

GHK-Cu Comprehensive Dosing Guide (50 mg and 100 mg Formulations)

I. Overview

GHK-Cu (glycyl-L-histidyl-L-lysine copper complex) is a naturally-occurring copper-binding tripeptide. It has drawn research attention in extracellular matrix signaling, collagen-related pathways, antioxidant defence and tissue remodelling[7][8]. This guide covers dosing protocols for 50mg and 100 mg vial formats, using identical research-grade schedules with calculations adjusted for respective concentrations.

Research Background: For evidence regarding mechanism of action, human and pre-clinical studies, limitations and safety, please refer to dedicated review papers on GHK-Cu peptides.

II. Dosing & Reconstitution Guidelines

2.1 50 mg Formulation

Reconstitution: Add 3.0 mL sterile diluent → resulting concentration approx. 16.67 mg/mL

U-100 insulin syringe conversion: 1 unit = 0.01 mL ≈ 166.7 mcg

Quick conversion: 1.0mg = 6 units, 1.5 mg = 9 units, 2.0 mg = 12 units

Post-reconstitution shelf-life: Dependent on concentration, pH value, diluent, sterility, container, preservatives and temperature. Follow handling instructions supplied with your specific product.

Standard / Progressive Protocol (5 days / week)

50 mg formulation (3 mL → 16.67 mg/mL)

Phase	Week Range	Per-injection Dose	Injection Volume (mL)	Units
Initiation Phase	Weeks 1-4	1.0mg (1000 mcg)	0.06 mL	6 units
Titration Phase	Weeks 5-8	1.5 mg (1500 mcg)	0.09 mL	9 units
Maintenance Phase	Week 9-12+	2.0mg (2000 mcg)	0.12 mL	12 units

Alternative Protocol (3 times / week)

50 mg formulation (3 mL → 16.67 mg/mL)

Phase	Week Range	Per-injection Dose	Injection Volume (mL)	Units
Maintenance Phase	Week 1-12+	2.0mg (2000 mcg)	0.12 mL	12 units

2.2 100 mg Formulation

Reconstitution: Add 3.0 mL sterile diluent → resulting concentration approx. 33.33 mg/mL

U-100 insulin syringe conversion: 1 unit = 0.01 mL ≈ 333.3 mcg

Quick conversion: 1.0mg = 3 units, 1.5 mg = 4.5 units, 2.0 mg = 6 units

Post-reconstitution shelf-life: Dependent on concentration, pH value, diluent, sterility, container, preservatives and temperature. Follow handling instructions supplied with your specific product.

100 mg formulation (3 mL → 33.33 mg/mL)

Phase	Week Range	Per-injection Dose	Injection Volume (mL)	Units
Initiation Phase	Weeks 1-4	1.0mg (1000 mcg)	0.03 mL	3 units
Titration Phase	Weeks 5-8	1.5 mg (1500 mcg)	0.045 mL	4.5 units
Maintenance Phase	Week 9-12+	2.0mg (2000 mcg)	0.06 mL	6 units

Frequency: Once daily, 5 days per week. Titrate progressively from 1.0mg to 1.5 mg, then to 2.0 mg as shown above.

Injection Timing: Administer at a consistent fixed time for reproducibility.

100 mg formulation (3 mL → 33.33 mg/mL)

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Phase	Week Range	Per-injection Dose	Injection Volume (mL)	Units
Maintenance Phase	Week 1-12+	2.0 mg (2000 mcg)	0.06 mL	6 units

Frequency: Three times weekly (e.g. Monday, Wednesday, Friday), 2.0 mg per dose.

Total weekly dose: approx. 6 mg / week.

III. General Reconstitution Procedure

1. Withdraw 3.0 mL of protocol-specified sterile diluent using a sterile syringe.
2. Inject slowly along the inner wall of the vial; avoid foaming.
3. Gently rotate / roll the vial until powder dissolves completely. Do not shake vigorously.
4. Label the vial with concentration (16.67 mg/mL or 33.33 mg/mL), reconstitution date and storage instructions.

IV. Required Supplies

4.1 50 mg Formulation (8-16-week timeline)

- Peptide vials (GHK-Cu, 50 mg per vial):
 - 5-days-per-week schedule (1.0-2.0 mg/day):
 - 8 weeks (~50 mg total): 1 vial
 - 12 weeks (~90 mg total): 2 vials
 - 16 weeks (~130 mg total): 3 vials
 - 3-times-per-week schedule (2 mg per dose):
 - 8 weeks (~48 mg total): 1 vial
 - 12 weeks (~72 mg total): 2 vials
 - 16 weeks (~96 mg total): 2 vials
- Insulin syringes (U-100, 29-31G):
 - 5-days-per-week:
 - Weekly: 5 syringes
 - 8 weeks: 40 syringes
 - 12 weeks: 60 syringes
 - 16 weeks: 80 syringes
 - 3-times-per-week:
 - Weekly: 3 syringes
 - 8 weeks: 24 syringes
 - 12 weeks: 36 syringes
 - 16 weeks: 48 syringes
- Sterile / bacteriostatic water (10 mL vial): 3.0 mL used for each reconstitution.
 - 1 vial: 3 mL
 - 2 vials: 6 mL
 - 3 vials: 9 mL
- Alcohol swabs: Two swabs per injection (one for vial stopper, one for injection site).
 - 5-days-per-week:
 - Weekly: 10 swabs
 - 8 weeks: 80 swabs (or 1 box of 100-count)
 - 12 weeks: 120 swabs (or 2 boxes of 100-count)
 - 16 weeks: 160 swabs (or 2 boxes of 100-count)
 - 3-times-per-week:
 - Weekly: 6 swabs
 - 8 weeks: 48 swabs (or 1 box of 100-count)
 - 12 weeks: 72 swabs (or 1 box of 100-count)
 - 16 weeks: 96 swabs (or 1 box of 100-count)

Planning Note: Peptide and water volumes represent arithmetic minima for the listed timelines. Observe product-specific handling and discard deadlines.

