The case file

Peptide Lab · Episode 12 · Free guide

GHK-Cu, "the fountain of youth peptide": what copper does, what GHK is, and how strong the evidence really is.



For learning only, not medical advice. Talk to a doctor first.

Suspect one - Copper

- A mineral your body needs in tiny amounts every day.
- Found in liver, shellfish, nuts, seeds and chocolate.
- Your body uses it to stitch collagen and elastin together, make energy, use iron, make skin and hair colour, and fight harmful oxygen molecules.
- Loose copper damages cells, so your blood keeps almost all of it locked onto carrier proteins.

● **Proven**

Suspect two - GHK

- A peptide: a short chain of amino acids, the building blocks of protein.
- GHK is just 3 of them: glycine (G), histidine (H) and lysine (K).
- Your body makes it. It was first found in human blood.
- It grabs copper very tightly. GHK holding copper is **GHK-Cu**, "the copper peptide". On cream labels it is called copper tripeptide-1.

● **Proven**

How it was found

- 1973, a PhD project at the University of California, San Francisco.
- Blood plasma from young people made old human liver tissue behave more like young tissue. The active factor turned out to be GHK.
- The first paper's title says it kept normal liver cells alive and also made liver cancer cells grow. The "youth" story came later.

● **Proven: from the paper titles**

The lead - Dishes and animals

- Skin cells in a dish made more collagen when GHK-Cu was added.
- Wounds closed faster in rats and rabbits.
- The famous claim that it "changes thousands of genes" came from cancer cells in a dish, analysed by the discoverer's team. No person was tested.

A result in a dish or a rat is not a result in your skin.

○ **Animal or lab**

Exhibit A - The cream

No one has independently repeated the face results.

Study	People	What it found	Stamp
1998, thigh skin	10 used the copper cream	More collagen in 7 of 10 biopsies; no statistics between creams	◐ Reported
2002, face and eye creams	71 and 41 women	Better skin, as described in reviews; only conference abstracts, with a co-author from a skincare brand	◐ Reported
2006, after laser treatment	13 people, blinded	No measured benefit	◐ Reported
2016, face serum	40 women, 8 weeks	Smaller wrinkles than a plain serum	◐ Reported

Exhibit B - The vial

- Human studies of injecting GHK-Cu: **0**.

- No study has measured how the body absorbs or clears it.
- FDA, 2026: injectable GHK-Cu "may pose risk for immunogenicity" (your immune system could react to it), and there are "limited data in humans".
- "Research use only" is a label, not a permission. It means no one has tested it for people.

● **Regulator warning**

Exhibit C - "It drops by half with age"

The claim: blood GHK falls from about 200 at age 20 to about 80 by age 60.

1. The big 2012, 2015 and 2018 reviews state the numbers with no source on that sentence.
2. A 2017 review describes young medical students against older faculty, and cites a 2008 review.
3. A 2021 paper cites the original: an unpublished 1973 PhD thesis.

How many people? What method? Never stated. I could not find anyone who has measured it again.

Even if it drops, a lower level does not prove that adding it back reverses aging.

◐ **Reported: one old, unpublished measurement**

The witness

- The scientist who found GHK later co-founded a company that licensed copper peptides to a skincare brand, then founded another company that sells copper peptide products.
- Most of the big reviews were written by him while he worked there. The company address is printed on each paper.
- Much of the exciting evidence traces back to one person.

● **Printed on each paper**

Where it stands · October 2026

- **Not an approved drug** anywhere I could find.
- **United States:** injectable GHK-Cu was on the FDA's safety-risk list until the people who nominated it withdrew in April 2026. That does not make it approved. An FDA advisory committee is due to review GHK-Cu before the end of February 2027.
- **Cosmetics:** sold worldwide in creams as copper tripeptide-1.
- **Sport:** not named on the 2026 anti-doping list. Ask your anti-doping agency.
- **Vietnam:** I found no drug registration.

The verdict

What the internet says	What the evidence shows	Stamp
"The fountain of youth"	No human evidence of reversing aging	Not proven
"Rebuilds your collagen"	Shown in dishes and animals	○ Animal or lab
"Erases wrinkles"	A handful of small studies; the most careful one found no measured benefit	◐ Reported
"Halves by age 60"	One unpublished 1973 measurement	◐ Reported
"Safe to inject"	No human studies at all	No data

Before you talk to your doctor

Is it approved where I live, and in what form?

What evidence is behind the benefit I want: people, animals or dishes?

What could go wrong if I inject something tested only in dishes and animals?

How will we know if it is working, and what will we watch for?

Case stays open

1. What problem are we treating?
2. What research backs this tool?
3. How will we measure the result?

I'm Ly. I'm about to start GHK-Cu as an experiment, and I'll log what happens. I'm not a doctor. Don't copy me.

No doses, no sources, nothing for sale. For learning only, not medical advice. Talk to a doctor first.

Follow Ly for Peptide Lab.