THE GHK-Cu COMPLETE RESEARCH PROTOCOL

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Dosing, Reconstitution, and the Glow and KLOW Stacks

Evidence-based peptide science from Peptide Hub

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What is GHK-Cu?

GHK-Cu (glycyl-L-histidyl-L-lysine copper) is a naturally occurring copper-binding tripeptide found in human plasma, saliva, and urine. Its plasma concentration declines from approximately 200 ng/mL at age 20 to 80 ng/mL by age 60 -- a 60% decline that parallels the deterioration in wound healing, skin elasticity, and structural tissue maintenance over the same period.

GHK-Cu activates approximately 31% of human tissue remodeling genes. It is the fastest-growing peptide search term of 2026, up over 1,000% year-over-year, with research interest spanning dermatology, hair restoration, wound healing, and longevity applications.

Key Research Applications

+ **Skin regeneration:** Collagen and elastin synthesis upregulation, fine line reduction, skin laxity improvement, TGF-beta modulation to reduce fibrosis

+ **Hair research:** Promotes hair follicle size, extends anagen phase, androgenic alopecia protocols, 5-alpha reductase inhibition

+ **Wound healing:** Accelerated re-epithelialization, reduced scar formation, angiogenesis via VEGF upregulation

+ **Tissue repair:** Activates approximately 31% of tissue remodeling genes including collagen I, III, and VI upregulation

+ **Longevity research:** Antioxidant enzyme upregulation (SOD), anti-inflammatory gene modulation, extracellular matrix restoration

2026 Trend: GHK-Cu is up 1,000%+ year-over-year in search volume -- the fastest-growing peptide in the research space.

Step-by-Step Reconstitution Protocol

Vial Specifications

Vial Size	BAC Water	Concentration	Storage After Reconstitution
50mg	2 ml	25 mg/ml (25,000 mcg/ml)	Refrigerate 2-4 degrees C immediately. Protect from light.
75mg	3 ml	25 mg/ml (25,000 mcg/ml)	Refrigerate 2-4 degrees C immediately. Protect from light.

Reconstitution Steps

Step 1 Gather supplies -- GHK-Cu vial, bacteriostatic water (BAC water), two insulin syringes (28-31 gauge, 0.5 inch), two alcohol swabs, and a clean flat surface.

Step 2 Swab both vial tops with separate alcohol swabs. Allow to air dry 10-15 seconds. Do not touch the swabbed rubber surface after cleaning.

Step 3 Draw the required BAC water volume into a clean insulin syringe: 2ml for a 50mg vial or 3ml for a 75mg vial.

Step 4 Insert needle into the GHK-Cu vial at a slight angle. Inject BAC water SLOWLY down the inside glass wall of the vial -- never directly onto the powder cake. Wall-directed slow injection prevents peptide denaturation.

Step 5 Remove needle. Swirl gently in a circular motion until powder fully dissolves. The solution should be completely clear and colorless. Do NOT shake.

Step 6 Visual inspection -- hold vial to light. Solution must be clear with no floating particles. Cloudiness or visible particles indicate a problem; discard the vial.

Step 7 Refrigerate at 2-4 degrees C (35-39 degrees F) immediately after reconstitution. Keep upright, away from light and door fluctuations. Use within 28-60 days.

WARNING -- Never inject BAC water directly onto the powder cake. Always inject slowly down the inside glass wall. Never shake the vial -- swirl gently only.

Dosing Protocol and Calculations

GHK-Cu Dosing Specifications

Parameter	Value
Recommended dose	1mg to 2mg per administration
Units on syringe at 25mg/ml concentration	4 units = 1mg | 8 units = 2mg
Frequency	Daily
Cycle length	30 days on / 14 days off
Injection type	Subcutaneous (SubQ)
Injection sites	Abdomen, thigh, or lateral hip
Timing	Morning or early afternoon preferred
Storage after reconstitution	Refrigerate 2-4 degrees C, use within 28-60 days

Dose Calculation Formula

Formula:	Units = (Target dose in mcg / Concentration in mcg/ml) x 100
1mg dose:	1,000 mcg / 25,000 mcg/ml x 100 = 4 units on insulin syringe
2mg dose:	2,000 mcg / 25,000 mcg/ml x 100 = 8 units on insulin syringe

Use the interactive dose calculator at peptidehub.bio/peptides/ghk-cu for automatic unit calculations based on your target dose.

