



astrion[®]

EXPERIENCE YOUTHFUL-LOOKING SKIN
THROUGH ENHANCED COLLAGEN &
HYALURONIC ACID SUPPORT

nulivscience.com

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We are committed to the dissemination of accurate and unbiased information. Our goal is to contribute to the understanding of its potential benefits and limitations. For any inquiries, clarifications, or further information, please do not hesitate to contact us.

Thank you for your interest in our research overview.



THE WAY TO YOUTHFUL SKIN

12 *in-vitro* and 1 human clinical trial

Patents:
US 7,959,952
TW I362936
CN 2007 10095863

Pennies per serving

KEY BENEFITS



100%
PLANT-BASED



PATENTED



HYDRATING

FIRM, TONED, AND HYDRATED SKIN WITH ASTRION®

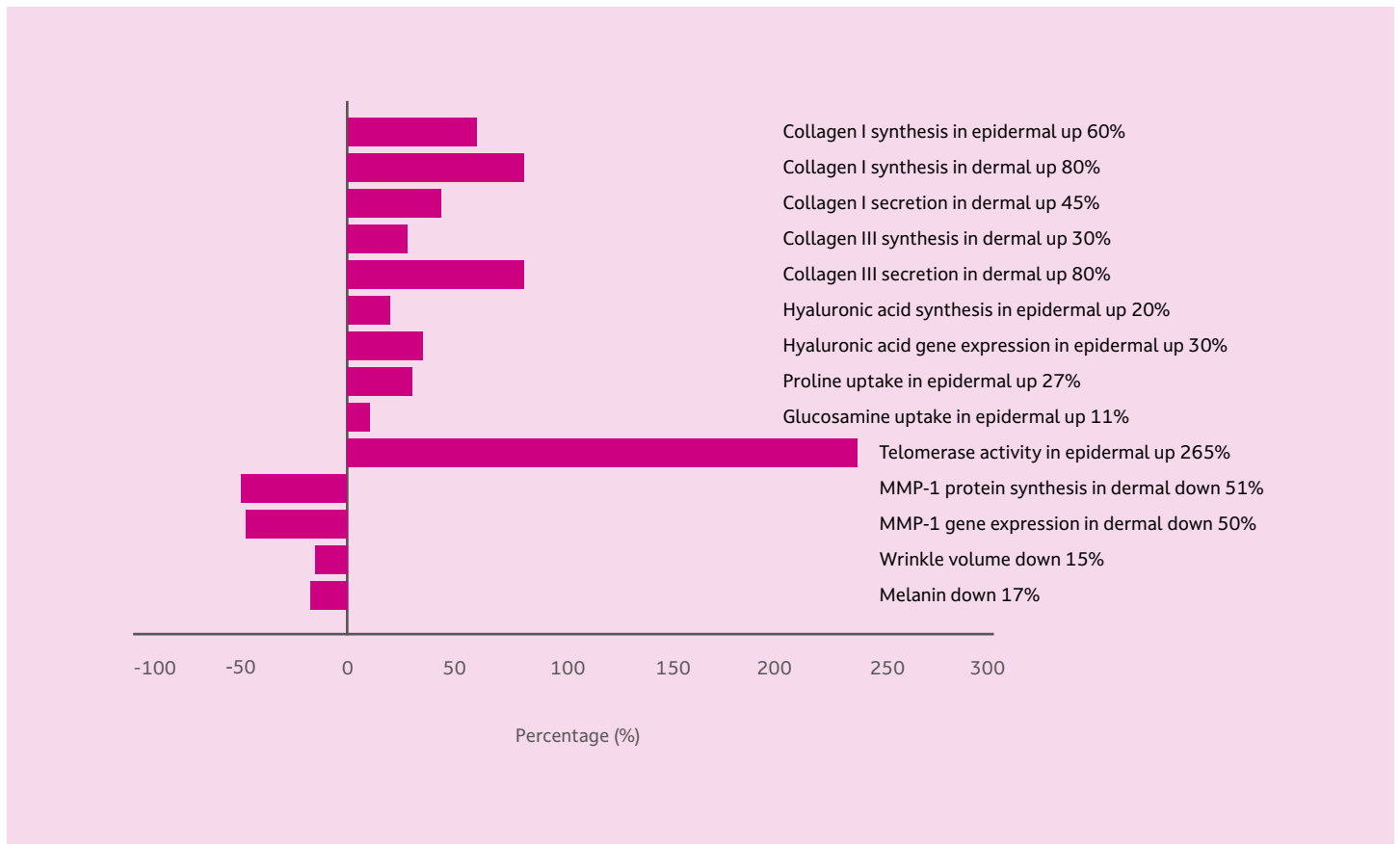
Astrion® supports firm, toned, and hydrated skin. NuLiv Science cell studies and human trials have demonstrated to support the synthesis of collagen and hyaluronic acid in the skin, which help support healthy skin structure. Further, Astrion® supports absorption of glucosamine and proline, the precursors for collagen and hyaluronic acid.

