

## GHK-Cu (50mg / 5mL) INJECTABLE PEPTIDE

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GHK-Cu is a naturally occurring copper peptide, composed of three amino acids bound to copper. It is widely recognized for its regenerative and anti-aging properties, with well-documented benefits in clinical and cosmetic settings, especially in skin health, tissue repair, and anti-aging. It works by binding copper ions, which are essential for several biological functions such as enzymatic activity and antioxidant defense. As we age, GHK-Cu levels decrease significantly, resulting in reduced ability to repair tissue and regenerate skin. Its ability to stimulate collagen synthesis, reduce inflammation, and improve skin integrity makes it a valuable peptide for those seeking overall skin health, tissue regeneration and longevity.

### HOW IT WORKS / MECHANISM OF ACTION

GHK-Cu binds copper ions and acts as a signaling molecule that triggers a cascade of biological processes essential for tissue repair and skin health. The peptide-copper complex stimulates collagen and elastin synthesis, essential components for maintaining skin elasticity and integrity. It also promotes angiogenesis, which is the formation of new blood vessels, enhancing nutrient and oxygen supply to damaged tissues. GHK-Cu has been shown to modify gene expression by switching off genes involved in inflammation and upregulating those that promote healing and tissue regeneration. Studies have shown that GHK-Cu can regulate over 30% of human genes, shifting their expression from disease states to healthier conditions, which contributes to its profound regenerative effects.

### BENEFITS

- 1. Skin Regeneration:** GHK-Cu significantly enhances skin regeneration by boosting collagen and elastin synthesis. Clinical studies have shown that GHK-Cu increased collagen production in 70% of individuals treated, which was superior to other well-known agents like vitamin C (50%) and retinoic acid (40%). This leads to smoother skin and reduced fine lines and wrinkles.
- 2. Wound Healing:** GHK-Cu accelerates the healing of wounds, reduces scarring, and restores damaged tissues by stimulating fibroblast activity and promoting the formation of new blood vessels. This makes it an effective therapeutic for wounds, burns, and skin ulcers.
- 3. Anti-Inflammatory and Antioxidant Properties:** The peptide demonstrates strong anti-inflammatory and antioxidant effects. It blocks reactive oxygen species (ROS) and promotes the production of antioxidant enzymes, protecting the skin from damage caused by UV radiation and other environmental factors.
- 4. Hair Growth:** GHK-Cu has also been shown to promote hair growth by stimulating hair follicle enlargement and increasing follicular cell proliferation. Studies have found that its effects on hair growth are comparable to Minoxidil, a widely used treatment for hair loss.
- 5. Anti-Cancer Effects:** GHK-Cu has been reported to exhibit anti-cancer properties by altering gene expression in a way that inhibits tumor growth and supports DNA repair. These properties suggest potential applications in cancer prevention and treatment.

### CONTRAINDICATIONS

- **Cancer History:** Individuals with a history of cancer should discuss with a provider before using GHK-Cu.
- **Hypersensitivity:** Individuals with known allergies to copper or peptide-based products should avoid using GHK-Cu.
- **Pregnant or Breastfeeding Women:** The safety of GHK-Cu during pregnancy or breastfeeding has not been well-established, and therefore its use is contraindicated in these populations.

### HELPS WITH

- |                  |                    |                            |
|------------------|--------------------|----------------------------|
| • Fine lines     | • Inflammation     | • Post-surgery healing     |
| • Wrinkles       | • Tissue damage    | • Follicle damage          |
| • Loose skin     | • Collagen loss    | • Immune dysfunction       |
| • Acne scars     | • Rosacea          | • Cellular damage          |
| • Stretch marks  | • UV damage        | • Elastin degradation      |
| • Burns          | • Sunburn          | • Environmental pollutants |
| • Cuts           | • Skin ulcers      | • Oxidative damage         |
| • Surgical scars | • Bruising         | • Hyperpigmentation        |
| • Hair thinning  | • Skin infections  | • Rough texture            |
| • Bald spots     | • Chronic wounds   | • Dermatitis               |
| • Alopecia       | • Dryness          | • Psoriasis                |
| • Eczema         | • Scalp irritation |                            |

