



# AC DermaPeptide Toning PF *In-vivo* Toning Analysis

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## Abstract:

The efficacy of **AC Dermapeptide Toning PF** was determined by measuring changes in epidermal characteristics such as elasticity, fatigue and tone before and after a 28 day treatment with a Carbopol gel containing 5% **AC Dermapeptide Toning PF**.

## Materials and Methods:

A six subject panel of women between the ages of 32 and 58 was asked to apply a mixture containing 5% **AC Dermapeptide Toning PF** to their forearms twice daily for 28 days. Subjects abstained from using products on the test site prior to analysis. The SEM 575 Cutometer<sup>®</sup> was used to non-invasively quantify modifications in epidermal elasticity via suction. The process began by placing the suction probe in contact with the skin for a period of 5 seconds, this was then repeated 5 times consecutively. Sensors at the tip of the probe measured the amount of epidermis drawn into the probe to determine the structural integrity of the epidermis e.g. tensile property. All testing was performed in conjunction with a placebo.

Recorded values pertinent in determining the efficacy of **AC Dermapeptide Toning PF** include: the initial contortion (IC), delayed contortion (DC), tensility (T=IC + DC), final tensility (T'), epidermal recoil (ER), secondary recoil (mean of cutometer measurements taken 5 times consecutively)(ER').

The following formulas were used to analyze results:

Toning:

$$\% \Delta T' = (\text{Day 28 } T' / \text{Day 0 } T) * 100$$

Fatigue:

$$\% \Delta ER' = (\text{Day 28 } ER' / \text{Day 0 } ER') * 100$$

Elasticity:

$$\% \Delta ER = (\text{Day 28 } ER / \text{Day 0 } ER) * 100$$

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## Results:

Figure1. Fatigue Assessment

AC Dermapeptide Toning PF				Placebo		
Volunteer	Day 0	Day 28	change	Day 0	Day 28	change
1	0.063	0.043	-0.020	0.049	0.095	0.046
2	0.037	0.035	-0.002	0.045	0.093	0.048
3	0.035	0.048	0.013	0.047	0.125	0.078
4	0.047	0.046	-0.001	0.058	0.103	0.045
5	0.059	0.066	0.007	0.067	0.105	0.038
6	0.050	0.043	-0.007	0.072	0.132	0.06
Mean	0.049	0.047	-0.002	0.056	0.109	0.053

Figure 2. Elasticity Assessment

AC Dermapeptide Toning PF				Placebo		
Volunteer	Day 0	Day 28	change	Day 0	Day 28	change
1	1.023	0.971	-0.052	0.968	0.97	0.002
2	0.851	0.813	-0.038	0.868	0.953	0.085
3	0.842	0.843	0.001	0.793	0.796	0.003
4	1.12	0.989	-0.131	0.876	0.851	-0.025
5	0.937	0.857	-0.08	0.923	0.928	0.005
6	0.827	0.768	-0.059	1.06	1.032	-0.028
mean	0.933	0.874	-0.060	0.915	0.922	0.007

Figure 3. Toning Assessment

AC Dermapeptide Toning PF				Placebo		
Volunteer	Day 0	Day 28	change	Day 0	Day 28	change
1	0.395	0.387	-0.008	0.425	0.428	0.003
2	0.405	0.357	-0.048	0.369	0.374	0.005
3	0.378	0.362	-0.016	0.353	0.352	-0.001
4	0.342	0.327	-0.015	0.408	0.413	0.005
5	0.356	0.358	0.002	0.321	0.319	-0.002
6	0.348	0.337	-0.011	0.373	0.372	-0.001
mean	0.371	0.355	-0.016	0.375	0.376	0.002

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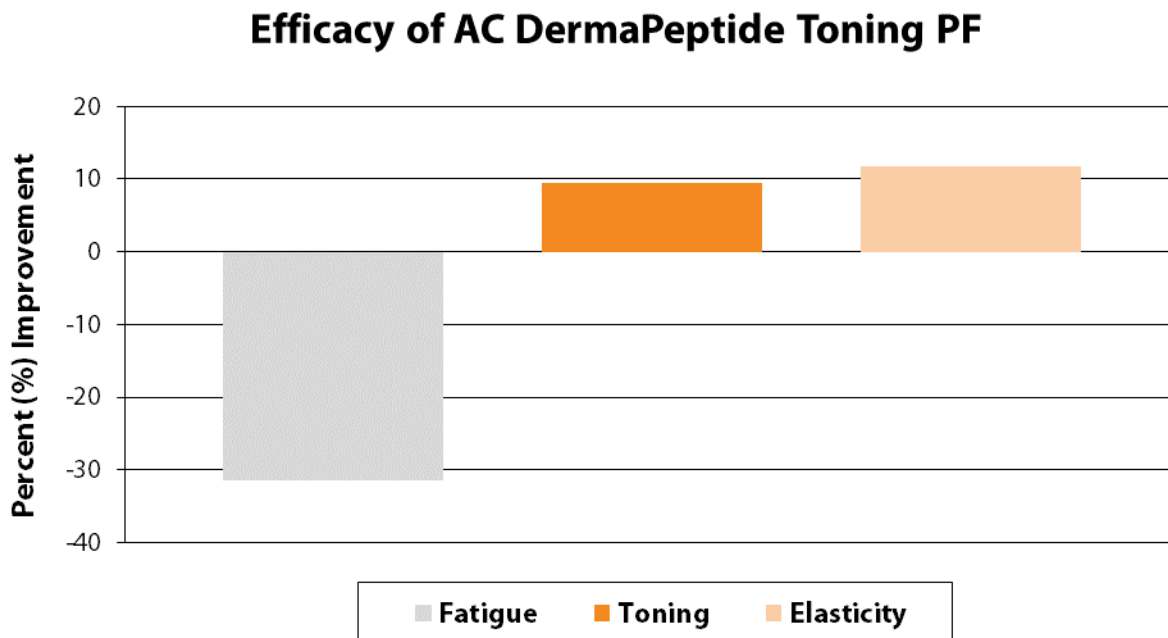


Figure 4. Relationship between improvement in tightness and decline in fatigue indicate a correlation between **AC Dermapeptide Toning PF** and improved skin tone.

### Discussion:

It is understood that firm skin is elastic and that there is direct relationship between elasticity and recoil. As elasticity improves so does recoil and the values for epidermal recoil decrease as skin becomes toned. The integrity of the epidermis effects how it reacts under stressful conditions such as fatigue. Observing how the epidermis responds under stress may be a good indicator of the epidermal integrity. One may deduce that an improved tensor effect may be related to an improvement in epidermal integrity and a reduction in fatigue. In order to detect fatigue the cutometer was used for 5 successive trials to determine changes in elastic recoil.

The results indicate that **AC Dermapeptide Toning PF** reduces epidermal recoil therefore exhibiting a tightening effect on the skin. Epidermal fatigue was also reduced which indicates that perhaps **AC Dermapeptide Toning PF** may improve the overall integrity of the epidermis. The combined improvement in tightness and the decrease in fatigue indicate that **AC Dermapeptide Toning PF** improves skin tone.