Collagen and hyaluronic acid in skin cells play an important role in how skin looks and feels. When added to topical products, it can be difficult to absorb into the skin effectively because of their molecular weight. Astrion® helps by supporting the skin's internal production of collagen and hyaluronic acid. Specifically, Astrion® has shown in 12 *in-vitro* and one human study to:

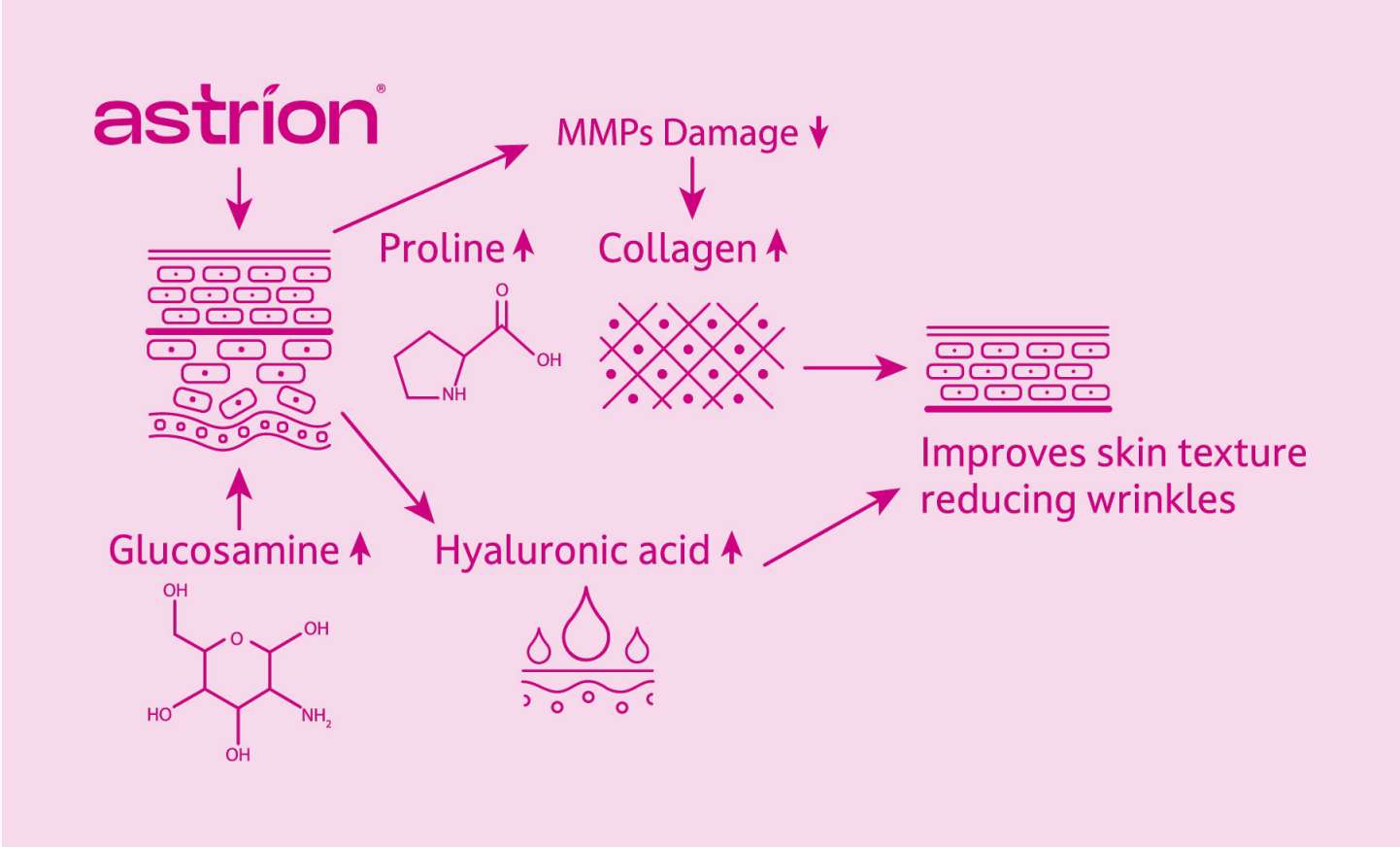
- Support collagen I synthesis & secretion in dermal and epidermal skin cells
- Support collagen III synthesis & secretion in dermal skin cells
- Support hyaluronic acid in dermal and epidermal skin cells
- Support proline & glucosamine uptake in epidermal skin cells
- Support telomerase activity in epidermal skin cells
- Support lowered MMP-1 protein synthesis & gene expression in dermal skin cells
- Reported a reduction in visible wrinkles in a small human study
- Reported a reduction in melanin for lighter skin with fewer reported spots in a small human study