The Glow Stack

GHK-Cu + BPC-157 + TB-500

The Glow Blend combines GHK-Cu (27mg), BPC-157 (5mg), and TB-500 (10mg) -- targeting skin regeneration, tissue repair, and hair research through three complementary mechanisms with no overlap. GHK-Cu activates tissue remodeling genes. BPC-157 drives VEGFR2-mediated angiogenesis. TB-500 drives G-actin sequestration enabling rapid cell migration into repair sites.

Compound	Mechanism	Dose
GHK-Cu	Gene expression activation (31% of remodeling genes) Collagen and elastin synthesis upregulation	**27mg**
BPC-157	VEGFR2-driven angiogenesis + ERK1/2 endothelial repair GH receptor upregulation in fibroblasts	**5mg**
TB-500	G-actin sequestration enabling rapid cell migration Wnt/beta-catenin pathway activation (confirmed 2024)	**10mg**
TOTAL	Three complementary non-overlapping mechanisms	**42mg**

Protocol: 900mcg to 1,800mcg subcutaneous daily. 30-day cycles with 14-day break. Reconstitute with 2ml BAC water.

Full research profile + dose calculator: peptidehub.bio/peptides/wolverine-blend

The KLOW Stack

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

The KLOW Blend adds KPV (a tripeptide fragment of alpha-MSH) to the Glow trio -- creating a four-compound stack that adds melanocortin receptor-mediated anti-inflammatory and mucosal barrier coverage that the Glow Stack does not have. Use KLOW when anti-inflammatory pathway modulation or mucosal research is a co-priority alongside skin and tissue regeneration.

Compound	Mechanism	Dose
GHK-Cu	Gene expression activation (31% of remodeling genes) Collagen and elastin synthesis -- dominant at 62.5% of total vial	**50mg**
KPV	Melanocortin receptor (MC1R/MC3R) agonism NF-kB suppression + mucosal barrier repair -- the differentiating addition vs Glow	**10mg**
BPC-157	VEGFR2 angiogenesis + ERK1/2 endothelial repair GH receptor upregulation in fibroblasts	**10mg**
TB-500	G-actin sequestration + cell migration + anti-fibrotic Wnt/beta-catenin pathway activation (2024)	**10mg**
TOTAL	Four complementary non-overlapping mechanisms	**80mg**

KLOW vs Glow -- At a Glance

	Glow Stack	KLOW Stack
Total vial size	42mg	**80mg**
GHK-Cu dose	27mg	**50mg**
KPV included	No	**Yes**
Anti-inflammatory coverage	No	**Yes -- melanocortin receptor**
Best for	Pure skin + tissue repair	**Skin + anti-inflammatory + mucosal**

Protocol: 1mg to 2mg subcutaneous daily. 30 days on / 14 days off. Reconstitute 80mg vial with 3ml BAC water (26.7mg/ml).

Full research profile + dose calculator: peptidehub.bio/peptides/klow-blend

More Research Resources at Peptide Hub

+ 93 research peptides + interactive dose calculators	**peptidehub.bio/database**
+ Complete dosing and reconstitution guide	**peptidehub.bio/dosing-guide**
+ 113-term peptide science glossary	**peptidehub.bio/glossary**
+ The Journal -- evidence-based research articles	**peptidehub.bio/journal**
+ Pepe -- AI peptide expert on every page	**peptidehub.bio**

Research Sourcing

For research-grade GHK-Cu, BPC-157, TB-500, and KPV with third-party Certificate of Analysis documentation, Peptide Hub recommends **Amino Club** at aminoclub.com

Partner code **PEPTIDEHUB** -- applied automatically through our affiliate link.

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