research and use B12 in relation to red-blood-cell formation, neurological function, methylation and energy metabolism. It is not a peptide.

Research study duration / cycle: Study duration is indication- and population-specific rather than a universal cycle.

TB-500	Tissue remodeling | Cellular migration | Recovery
Why people research it: People research it for actin regulation, cellular migration, angiogenesis, tissue remodeling and recovery-related pathways.	**Research study duration / cycle:** There is no well-established standardized human clinical-study cycle for TB-500 as commonly discussed in peptide communities.

KPV	Inflammatory pathways | Gut barrier
Why people research it: People research it for inflammatory signaling, cytokine pathways, intestinal tight-junctions, gut-barrier integrity and immune modulation.	**Research study duration / cycle:** Evidence is largely preclinical/experimental; a standardized human research cycle has not been established.

WOLVERINE BLEND	BPC-157 + TB-500-style blend
Why people research it: People research these blends for combined tissue-remodeling and recovery pathways. Exact formulations can vary.	**Research study duration / cycle:** There is no standardized human clinical-study cycle for the combined blend.

QUICK START + HANDLING

Reconstitution, storage & clean-handling basics - keep this section handy

WHEN YOUR PEPTIDES ARRIVE

- Place unopened peptide vials in the refrigerator until you are ready to reconstitute them, unless the specific product instructions state otherwise.
- Keep vials sealed until ready to use. Protect from heat, moisture and direct light. Avoid shaking or rough handling.

BACTERIOSTATIC WATER (BAC WATER)

- Store according to the product label in a cool place away from direct sunlight and excessive heat. Always check the expiration date.
- Before each access, wipe the rubber stopper with an alcohol pad and allow it to dry. Use a new sterile syringe/needle.
- Do not use BAC water that appears cloudy, discolored or contains particles.

HOW TO RECONSTITUTE

1. Wash your hands and work on a clean surface.
2. Alcohol-wipe the rubber stoppers of BOTH the peptide vial and the diluent vial; allow them to dry.
3. Using new sterile supplies, measure the appropriate amount of the correct diluent for that specific product.
4. Tilt the peptide vial at an angle and introduce the diluent slowly so it runs down the INSIDE WALL rather than forcefully spraying directly onto the powder.
5. If the vial has a vacuum, allow the liquid to move in slowly; avoid forcefully pushing it into the vial.
6. Allow the liquid to gently reach the peptide. DO NOT SHAKE. Let it dissolve; gently swirl or roll only if the specific product instructions permit it.
7. After reconstitution, return the vial to the refrigerator or follow the product's specific storage instructions.

IMPORTANT

The amount of diluent is not the same for every peptide or vial. Verify vial strength, the correct diluent and the intended concentration before mixing.

STORAGE + QUICK REFERENCE

AFTER RECONSTITUTION

- Storage requirements vary by compound. Many reconstituted peptides are stored refrigerated at approximately 36-46°F (2-8°C), but the specific product instructions control.
- Keep protected from direct light. Do not freeze unless the specific product instructions allow it.
- Follow the product's recommended storage, expiration and beyond-use instructions. There is no single shelf-life rule that applies to every peptide.

MG VS MCG VS U-100 SYRINGE UNITS

- 1 mg = 1,000 mcg.
- MG and MCG describe an amount of compound; syringe units describe liquid volume.
- On a U-100 syringe: 100 units = 1 mL | 50 units = 0.5 mL | 10 units = 0.1 mL.
- A syringe-unit number does not automatically equal a particular amount of peptide. The amount depends on the concentration.

PEPTIDE CALCULATOR

Titan Elite can perform concentration and volume math using the vial strength (mg), amount of diluent added (mL), and the desired research amount (mg or mcg). A calculator only performs the math from the values entered; it does not determine an appropriate or safe amount.

TITAN ELITE - TAP HERE TO OPEN

KEEP IT CLEAN

- Wash your hands before handling supplies. Use a NEW sterile syringe/needle every time and never share needles or syringes.
- Alcohol-wipe vial stoppers before every puncture and allow the alcohol to dry.
- Keep vials protected from unnecessary heat and light. Do not use a solution that appears contaminated, unexpectedly cloudy or discolored, or contains unexpected particles.
- Dispose of used sharps appropriately.

SAVE THIS SECTION FOR REFERENCE

Educational information only. Storage, diluent, stability and reconstitution instructions can vary by product. Always follow the specific manufacturer/product instructions.

CALCULATOR + QUICK REFERENCE

Peptide Calculator & Research Dashboard: Titan Elite - tap here to open
Enter vial strength (mg), amount of BAC water added (mL), and the desired amount (mg or mcg). The calculator performs the math based on the numbers entered; it does not determine an appropriate or safe amount.

U-100 SYRINGE QUICK REFERENCE

1 mL = 100 units | 0.5 mL = 50 units | 0.1 mL = 10 units
1 mg = 1,000 mcg

KEEP IT CLEAN

Wash hands before handling. Use a new sterile syringe/needle every time. Never share needles or syringes. Alcohol-wipe vial stoppers and allow the alcohol to dry. Protect vials from unnecessary heat and light. Do not use solutions that appear contaminated, unexpectedly cloudy or discolored, or contain unexpected particles.

SUPPLIES - CLICK TO OPEN

U-100 Syringes 1 mL / 1 cc - 31G - 5/16 inch - 100 pack	**BUY ON AMAZON**
Henry Schein Alcohol Prep Pads 70% IPA - sterile - 2-ply - 200 count	**BUY ON AMAZON**

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FINAL DISCLAIMER

Educational information only. Storage, diluent, stability and reconstitution instructions can vary by product. Always follow the specific product instructions. Research-study durations describe study designs and are not recommended protocols.

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What matters to me when choosing a research source

I get asked why I choose PowerBuilt Labs (PBL). For me, it comes down to the things I value most: transparency, affordability, convenience, community, and customer support.

TRANSPARENCY + DOCUMENTATION

I appreciate being able to review available product documentation and testing information so I can do my own research and make informed purchasing decisions.

AFFORDABLE + EASY TO ORDER

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Communication matters to me. I value having a company that is responsive when questions come up about orders, shipping, or product information.

COMMUNITY + EDUCATION

PBL also gives researchers a place to learn, ask questions, compare notes, and stay connected through the free PowerBuilt Research Skool community.

AND WHEN YOU USE CODE KAMMMPEPS...

You also have me as an additional educational resource. I share research information, terminology, calculators, and resources so you can keep learning and cross-checking for yourself.

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