For details, please see our scientific papers

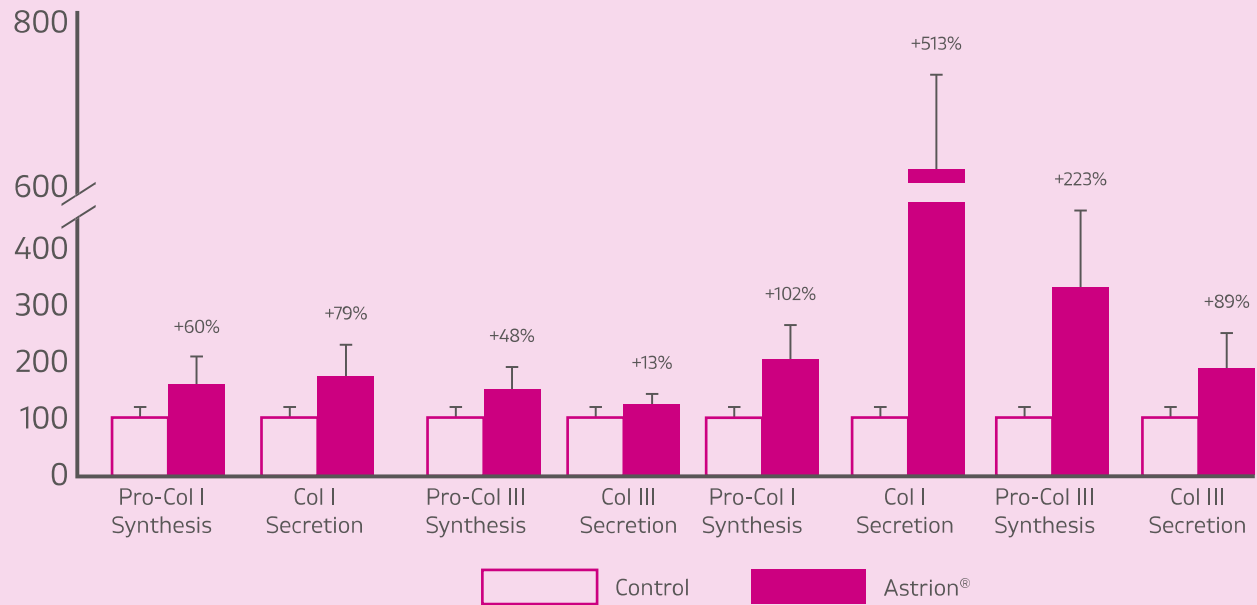
NULIV SCIENCE IN-VITRO AND HUMAN STUDIES



