AC DermaPeptide Toning PF

Toning
Anti-Wrinkle
Collogen Synthesis
Natural
Anti-Aging
Nourishing

Code Number: 20455PF

INCI Name: Water & Yeast Extract
INCI Status: Conforms
REACH Status: Complies
CAS Number: 7732-18-5 & 8013-01-2
EINCS Number: 231-791-2 & 232-387-9

Origin: Biotechnology
Processing:
GMO Free
No Ethoxylation
No Irradiation
No Sulphonation
Additives:
Preservatives: None
Antioxidants: None
Other additives: None
Solvents Used: Water
Appearance: Clear to Slightly Hazy, Yellow to Light Amber Liquid
Soluble/ Miscible: Water Soluble
100% Biodegradability
Microbial Count: <100 opg, No Pathogens

Suggested Use Levels: 2.0 - 5.0%
Suggested Applications:
Toning, Elasticity, Anti-Wrinkle

BACKGROUND

Communication is key! How often have we heard this phrase uttered in reference to our personal or work relationships? Yet one would rarely think to apply such a phrase to our skin. However, effective communication amongst the various cells of our body is vital for our survival, and also dramatically affects our appearance.

The epidermis is the outer layer of our skin; underneath the 5 layers of the epidermis is the dermis, which provides oxygen and nutrients necessary for maintaining the epidermis. Anatomically, the site at which both the dermis and the epidermis meet is referred to as the dermal epidermal junction (DEJ), and it consists of an area approximately 100 nm thick.[1] DEJ integrity is vital for the communication that occurs between the dermis and the epidermis, playing a role in numerous processes including cellular differentiation, migration, proliferation and repair. The DEJ is also involved in immune system responses such as the inflammatory response mechanism, which is triggered via chemical signals relayed across the dermal epidermal junction.[2] By aiding and improving the skins DEJ the positive effects could be endless!

SCIENCE

AC DermaPeptide Toning PF is intended to improve the integrity of the DEJ by increasing the synthesis of its components; thus improving the overall appearance of the complexion by increasing tone and elasticity therefore decreasing the appearance of fine lines and wrinkles.

The dermal epidermal junction is predominantly constructed out of collagen types IV and VII as well as glycoproteins such as integrin α2β1, laminins and other proteins. Many hypothesize that the condition of the DEJ directly affects the appearance of the epidermis, theorizing its condition is responsible for wrinkle formation, elasticity and tone. Therefore, if one were to create a cosmetic to

Benefits of **AC DermaPeptide Toning PF**

- Collagen Synthesis
- Wrinkle Reduction
- Tone & Elasticity

AC DermaPeptide Toning PF

target the DEJ, it would have to effectively improve the various components that make up the DEJ.[3] **AC DermaPeptide Toning PF** is intended to improve the DEJ by increasing the production of collagen IV and VII as well as integrin α2β1. We have isolated a specific peptide sequence from yeast that may actually increase the production of collagens IV and VII while improving the concentration of various glycoproteins.

BENEFITS

AC DermaPeptide Toning PF may be incorporated into lotions, creams and gels that are intended to act as anti-aging products as well as other products that are designed to reduce the appearance of physical skin damage. **AC DermaPeptide Toning PF** is the quintessential ingredient for obtaining results of anti-aging, increased tone and elasticity, collagen synthesis, and wrinkle reduction. The various following in vitro and in vivo studies performed on **AC DermaPeptide Toning PF** reveal that it may be used to target the DEJ and improve the overall appearance, tone and elasticity of the epidermis. As a water soluble, fermented yeast extract, this product can be incorporated in virtually any aqueous system yielding the ideal finished product.

EFFICACY DATA

The efficacy of **AC DermaPeptide Toning PF** was verified by several *in vivo* and *in vitro* studies. A 15 subject panel of women between the ages of 40 and 55 was constructed to determine the effects of **AC DermaPeptide Toning PF** on epidermal characteristics such as elasticity, tone and fatigue. The results indicated that **AC DermaPeptide Toning PF** may actually improve elasticity and tone while minimizing epidermal fatigue.

A second *in vivo* study involved the use of silicone molds to obtain wrinkle impressions around the outer eye area. Following a 28 day study where both 5% **AC DermaPeptide Toning PF** and placebo were applied to the test sites twice daily, **AC DermaPeptide Toning PF** was observed to reduce the appearance of wrinkles by minimizing both wrinkle depth and volume to create a smoothing effect. These results indicate that **AC DermaPeptide Toning PF** may be added to anti-aging products designated to reduce wrinkle appearance and formation.

