time——line

Longevity Serum Pro Study At-A-Glance

Overview

Publication

*Peer-reviewed publication in preparation

Background

Mitopure®, a pure form of Urolithin A, is a postbiotic molecule that has been shown to activate mitophagy, renew mitochondria and address the cellular processes driving visible skin aging.[a,b]

This study evaluates whether Longevity Serum Pro, with the highest concentration of hero ingredient Mitopure and complementary bioactives including Vitamin C, niacinamide, provitamin B, galangin and more, can target key biological drivers of skin aging and lead to clinical, visible improvements.

Study Design

Two preclinical studies:

- Longevity Serum Pro was applied to reconstructed 3D skin cell models, outcomes were measured at the cellular and tissue level

Three clinical studies:

- Standard six-week human repeat insult patch test (HRIPT) safety study in 109 participants
- In-use tolerability and safety study of 40 volunteers who applied the serum to their full-face twice-daily for 14 days
- Split-face efficacy study of 30 participants who used the serum on one side of their face twice daily for eight weeks, with outcomes assessed using clinical instruments and tape-strips

Study Findings Preclinical Findings[c]

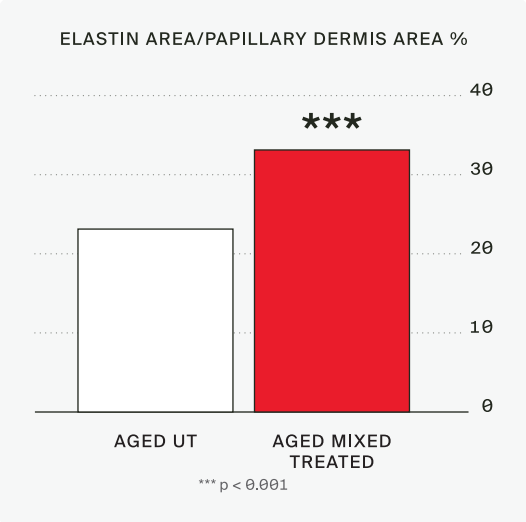
Reconstruction and regeneration improves in skin cells and tissue

Slows the progression of hallmarks of aging at the cellular level:

- Increases mitochondrial mass, measured by improvements in TOMM20
- Enhances autophagy, measured by p62 and LC3b
- Reduces skin cell senescence, measured by a decrease in p16INK4a

Skin tissue outcomes improve:

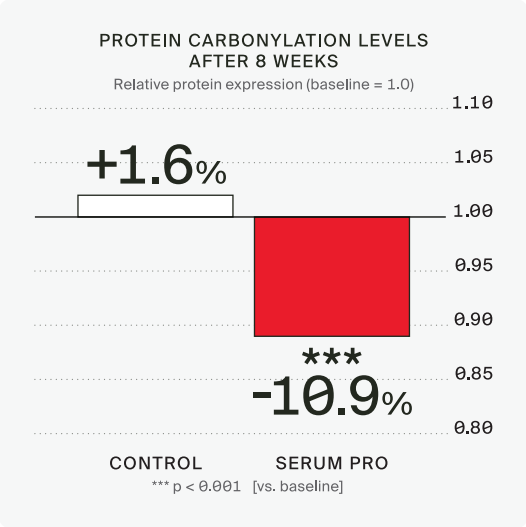
- **At the epidermal level:** Stimulates regeneration and cellular differentiation
- **At the dermo-epidermal junction:** Increases type VII collagen production, strengthening cohesion between the dermis and epidermis
- **At the dermal level:** Stimulates elastin production



Study Findings Biomarkers of Skin Aging[d]

Improves a marker of oxidative stress

Longevity Serum Pro-treated skin has significantly less protein carbonylation, which typically increases from oxidative stress, than untreated skin after two and eight weeks of daily use. After eight weeks, protein carbonylation improves by 10.9% compared to baseline and by 12.2% compared to control.