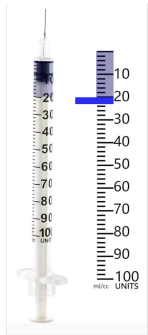
### EXPECTED EFFECTS AND TIMELINE OF BENEFITS

- **1-2 Weeks:** Improved skin hydration and smoother texture. Users may notice their skin feels softer and more supple, likely due to increased production of hyaluronic acid and collagen.
- **4-6 Weeks:** Visible reduction in fine lines and wrinkles. Approximately 70% of individuals show significant improvement in skin elasticity and reduction in wrinkles compared to other agents like vitamin C (50%) and retinoic acid (40%). Studies show enhanced skin elasticity and firmness at this stage.
- **8-12 Weeks:** Full benefits include enhanced wound healing, reduced scarring, and visible improvements in hair density. Consistent use of GHK-Cu for 12 weeks has led to increased skin density, reduced pigmentation, and improved skin regeneration. Clinical studies have demonstrated that GHK-Cu application results in increased dermal thickness and reduction in signs of photoaging.

## STANDARD DOSING &amp; INJECTION PROTOCOL

## DOSING:

2 mg = 20 units per injection.



## INJECTIONS PER WEEK:

5 injections weekly.

## VIAL DETAILS:

Contains 50mg GHK-Cu, and 5mL bacteriostatic water.

Concentration: 10mg/mL

Duration: ~5 weeks (25 doses)

## RECOMMENDED CYCLES:

3 months on (+), 1 month off (-).

3 cycles per year.

GHK-Cu should be injected into subcutaneous fat on the stomach, thigh, or arm. For specific concerns, such as scar tissue or skin damage, it may be injected closer to the affected area.

## TIME OF DAY:

Can be injected at any time of the day, some people prefer mornings or before bed, depending on how it fits into their routine.

## CONSIDERATIONS:

It is common for patients to experience a burning or stinging sensation during the injection. This is normal due to the copper content, and while it may be uncomfortable, it is not harmful.

## INJECTION SITE:

## WEEKLY PROTOCOL

SUN	MON	TUES	WEDS	THURS	FRI	SAT
	<input type="checkbox"/> 20 units GHK	<input type="checkbox"/> 20 units GHK	<input type="checkbox"/> 20 units GHK	<input type="checkbox"/> 20 units GHK	<input type="checkbox"/> 20 units GHK	

5 injections weekly.

## MONTHLY PROTOCOL

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
GHK-Cu	+	+	+	-	+	+	+	-	+	+	+	-
	CYCLE 1				CYCLE 2				CYCLE 3			

3 months on (+), 1 month off (-).

3 cycles per year.

## POTENTIAL SIDE EFFECTS

- Burning Sensation:** It is common for patients to experience a slight burning or stinging sensation during the injection. This is normal due to the copper content, and while it may be uncomfortable, it is not harmful.
- Mild redness or irritation at the injection site
- Some people may experience fatigue or flu-like symptoms as their body adjusts.

Please contact us if you experience any of the following:

- Fever of 100.4°F (38°C) or higher
- Blistering at the injection site
- Muscle aches, nausea, dizziness, or headache
- Skin rash, severe itching, vomiting, or hives

If you have any questions, feel free to message your healthcare provider through the patient portal or contact us at **646-596-7386**.

## TIPS TO REDUCE SIDE EFFECTS

- Start with a Lower Dose:** Begin with a lower dose to assess your body's tolerance.
- Rotate Injection Sites:** To prevent localized irritation, rotate the injection site between areas such as the abdomen, thighs, or upper arms.
- Stay Hydrated:** Drinking plenty of water helps manage side effects like headaches and nausea, as hydration supports optimal cellular function and detoxification.
- Use Ice on Injection Sites:** Applying ice before and after injection may help reduce irritation and inflammation at the site.
- Take Antioxidant Supplements:** Supplementing with antioxidants like vitamin C can complement the effects of GHK-Cu, reducing oxidative stress-related side effects and supporting overall skin healing.