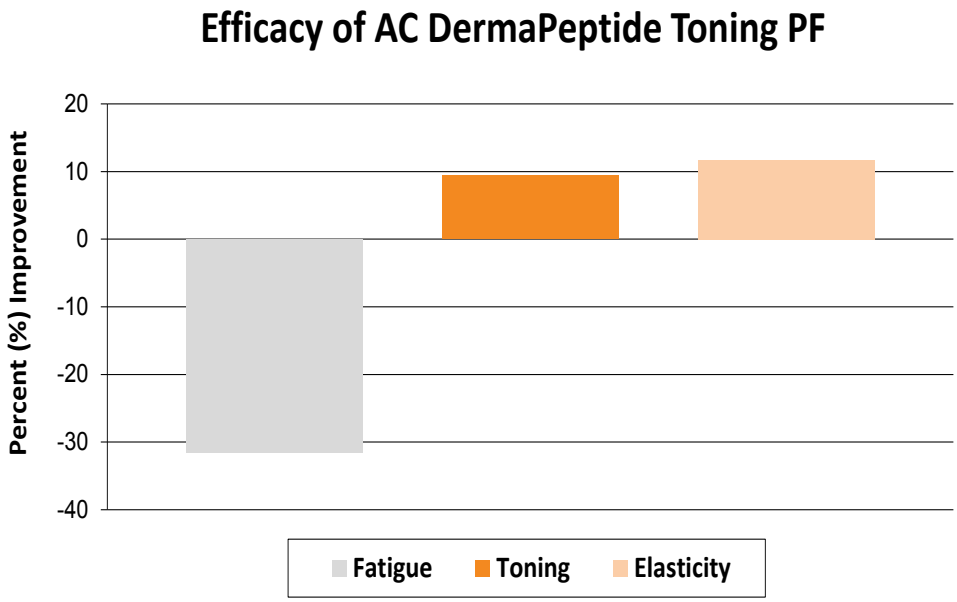

Figure 1. Relationship between improvement in tightness and decline in fatigue indicate a correlation between **AC Dermapeptide Toning PF** and improved skin tone

AC DermaPeptide Toning PF

An *in vitro* analysis involving fibroblast migration revealed that **AC DermaPeptide Toning PF** increased fibroblast migration to wound sites after 24 and 48 hours. The study involved the use of fibroblasts cultured in fibroblast-cultured medium and grown on glass slides. Cultures were wounded and incubated with either 0.5% **AC DermaPeptide Toning PF**, TGF-β1 or the control. Fibroblast migration was then observed with a compound light microscope. **AC DermaPeptide Toning PF** was also effectively used to increase the synthesis of collagen IV, collagen VII and integrin α2β1. Fibroblasts were incubated with either 2.0% **AC DermaPeptide Toning** PF, TGF-B1, or the control for 72 hours