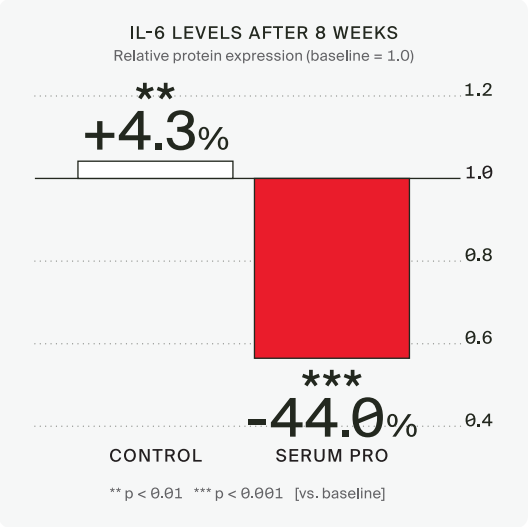
time——line

Longevity Serum Pro Study At-A-Glance

Study Findings
Biomarkers of Skin Aging[d]

Decreases a marker of inflammation

Using Longevity Serum Pro improves interleukin-6 (IL-6), a key inflammatory biomarker, after two and eight weeks of daily use compared to control. IL-6 improves by 44% compared to baseline and by 45.7% compared to control after eight weeks of daily use.



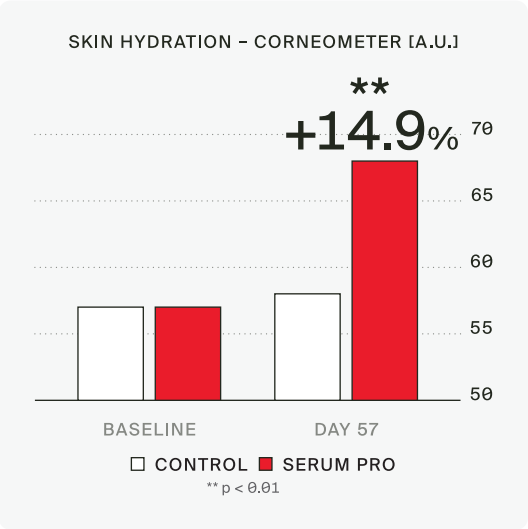
Improves a marker of skin differentiation

After two and eight weeks of daily Longevity Serum Pro use, Keratin 10, a key skin differentiation and barrier biomarker, improves compared to control. Keratin 10 improves by 14.4% compared to baseline and by 26.8% compared to control after eight weeks.

Study Findings
Skin Aging Outcomes[e]

Increases skin hydration

Using Longevity Serum Pro daily significantly increases skin hydration (primary endpoint) after two and eight weeks compared to placebo. Skin hydration increases by 6.2% after just two weeks and by 14.9% after eight weeks.



Increases skin firmness

Skin firmness improves by 30.4% after eight weeks compared to baseline.

Improves nasolabial folds

Using Longevity Serum Pro for eight weeks helps reduce the appearance of nasolabial fold wrinkles compared to baseline by 10%.

Reduces skin redness

A 3% visible reduction in skin redness was observed after two and eight weeks of daily Longevity Serum Pro use compared to baseline.