SCIENTIFIC MECHANISM OF ACTION FOR ASTRION®

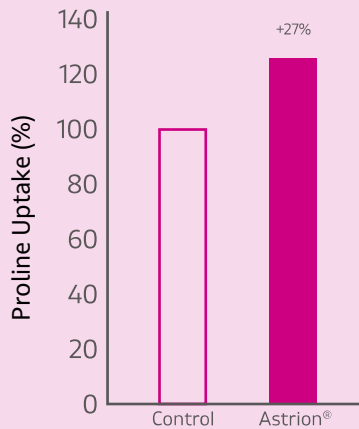


ASTRION® SUPPORTS COLLAGEN LEVELS WITHIN THE SKIN

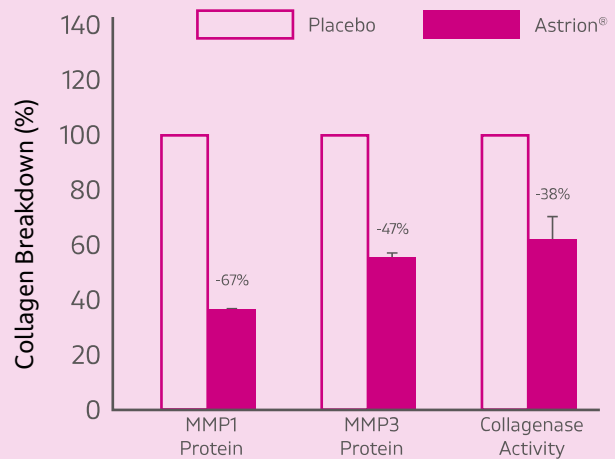


Astrion® treatment for 24 hours revealed enhanced collagen synthesis in skin cells. In epidermal cells (HaCaT), it led to increased Collagen I production. In dermal fibroblasts (HDF), Astrion® promoted an increase in Collagen I and Collagen III synthesis within the cells. Additionally, Astrion® assisted in raising the secretion of Collagen I and Collagen III in HDF cells in these cell studies.

ASTRION® SUPPORTS COLLAGEN LEVELS WITHIN THE SKIN

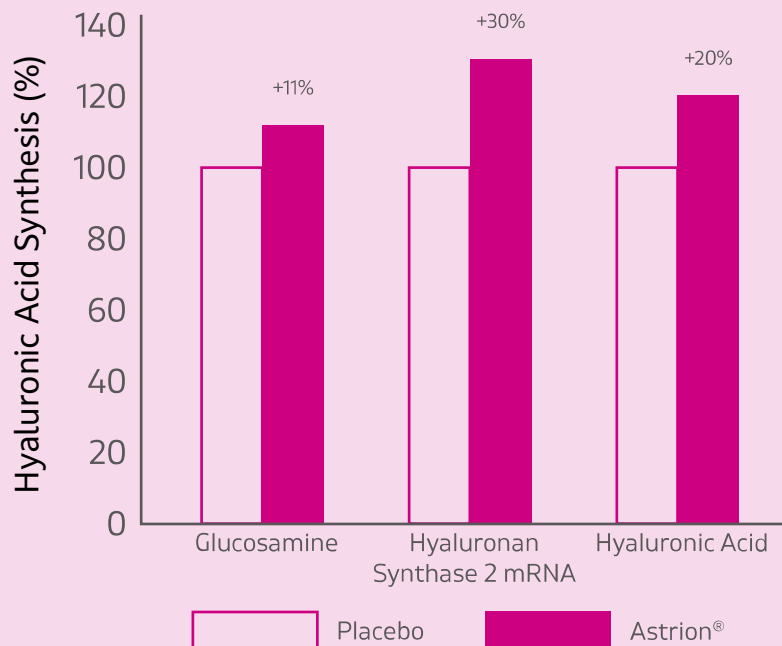


Human epidermal cells were treated with or without Astrion® for 48 hours. The treated cells were washed once with PBS and then incubated in an amino acid-free medium for another 30 minutes. Subsequently, the cells were replaced with fresh amino acid-free medium containing 3H proline. At designated time intervals, the cells were lysed and centrifuged. Intracellular proline uptake was determined using a microplate liquid scintillation counter. The amount of accumulated proline in the cells was calculated and normalized to the protein concentration. The study demonstrated that Astrion® increased proline absorption in epidermal (HaCaT) cells.



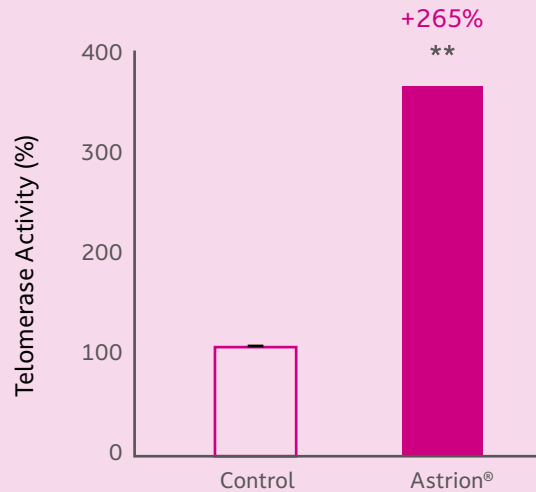
This study examined how Astrion® affects MMPs, particularly MMP-1 and MMP-3 which each play a role in the breakdown of collagen. To analyze, HDF cells were exposed to an Astrion® solution for 24 hours, the cells were then processed, washed, and left in a serum-free medium for 24 hours before being collected for analysis. The findings revealed a decrease in the production of both MMP-1 and MMP-3 following exposure to Astrion®. Subsequent gene expression analysis demonstrated reduced levels of MMP-1 and MMP-3 after the cells were treated with Astrion®. These results suggest that Astrion® may play a role in hindering collagen breakdown by influencing the activities of MMP-1 and MMP-3.

