



AC Party Face Pom

In vivo durability of skin lift

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Abstract

The purpose of this study was to determine whether or not AC Party Face Pom can provide significant skin lifting benefits as well as confirm how long these properties would last. A cutometer was used to measure changes in viscoelastic properties on the thighs of 13 volunteers. Based on our findings, AC Party Face Pom is capable of providing immediate and significant skin lifting benefits that can last up to 4 hours.

Materials and Methods

The study was conducted with 13 (M/F) volunteers between the ages of 34 and 67 years old. All volunteers participated in a dry down phase 3 days prior to the commencement of the study. Participants were also asked to refrain from using other products on the test site for the entire duration of the study. Each volunteer was given an O/W emulsion containing 4% of AC Party Face Pom which they applied to their right thigh.

A cutometer (Courage-Khazaka electronic GmbH - MPA 580) was used to measure changes in skin lifting properties. The system works based on suction. Negative pressure is created inside the probe of the cutometer and the skin is forced into the aperture. The penetration depth is determined by a non-contact optical measuring system that consists of a light source, a light receptor and two prisms facing each other. The two prisms reflect the light from the transmitter to the receptor depending on the depth of the skin inside the probe. The values obtained are based on the resistance of the skin that is drawn into the probe as well as its ability to return to the original position.

The measurements were taken at time 0, and again after 1, 2 and 4 hours. Each measurement was taken for a period of 5 seconds. Skin deformation was determined according to 4 parameters: instantaneous deformation, delayed deformation, total elongation and immediate retraction.

The following formula was used to determine skin lifting:

$$\text{Skin Lifting} = (L_i + L_d) - L_R$$

Parameters:

L_i = Instantaneous deformation

L_d = Delayed deformation

L_R = Immediate Retraction

The percent increase in skin lift is expressed by the following formula:

$$\frac{T_0 - T_2 \text{ or } T_4}{T_0} \times 100 = \% \text{ Increase in Skin Lift.}$$

Parameters:

T_0 = Skin Lifting at Time 0.

T_2 = Skin Lifting after 2 hours.

T_4 = Skin lifting after 4 hours.

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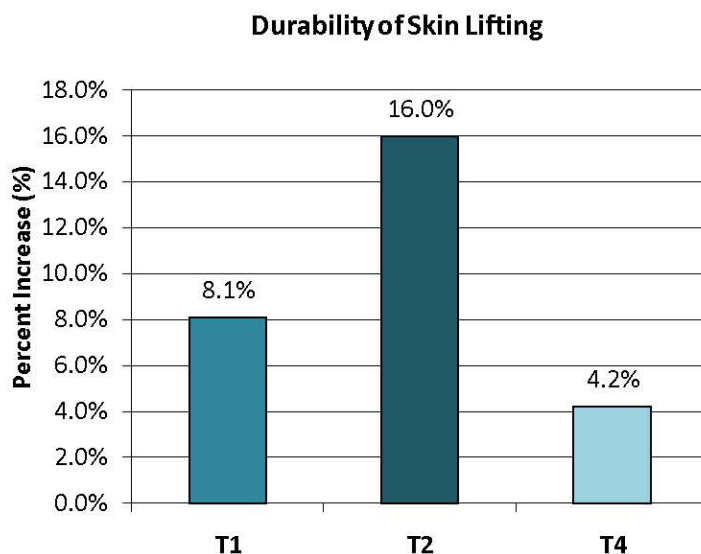
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Skin Lifting Measurements				
Volunteers	T0	T1	T2	T4
1	0.398	0.365	0.374	0.390
2	0.284	0.253	0.212	0.278
3	0.561	0.499	0.467	0.524
4	0.203	0.182	0.172	0.195
5	0.449	0.435	0.365	0.432
6	0.375	0.344	0.308	0.359
7	0.286	0.266	0.223	0.271
8	0.312	0.278	0.278	0.303
9	0.450	0.423	0.390	0.431
10	0.227	0.205	0.202	0.219
11	0.519	0.491	0.434	0.506
12	0.373	0.356	0.321	0.354
13	0.385	0.342	0.316	0.367