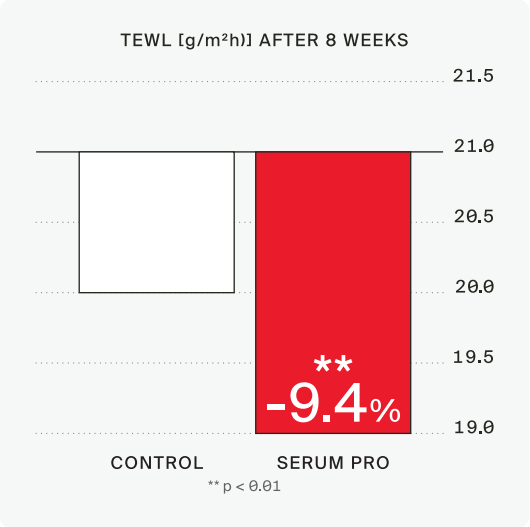
Increases skin luminosity

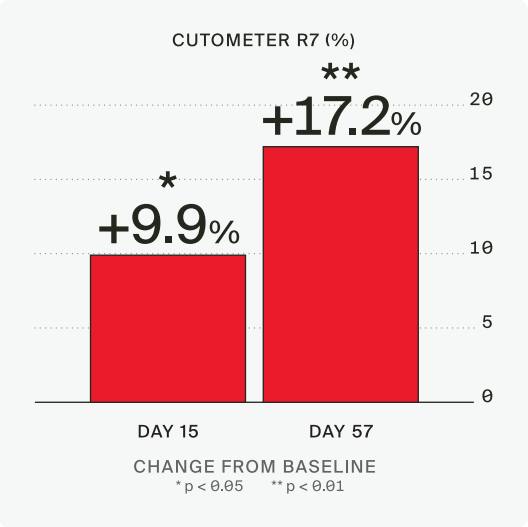
Compared to baseline, Longevity Serum Pro increases skin luminosity by 0.2% after eight weeks.

time——line

Longevity Serum Pro Study At-A-Glance

Study Findings Skin Aging Outcomes[e]





Improves skin barrier strength

Transepidermal water loss (TEWL), a sign of skin barrier strength, improves by 9% after two weeks and by 9.4% after eight weeks versus baseline.

Improves skin elasticity

Compared to baseline, skin elasticity improves by 9.9% in just two weeks and by 17.2% after eight weeks, for continued sustained improvement.

Study Findings Self-Assessment[f]

100% agree their skin:

- Looks brighter overall
- Complexion appears more radiant
- Feels more dynamic and smoother to the touch
- Texture appears more refined
- Looks healthier and more refreshed
- Feels more hydrated throughout the day
- Feels more comfortable and balanced
- Appears healthier overall
- Feels better protected from environmental factors
- Looks healthier since using this serum
- Feels more resilient and renewed

97.5% agree their skin:

- Discoloration looks less noticeable
- Tone looks more uniform
- Looks less dull or tired from daily stress or environmental exposure

95% agree their skin:

- Tone looks more even
- Dark spots look lighter
- Feels stronger and less sensitive

Satisfaction:

- 100% are satisfied with the improvement in their skin
- 100% would continue using this serum as part of a skincare routine
- 100% would recommend this serum to others

Study Findings Safety

Mitopure is safe and well-tolerated

Longevity Serum Pro is safe for sensitive skin and has excellent tolerability across men and women in multiple studies with no signs of irritation or sensitivity.

time——line

Longevity Serum Pro Study At-A-Glance

Clinical Relevance

Prior research shows Mitopure activates mitophagy and renews mitochondria in skin cell models.[a] This study investigated the impact of Longevity Serum Pro, formulated with Mitopure and complementary bioactives, on biological drivers and hallmarks of skin aging.

In this eight-week trial, Longevity Serum Pro targets skin aging by improving biomarkers of oxidative stress, inflammation and skin differentiation.[d]

Longevity Serum Pro is associated with clinical improvements in skin hydration, barrier strength, elasticity and firmness compared to baseline.[e]

Skin is a visible biomarker of aging and a recognized component of health and longevity. By supporting key cellular pathways, Longevity Serum Pro improves the appearance and health of skin.

a. Based on in-vitro laboratory testing on skin cells.
b. Based on an 8-week randomized clinical trial of 48 healthy women aged 50 to 75 years.
c. Based on ex-vivo laboratory testing on 3D skin cells.
d. Based on a 57-day randomized clinical trial of 30 healthy participants (90% female), with an average age of 55 years. Morning and evening application. Biomarkers such as oxidative stress, inflammation, and epidermal differentiation impact skin health.
e. Based on a 57 day randomized clinical trial of 33 healthy participants (91% female), with an average age of 55 years. Morning and evening application.
f. Based on a 14-day self-assessment questionnaire completed by 40 healthy participants (80% female), with an average age of 31 years. Morning and Evening product application.