

PRESCRIPTION MONOGRAPH

Compounded Active Ingredients: GHK-Cu

Form: Topical Solution

Drug Class:

- Peptide complex (endogenous tripeptide)
 - Copper-binding growth factor analog
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Mechanism of Action^{1,2}:

GHK-Cu is a naturally occurring copper-binding tripeptide that is intended to:

- Bind copper(II) ions, delivering them to tissues to support wound healing, tissue remodeling, and antioxidant defense.
 - Upregulate collagen and glycosaminoglycan synthesis in skin and connective tissue.
 - Modulate gene expression involved in inflammation, angiogenesis, hair growth, and cellular repair.
 - Scavenge free radicals, reducing oxidative damage.
 - Increase stem cell activation and supports epithelial regeneration.
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Indications Commonly Prescribed For:

- Skin rejuvenation / anti-aging
 - Wound healing and scar reduction
 - Hair regrowth support
 - Microneedling and post-laser therapy
 - Joint or soft tissue repair
 - Systemic wellness or anti-inflammatory support
 - Neuroprotection
 - Fibroblast activation
 - Metabolic modulation
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Before Use: Let your health care provider know if you have any medication allergies before you take this compounded preparation. Let your health care provider know if you have any liver or kidney problems. Let your healthcare provider know of all supplements you are currently taking.

Contraindications:

- Known allergy to GHK or copper compounds
 - Wilson's disease (copper metabolism disorder)
 - Active neoplastic disease (caution due to proliferative effects)
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Cautions: Let your Healthcare provider know if you experience any adverse side effects.

How to Use: This compounded preparation is provided as a topical solution in a spray bottle. Apply the directed number of sprays evenly to the affected areas of the scalp, usually once or twice daily as instructed by your provider. Gently massage the solution into the scalp if recommended. Wash your hands after application. Avoid getting the solution in your eyes, mouth, or on broken skin. If you miss a dose, apply it as soon as you remember, but do not double the application if it is nearly time for the next one. Consistent use is important, and desired results may take several weeks to become noticeable.

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Warnings and Precautions:

- Monitor for signs of copper overload with prolonged systemic use
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Adverse Reactions:

Common:

- Mild skin irritation
- Transient erythema

Rare:

- Nausea, dizziness
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Interactions:

- Chelating agents (e.g., EDTA) may reduce GHK-Cu effectiveness
 - Avoid combining with high-dose zinc (competes with copper binding)
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Use in Specific Populations:

- Pregnancy: Safety not established; avoid systemic use
 - Liver/Kidney Disease: No known hepatotoxicity or nephrotoxicity
 - Pediatrics: Avoid systemic use; topical use unstudied
 - Geriatrics: Frequently used for anti-aging benefit
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Storage:

- Store in original container at room temperature (up to 30°C or 86°F)
 - Store in a cool dry place away from heat, sunlight, and moisture
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Monitoring Parameters:

- Skin/hair response over 8–12 weeks
 - Liver function tests if used systemically long-term
 - Copper and ceruloplasmin levels in extended systemic protocols
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Citations:

1. Dou Y, Lee A, Zhu L, Morton J, Ladiges W. The potential of GHK as an anti-aging peptide. *Aging Pathobiol Ther.* 2020;2(1):58-61. doi:10.31491/apt.2020.03.014
 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. doi: 10.1155/2015/648108. Epub 2015 Jul 7. PMID: 26236730; PMCID: PMC4508379.
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