

## What GHK-Cu is

A three-amino-acid fragment of a blood protein that binds copper and, in skin, switches on repair. Isolated in 1973; in cosmetic creams since the 1990s; now the best-selling beauty peptide in the research-vial market.

**FORMS** Serums and creams (about 1%); med-spa use after microneedling; 50 and 100 mg vials for injection; the GLOW and KLOW blends

**STATUS** Lawful as a cosmetic. As an injection, an unapproved drug that pharmacies may not compound; advisory review promised by February 2027

**ANTI-DOPING** Not on the WADA list

### ONE NAME, TWO PRODUCTS

Every claim comes from creams, cells, or animals. The vial borrows all of it, and none of it transfers.

This pamphlet is for adults using or being offered GHK-Cu for skin, hair, or healing in any form. It is a summary of the published record, not medical advice.

## Before using GHK-Cu, ask

- ☐ Cream or vial? If a vial, who made it, and is there a certificate of analysis with identity and copper content?
- ☐ Which study is being cited, and was it a cream?
- ☐ Is my 1 mg dose at least 5 units on the syringe?
- ☐ Cancer history, copper disorder, or pregnancy?
- ☐ For a blend: how much of each peptide is in my daily dose?
- ☐ If the serum has the evidence, why am I injecting it?

### SOURCES

1. Pickart L, Margolina A. Regenerative and protective actions of the GHK-Cu peptide in the light of the new gene data. *Int J Mol Sci.* 2018;19(7):1987.
2. Pickart L, Vasquez-Soltero JM, Margolina A. GHK peptide as a natural modulator of multiple cellular pathways in skin regeneration. *Biomed Res Int.* 2015;2015:648108.
3. Abdulghani AA, et al. Effects of topical creams containing vitamin C, a copper-binding peptide cream and melatonin compared with tretinoin on the ultrastructure of normal skin: a pilot clinical, histologic, and ultrastructural study. *Dis Manag Clin Outcomes.* 1998;1:136-141.
4. Leyden J, Stephens T, Finkey M, Appa Y, Barkovic S. Skin care benefits of copper peptide containing facial cream. *American Academy of Dermatology 60th Annual Meeting, New Orleans, February 2002 (abstract).*
5. Watson REB, et al. A cosmetic 'anti-ageing' product improves photoaged skin: a double-blind, randomized controlled trial. *Br J Dermatol.* 2009;161(2):419-426.
6. Gorouhi F, Maibach HI. Role of topical peptides in preventing or treating aged skin. *Int J Cosmet Sci.* 2009;31(5):327-345.
7. Pyo HK, et al. The effect of tripeptide-copper complex on human hair growth in vitro. *Arch Pharm Res.* 2007;30(7):834-839.
8. The Peptide Catalog. GHK-Cu dosage chart: subcutaneous and topical (2026); and vendor listings for 50 mg and 100 mg vials and the GLOW and KLOW blends, as sold September 2026.
9. U.S. Food and Drug Administration. Certain bulk drug substances for use in compounding that may present significant safety risks (GHK-Cu, injectable routes).
10. U.S. Food and Drug Administration. Bulk drug substances nominated for use in compounding under section 503A (April 2026 update: withdrawn nominations, including GHK-Cu, and planned advisory committee consultation).
11. National Institutes of Health, Office of Dietary Supplements. Copper: fact sheet for health professionals (recommended dietary allowance 0.9 mg; tolerable upper intake level 10 mg).

This guide is an educational summary of published sources and is not medical advice. GHK-Cu is a lawful cosmetic ingredient; injectable GHK-Cu is not an approved drug, is not on the list of substances pharmacies may compound, and has never been tested in a human trial. Doses described are reported as clinics and sellers use them, not recommended. Status statements are current as of the edition date.