4.2 100 mg Formulation (8-16-week timeline)

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- Peptide vials (GHK-Cu, 100 mg per vial):
 - 5-days-per-week schedule (1.0-2.0 mg/day):
 - 8 weeks (~50 mg total): 1 vial
 - 12 weeks (~90 mg total): 1 vial
 - 16 weeks (~130 mg total): 2 vials
 - 3-times-per-week schedule (2 mg per dose):
 - 8 weeks (~48 mg total): 1 vial
 - 12 weeks (~72 mg total): 1 vial
 - 16 weeks (~96 mg total): 1 vial
- Insulin syringes (U-100, 29-31G):
 - 5-days-per-week:
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Planning Note: Peptide and water volumes represent arithmetic minima for the listed timelines. Observe product-specific handling and discard deadlines.

V. Protocol Summary

50 mg Formulation Quick Summary

Objective: Present GHK-Cu research-relevant dosing, reconstitution, supplies and measurement references within one unified protocol.

Schedules: Standard = 5 days weekly; Alternative = 3 administrations weekly.

Dose range: 1.0-2.0 mg per administration in research examples.

Reconstitution: Final volume 3.0 mL → concentration 16.67 mg/mL.

Measurement reference: 1.0 mg = 6 units, 1.5 mg = 9 units, 2.0 mg = 12 units.

100 mg Formulation Quick Summary

Objective: Present GHK-Cu research-relevant dosing, reconstitution, supplies and measurement references within one unified protocol.

Schedules: Standard = 5 days weekly; Alternative = 3 administrations weekly.

Dose range: 1.0-2.0 mg per administration in research examples.

Reconstitution: Final volume 3.0 mL → concentration 33.33 mg/mL.

Measurement reference: 1.0 mg = 3 units, 1.5 mg = 4.5 units, 2.0 mg = 6 units.

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VI. Dosing Protocols

50 mg Formulation

Standard model: Weeks 1-4: 1.0 mg or 6 units;

Weeks 5-8: 1.5 mg or 9 units;

Week 9-12+: 2.0 mg or 12 units.

Alternative model: 2.0 mg or 12 units, three times weekly.

Route of administration: Calculations shown are for subcutaneous injection for research purposes only.

Duration: Main tables cover 8-12+ weeks; the Required Supplies section includes quantities out to 16 weeks.

Protocol source: These schedules reflect practical conventions compiled from pharmacy sources. Summaries of published evidence are provided elsewhere in this document.

100 mg Formulation

Standard model: Weeks 1-4: 1.0 mg or 3 units;

Weeks 5-8: 1.5 mg or 4.5 units;

Week 9-12+: 2.0 mg or 6 units.

Alternative model: 2.0 mg or 6 units, three times weekly.

Route of administration: Calculations shown are for subcutaneous injection for research purposes only.

Duration: Main tables cover 8-12+ weeks; the Required Supplies section includes quantities out to 16 weeks.

Protocol source: These schedules reflect practical conventions compiled from pharmacy sources. Summaries of published evidence are provided elsewhere in this document.

VII. Storage Instructions

Proper storage preserves peptide integrity and potency.

Lyophilized powder: Follow vial- and batch-specific documentation regarding temperature, humidity and light-exposure requirements.

Reconstituted solution: Stability depends on concentration, pH value, diluent, sterility, container, preservatives and temperature.

Handling: Minimize unnecessary light exposure, moisture exposure and repeated freeze-thaw cycles.

Record-keeping: Document preparation date, concentration, storage temperature and applicable discard date.

VIII. Important Considerations

Practical considerations for consistency and safety.

Use new sterile equipment for every preparation and administration; dispose sharps into appropriate sharps containers.

Follow written protocols for injection-site selection and site-rotation.

Maintain aseptic technique; allow skin disinfectant to dry fully before injection.

Document administered dose, date, preparation identifier and injection site used.

IX. Reported Potential Benefits & Observed Effects

Findings reported within GHK-Cu research literature:

Research supporting collagen-related signalling, extracellular-matrix remodelling and tissue repair.

Human topical-application and wound-care studies examining skin and tissue outcomes under specific formulation conditions.

Human skin-penetration studies providing additional context for topical delivery.

Observed outcomes depend on administration route, formulation, concentration and study design. Supporting context is summarised under "Important Considerations" above.

X. Injection Technique

General reference for subcutaneous injection for research preparation and measurement purposes.

Follow aseptic technique; use new sterile equipment for every administration.

Use protocol-specified sites, angles and devices; CDC resources illustrate general subcutaneous injection technique.

Rotate injection sites systematically and document each administration.

Immediately discard used sharps into appropriate sharps containers.

Important Disclaimer: This document is for scientific- reference purposes only. Subcutaneous injection is an invasive procedure. Injectable- formulation GHK- Cu has not obtained domestic approval for human use. Do not prepare or self- administer this product. Serious risks include infection, allergic reaction and copper- related toxicity. All human use must be directed by a licensed medical practitioner.