

AC DermaPeptide Toning PF Assessment of Collagen Production

Code: 20455PF INCI Name: Water & Yeast Extract Suggested use levels: 2.0-5.0%

Abstract

An *in-vitro* study was conducted to determine if **AC DermaPeptide Toning PF** is capable of increasing the reate of collagen IV and collagen VII production. Collagen IV serves as a protein in the epidermal scaffolding matrix as well as a component of the dermal epidermal junction (DEJ). Collagen VII is predominantely localized in the epithelium however it forms fibrils and filamints at the DEJ. The DEJ is the point in which the epidermis and dermis bind.

Methods & Materials

Confluent human fibroblasts were incubated with 2% AC DermaPeptide Toning PF in the presence of 5% CO2 for a period of 72 hours. RNA was then extracted from the frobroblasts and transcribed to produce complementary DNA via reverse transcription. PCR analysis was then performed to isolate the segments of DNA present that code for collagen IV and collagen VII production. The DNA expression for fibroblasts treated with 2% AC DermaPeptide Toning PF were compared to those of fibroblasts treated with TGF-b1 and bactin mRNA as the placebo.

The intensity of the bands fromed an agarose via PCR was quantified using a Bio-Profil system, BIO-1D software (Vilber Lourmat, France). The intensity of the bands for cells treated with **AC DermaPeptide Toning PF** were compared to those of cells treated with TGF-b1 and b-actin. The following ratios were used to discern the percent difference in mRNA production.

Variable Intensity (VI)=PCR band intensity for Variable/PCR band for b-actin

Placebo Intensity (PI)=PCR band intensity for placebo/PCR band for b-actin

% Difference=VI/PI*100

Results

Collagen IV mRNA Expression 150 100 50 0 Control TGF-b1 AC DermaPeptide Toning PF

Figure 1. Comparison of fibroblasts treated with AC DermaPeptide Toning PF & TGF-b1.



Figure 2. Comparison of fibroblasts treated with AC DermaPeptide Toning PF & TGF-b1.

Discussion

The results implicate that **AC DermaPeptide Toning PF** may be efficacious in increasing the expression of mRNA that codes for collagen IV and VII thereby increasing the production of both collagen IV and VII. The increase in collagen production may also lead to improvement in the dermal epidermal junction.

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