ASTRION® SUPPORTS HYALURONIC ACID LEVELS WITHIN THE SKIN



Human epidermal cells were exposed to Astrion® solution for 48 hours to investigate its impact on cellular processes. The study revealed that Astrion® helped to increase hyaluronic acid synthesis, measured through an enzyme-linked immunosorbent assay (ELISA), and supported an elevation in HAS2 gene expression. Additionally, following treatment, HaCaT cells exhibited an increase in glucosamine absorption, the precursor to hyaluronic acid, as assessed by a microplate liquid scintillation counter. These findings suggest Astrion®'s potential influence on hyaluronic acid levels and cellular glucosamine uptake, indicating its involvement in these crucial cellular mechanisms.

ASTRION® INCREASES TELOMERASE ACTIVITY IN EPIDERMAL (HACAT) CELLS



** p<0.01 when compared to the control group

Human epidermal (HaCaT) cells were seeded into 6-well plate for 24h. The cells were treated with or without Astrion® for another 24h. Telomerase of the samples were measured by TRAPEZE RT Telomerase Detection Kit according to the manufacturer's protocol. Astrion® was shown to increase telomerase activity in epidermal (HaCaT) cells by 265%.

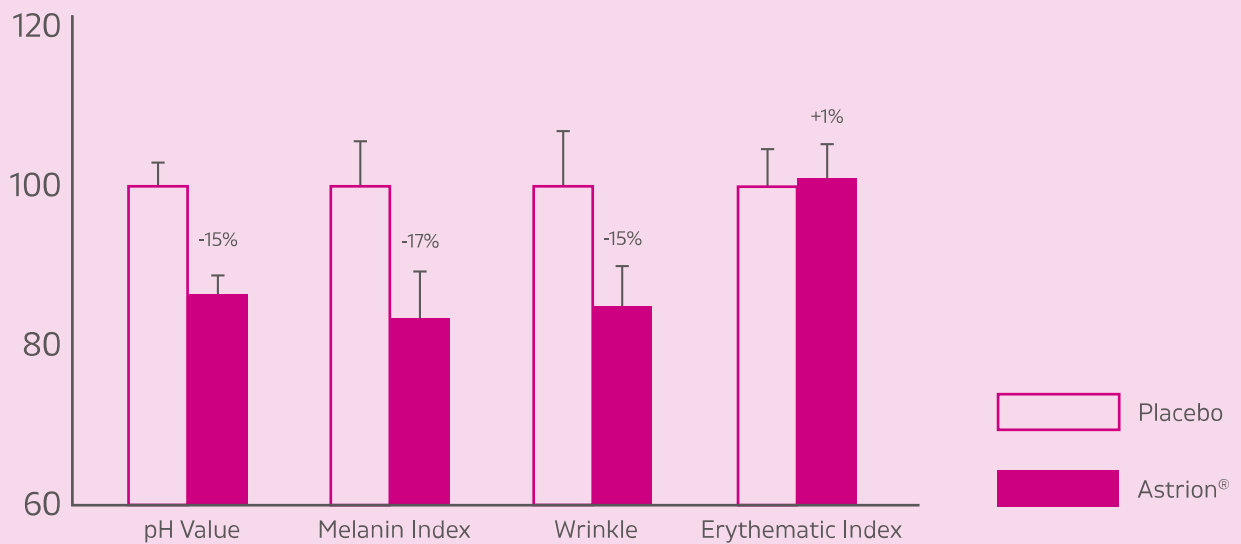
HUMAN STUDY

Duration: 4 weeks
Subjects: Age from 38-82 years
Male: 6, average age 50.67 years
Female: 13, average age: 58.77 years
Average age all of participants: 56.21 years
Result: Wrinkle reduced by 14.8%, melanin reduced by 16.6%



BEFORE

AFTER





DOSAGE

250MG

For questions and additional information please contact



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