### Newport Peptide Society

[NEWPORTPEPTIDESOCIETY.COM/GUIDES/GHK-CU](http://NEWPORTPEPTIDESOCIETY.COM/GUIDES/GHK-CU)

FIRST EDITION · SEPTEMBER 2026 · REVISED  
OCTOBER 1, 2026

# GHK-Cu

A guide to the copper peptide: a skin-cream ingredient with fifty years of small studies, and an injection with none

GHK-Cu is a three-amino-acid fragment of a blood protein that binds copper and, in the skin, switches on repair. It has been in cosmetic creams since the 1990s, and the studies behind those creams are real, if small and mostly company-run. In the last two years it has become the best-selling beauty peptide in the research-vial market, sold as a 50 mg powder to inject, and the vial is a different product: the same molecule, no human study of injecting it, and an FDA safety concern on record. This guide covers both forms, tells them apart on every page, and gives the arithmetic for the vial because people are using it.

# The cream evidence, and the vial's

| HUMAN STUDIES, ALL TOPICAL |                                    |                                                           |
|----------------------------|------------------------------------|-----------------------------------------------------------|
| YEAR                       | STUDY                              | RESULT                                                    |
| 1998                       | Pilot, biopsies, vs tretinoin      | More procollagen in skin                                  |
| 2002                       | 71 women, 12 weeks, cream          | Thicker, firmer skin, fewer fine lines (meeting abstract) |
| 2009                       | 60 adults, 6 months, mixed product | Fewer wrinkles; peptide's share unknown                   |

Small, mostly company-run. Hair: the cited 2007 study used a related peptide in a dish. No standalone hair trial.

## O

Human trials of injected GHK-Cu, and no measurement of what a dose does to copper, skin, or hair

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FDA safety statement: immune risk from aggregation and impurities, limited safety data

### WHAT THE EVIDENCE SUPPORTS

A copper peptide serum is a reasonable cosmetic with modest, measurable effects on aging skin. That is the whole claim.

# How it is used, and where the FDA stands

CLINIC INJECTION PROTOCOL FOR A 50 MG VIAL + 2.5 ML WATER (20 MG/ML). NO HUMAN STUDY. DAILY.

| DAYS  | DOSE | UNITS | COPPER  |
|-------|------|-------|---------|
| 1–15  | 1 mg | 5     | 0.14 mg |
| 16–30 | 2 mg | 10    | 0.27 mg |
| 31–60 | Off  |       |         |

About one vial per cycle. A serum: about 1%, daily, 12 weeks to judge. Blends: 1 mg of GLOW is 0.7 mg GHK-Cu and token doses of the rest.

|           |                                                                                                                              |
|-----------|------------------------------------------------------------------------------------------------------------------------------|
| SERUM     | A cosmetic; lawful with cosmetic claims                                                                                      |
| INJECTION | A drug use with no approved product and no compounding pathway; vials come from chemical suppliers                           |
| APR 2026  | Left Category 2 because its nomination was withdrawn; FDA's safety concern was never retracted; committee review by Feb 2027 |

### LEAVING THE LIST DID NOT OPEN A DOOR

Until the committee meets and a rule follows, an injected GHK-Cu vial has no lawful maker.

# Dose arithmetic, and safety

UNITS = (MG ÷ MG/ML) × 100

50 mg with 2.5 mL is 20 mg/mL: 1 mg is 5 units, 2 mg is 10. With 1 mL of water a 1 mg dose is 2 units, which cannot be measured. GHK-Cu solutions are blue; a clear vial is not GHK-Cu.

### 50 MG VIAL, ILLUSTRATION ONLY

| WATER  | 1 MG    | 2 MG     |
|--------|---------|----------|
| 2 mL   | 4 units | 8 units  |
| 2.5 mL | 5 units | 10 units |
| 3 mL   | 6 units | 12 units |

- Cream: mild irritation in some; a long, quiet record.
- Injection: site pain, flushing, fatigue, light-headedness reported by users; uncounted.
- Copper: about 0.3 mg per 2 mg dose, a third of a day's diet. Not a plausible overload, but unmeasured by injection.
- FDA's concern is immune reactions from aggregated peptide and impurities, which research vials carry.
- Promotes vessel growth; never studied in anyone with a cancer history.

### WHAT DOES HAVE EVIDENCE

Sunscreen and tretinoin for aging skin; copper peptide and vitamin C serums as cosmetics; minoxidil and finasteride for hair. The vial is the one option with none.