



# Increase in Collagen I Synthesis 20452 AC Collagen Prepeptide

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## Abstract

The conserved amino acid sequence of Glycine-Proline-Hydroxyproline is believed to increase *in-vivo* fibroblast activity for collagen synthesis. AC Collagen PrePeptide is a pure (>99.7%) synthetic polypeptide consisting of the Glycine-Proline-Hydroxyproline conserved sequence. Quantitative analysis is intended to demonstrate AC Collagen PrePeptide's efficacy to stimulate collagen type I production.

## Materials and Methods

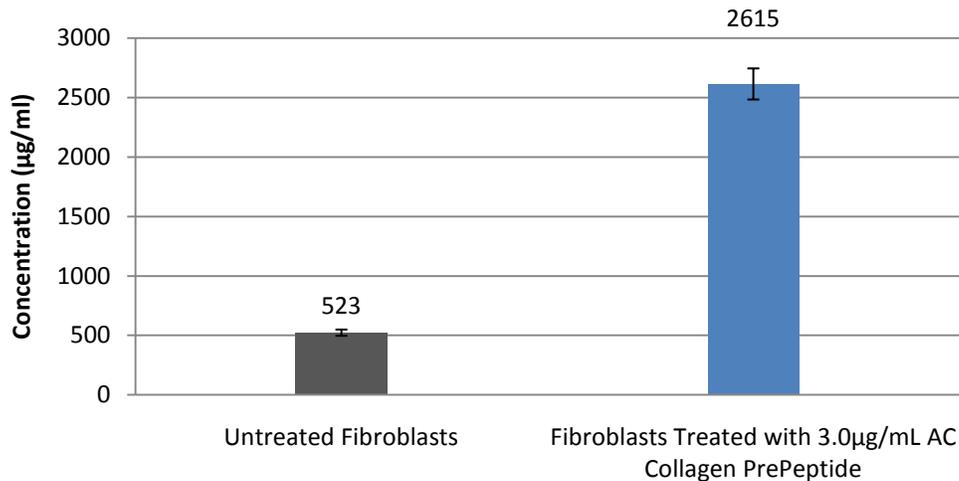
Adult human dermal fibroblasts were obtained from Cell Applications, Inc. The fibroblasts were cultured in 100-mm diameter petri dishes using Eagle's MEM supplemented with 9% FCS, ascorbic acid, nonessential amino acids, amphotericin B (1µg/ml), streptomycin (100µg/ml), penicillin (100U/ml) and Earle's salts, which were obtained from Gibco Laboratories. The cells were grown to confluence. The fibroblasts were then treated with 3% (30µg/ml) of AC Collagen PrePeptide. To determine the effect of AC Collagen PrePeptide on collagen production, cells were plated at  $1 \times 10^5$  per well and cultured for 48 hours. Media from the wells was then collected to measure collagen I using a Capture ELISA kit (MDBiosciences). This kit was used according to the manufacturer's instructions.

## Results

	Mean Collagen Concentration (µg/ml)
Untreated Fibroblasts	523
Fibroblasts treated with 3% AC Collagen Prepeptide	2615
Percent increase when using 3% AC Collagen Prepeptide	400%

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## Mean Collagen Synthesis



## Discussion

The results indicate that after a period of 48 hours, **3% AC Collagen PrePeptide** is capable of increasing type I collagen synthesis by 400%.

Given that collagen is the primary building block that provides structural support to the skin, improving its concentration can help minimize the appearance of fine lines and wrinkles. This will achieve a smoother and younger looking complexion.

For this reason **AC Collagen PrePeptide** is an ideal ingredient to use in cosmetic applications where potent anti-wrinkle and anti-aging benefits are desired.