(Table 1. Skin lifting measurements)

% Increase in Skin Lift			
Volunteers	T1	T2	T3
1	8%	6%	2%
2	11%	25%	2%
3	11%	17%	7%
4	10%	15%	4%
5	3%	19%	4%
6	8%	18%	4%
7	7%	22%	5%
8	11%	11%	3%
9	6%	13%	4%
10	10%	11%	4%
11	5%	16%	3%
12	5%	14%	5%
13	11%	18%	5%
Average	8%	16%	4%

(Table 2. Percentage Increase in Skin Lift)



(Figure 1. Percent increase in Skin Lifting properties.)

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t-Test: Paired Two Sample for Means
Initial values (T_0) compared to 2 hours later (T_2)

	Values
Mean for T_0	0.370923
Mean for T_2	0.312462
Variance for T_0	0.011542
Variance for T_2	0.008544
Observations for T_0	13
Observations for T_2	13
Pearson Correlation	0.98317
Hypothesized Mean Difference	0
df	12
t Stat	8.913155
P($T \leq t$) one-tail	6.11E-07 *
t Critical one-tail	1.782288
P($T \leq t$) two-tail	1.22E-06
t Critical two-tail	2.178813

(Table 3. T-test comparing the baseline with T_2 .)

t-Test: Paired Two Sample for Means
Initial values (T_0) compared to 1 hour later (T_1)

	Values
Mean for T_0	0.370923
Mean for T_1	0.341462
Variance for T_0	0.011542
Variance for T_1	0.010412
Observations for T_0	13
Observations for T_1	13
Pearson Correlation	0.994109
Hypothesized Mean Difference	0
df	12
t Stat	8.443623
P($T \leq t$) one-tail	1.08E-06 *
t Critical one-tail	1.782288
P($T \leq t$) two-tail	2.15E-06
t Critical two-tail	2.178813

(Table 4. T-test comparing the baseline with T_1 .)

t-Test: Paired Two Sample for Means
Initial values (T_0) compared to 4 hours later (T_4)

	Values
Mean for T_0	0.370923
Mean for T_4	0.356077
Variance for T_0	0.011542
Variance for T_4	0.010352
Observations for T_0	13
Observations for T_4	13
Pearson Correlation	0.998441
Hypothesized Mean Difference	1
df	12
t Stat	6.56536
P($T \leq t$) one-tail	1.33E-05 *
t Critical one-tail	1.782288
P($T \leq t$) two-tail	2.67E-05
t Critical two-tail	2.178813

(Table 5. T-test comparing the baseline with T_4 .)

t-Test: Paired Two Sample for Means
Initial values (T_1) compared to 2 hours later (T_2)

	Values
Mean for T_1	0.341462
Mean for T_2	0.312462
Variance for T_1	0.010412
Variance for T_2	0.008544
Observations for T_1	13
Observations for T_2	13
Pearson Correlation	0.977298
Hypothesized Mean Difference	0
df	12
t Stat	4.5831
P($T \leq t$) one-tail	0.000315 *
t Critical one-tail	1.782288
P($T \leq t$) two-tail	0.000629
t Critical two-tail	2.178813

(Table 6. T-test comparing T_1 with T_2 .)

* The results obtained are 99% significant



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Discussion

As shown in figure 1, AC Party Face Pom is capable of increasing skin lift by 8.1% one hour after application. There was a 16% increase in skin lifting properties after two hours. After 4 hours, the values were still significantly increased when compared to the baseline. These findings suggest that AC Party Face Pom is not only capable of providing immediate skin lifting effects, but the results are maintained for at least 4 hours.

To provide perspective, statistical analysis was conducted to determine the significance of the results. Three different t-tests were performed to compare the baseline values with the values obtained after 1, 2 and 4 hours.

Based on the p-values obtained we can confirm with 99% confidence that AC Party Face Pom is capable of providing immediate skin lifting properties which can last up to 4 hours after a single application. For this reason we are confident that AC Party Face Pom is perfect for use in cosmetic applications designed to provide potent anti-aging benefits by significantly increasing skin lift.