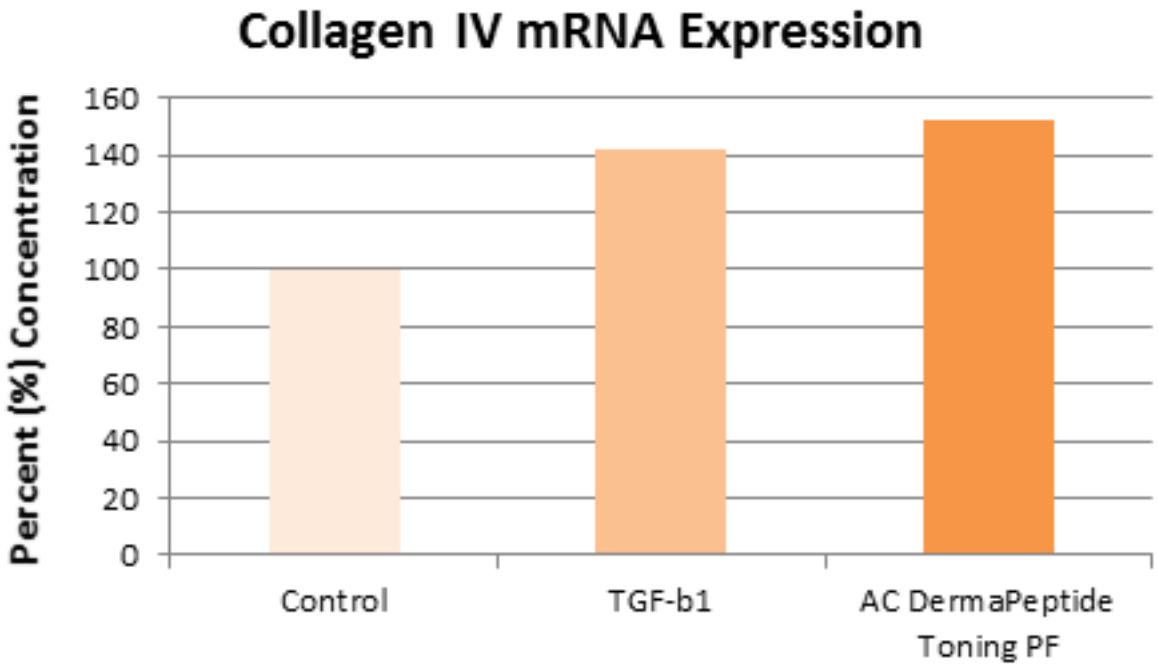

Figure 2. Increase in Collagen IV Expression following application of test materials

Also, Reverse mRNA transcriptase and PCR were used to identify the coding region for each protein. The concentration of the coding sites is expressed with the intensity of the bands produced via PCR. **AC DermaPeptide Toning PF** was observed to increase the concentration of the coding sites of collagen IV, collagen VII and integrin α2β1. Therefore, it may be used to increase the synthesis rate of collagen IV, collagen VII and integrin α2β1.

AC DermaPeptide Toning PF

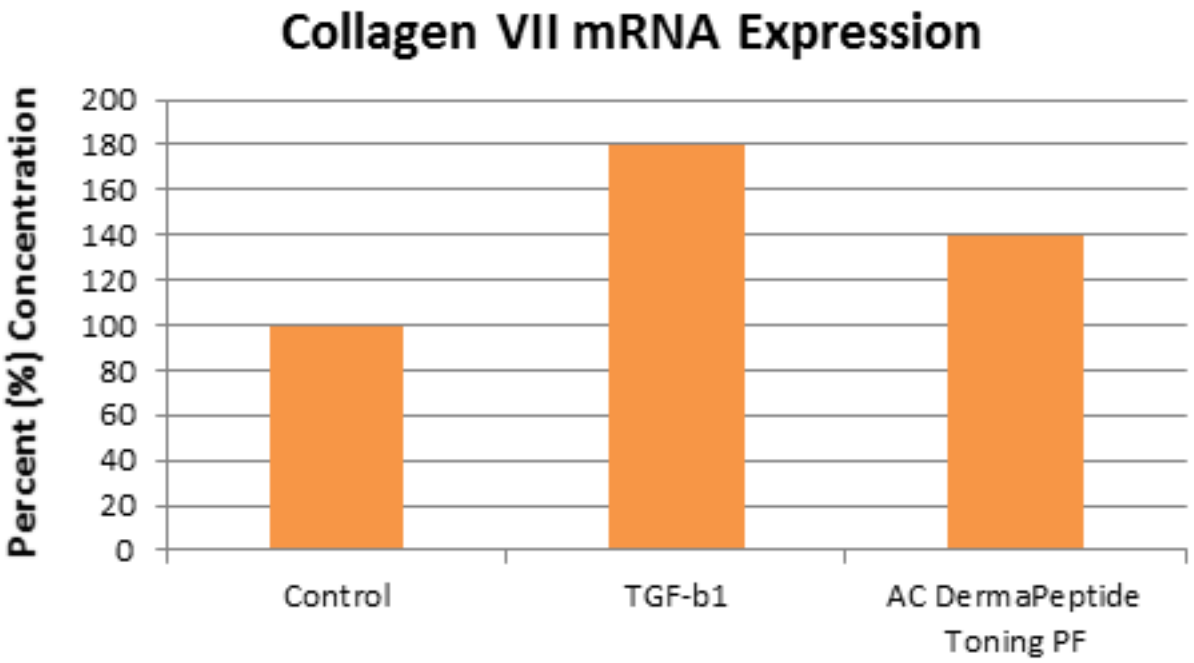

Figure 3. Increase in Collagen VII Expression following the application of test materials

References:
1-Mihara, Motoyoki., et al. "Scanning Electron Microscopy of the Epidermal Lamina Densa in Normal Human Skin." Nature.com/jid. Web. 30 Nov 2015.
2-Breathnach, AS. (1964): The dermo-epidermal junction. Progress in the Biological Sciences in Relation to Dermatology - 2: Edited by A Rook, RH Champion. Cambridge, Cambridge University Press, pp 415–425.
3- Kobayasi, T (1961): An electron microscope study on the dermo-epidermal junction. Acta Derm Venereol (Stockh) - 41: pp 481–491.

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