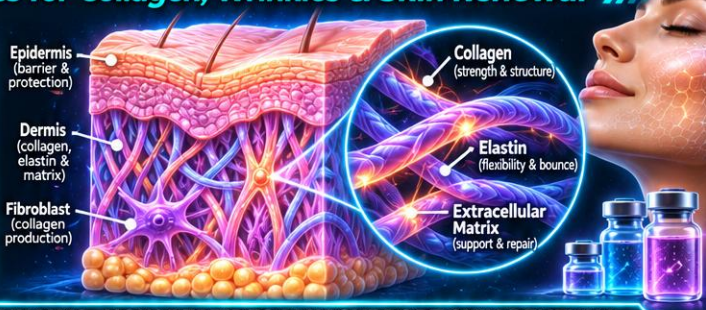
Peptide Perspectives™

BEYOND SKINCARE

Peptides for Collagen, Wrinkles & Skin Renewal

WHY SKIN RENEWAL MATTERS

- UV and photoaging create oxidative stress and collagen breakdown.
- The skin barrier can weaken with age, leading to dryness and sensitivity.
- Collagen and elastin decline, reducing firmness and elasticity.
- These changes can lead to visible signs of aging, including fine lines, wrinkles, and loss of tone.



FOUR PATHWAYS: HOW PEPTIDES MAY SUPPORT SKIN RENEWAL

COLLAGEN & MATRIX REMODELING

May signal fibroblasts to increase collagen, elastin, and other structural proteins.

BARRIER & HYDRATION

May support a healthier skin barrier, improve moisture retention, and reduce water loss.

FACIAL EXPRESSION SIGNALING

May modulate neurotransmitter signaling in the skin, which can influence the appearance of expression lines.

CELLULAR SENESCENCE

May help address age-related cellular changes (e.g., senescent cell activity) that can affect skin renewal and texture.

8 COMPOUNDS IN RESEARCH

GHK-Cu

Copper-binding peptide that supports extracellular matrix remodeling and fibroblast signaling.

LIMITED CONTROLLED HUMAN STUDIES

MATRIXYL

(Palmitoyl Pentapeptide-4)

A collagen-mimicking matrikine that supports collagen and elastin production. Studied in a 93-person cosmetic formula trial with favorable results.

LIMITED CONTROLLED HUMAN STUDIES

SNAP-8

A signal peptide proposed to influence SNARE complex activity (a pathway involved in muscle contraction). Deep delivery in human skin is uncertain.

EARLY TOPICAL RESEARCH

SYN-AKE

A venom-inspired peptide with a proposed effect on acetylcholine receptors. Limited isolated human trials in topical cosmetics.

EARLY TOPICAL RESEARCH

SYN-COLL

A peptide-designed to support TGF-beta signaling and extracellular matrix components. Evidence is primarily from formulation and preclinical research.

PRECLINICAL / FORMULATION EVIDENCE

ARGIRELINE

(Acetyl Hexapeptide-8)

A well-known cosmetic peptide studied for expression lines. Human data show variable improvements (typically modest) with topical use.

EARLY TOPICAL RESEARCH

PAL-GHK

A lipid-modified form of GHK designed for greater stability and skin penetration. Different from copper GHK-Cu and mainly supported by early research.

PRECLINICAL / FORMULATION EVIDENCE

OS-01

A peptide researched for senescence-related pathways and skin barrier support. Evaluated in a small 22-person controlled cosmetic study with positive findings.

LIMITED CONTROLLED HUMAN STUDIES

WHAT STUDIES MEASURE

- **Wrinkle Depth** (e.g., fine lines, line volume)
- **Skin Elasticity** (firmness and bounce)
- **Hydration & Barrier Function** (moisture levels, water loss, resilience)
- **Collagen / Skin Density** (collagen content, skin thickness)
- **Irritation / Tolerability** (skin comfort and side effects)

WHERE SCIENCE IS HEADING

- **Better Peptide Delivery** (e.g., enhanced stability and deeper skin penetration)
- **Formula-Specific Controlled Trials** (more rigorous, larger, well-designed human studies)
- **Structural Renewal vs. Hydration** (clarifying which effects truly rebuild skin vs. short-term improvement)
- **Senescence with Caution** (early but promising, with more research needed on long-term use)

⚠ TOPICAL COSMETIC BENEFITS DO NOT ESTABLISH INJECTABLE SAFETY OR SYSTEMIC AGE REVERSAL.

- No FDA-approved peptide injections for general cosmetic rejuvenation.
- Topical products are not equivalent to Botox.
- Sun protection (UV) and appropriate retinoids remain important.

Educational research overview | November 2026 | Not medical advice.