



## Skin Plumping Assay

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**Tradename:** AC MVS Lips

**Code:** 60050

**CAS #:** 9010-10-0 & 84775-66-6 & 123465-35-0

**Test Request Form #:** 858

**Lot #:** SN140725-5

**Sponsor:** Active Concepts, LLC; 107 Technology Drive Lincolnton, NC 28092

**Study Director:** *Erica Segura*

**Principle Investigator:** *Maureen Danaher*

**Test Performed:**

Skin Plumping Assay

### Introduction

To assess the efficacy of topical lotions containing **AC MVS Lips** on individuals affected by slight to moderate facial wrinkling and/or drooping of the skin via *In-vivo* photographs, elasticity, skin density, and moisturization readings. Targeted areas include fine lines, sagging skin, and other deep and superficial wrinkles such as crow's feet, worry lines, and laugh lines.

### Assay Design

Fifteen male and female volunteers between the ages of 20 and 60 years of age affected by slight to moderate facial wrinkling and/or drooping of the skin, were selected for this study. None of the selected volunteers had Botox or other facial reconstructive surgeries within the past 6 months prior to study, nor did they have any facial cosmetic work performed while participating.

Single-blind method was conducted with each subject being its own control (compare active and placebo within each individual volunteer). Prior to T=0, overall tolerability of 5% **AC MVS Lips** in Cetaphil lotion was observed via patch irritation test. Each day, subjects were given a standardized amount of lotion labeled "L" for left side or "R" for right side of face with their designated volunteer number. Subjects applied this standardized amount of product on designated facial area twice daily for a period of four consecutive weeks. Efficacy of treatment was assessed visually and instrumentally once per week throughout the 4-week study.

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## Materials

5% **AC MVS Lips** in Cetaphil Lotion

Base Control Cetaphil Lotion

Digital Camera

DermaLab Skin Combo:

Hydration/ Moisture Pin

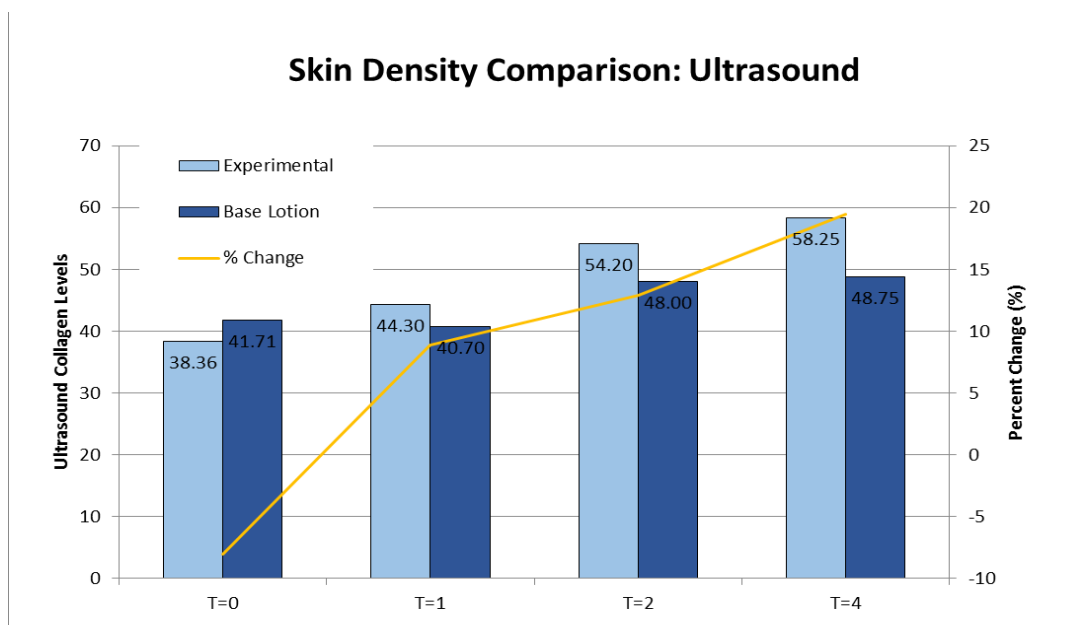
Probe Elasticity Probe

Ultrasound/ Skin Density Probe

## Methods

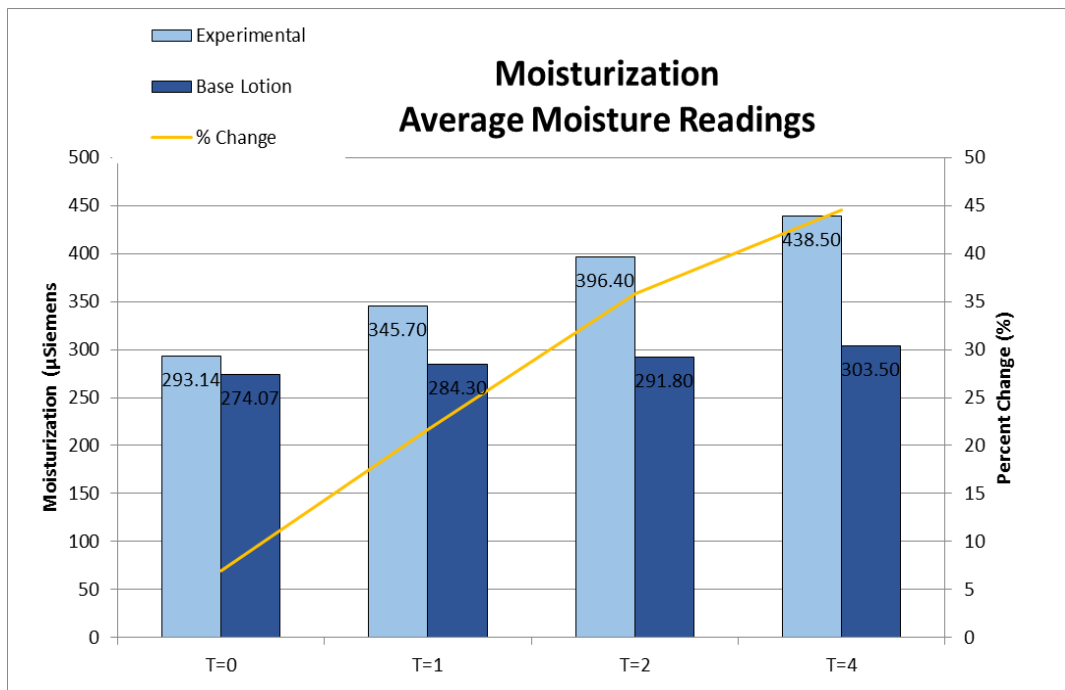
1. "Before" *in-vivo* photos were taken of each participant using a digital camera. Photos were taken of both target areas from the front, as well as each side individually. This was repeated weekly for a period of 4 weeks.
2. Participants were then asked to apply a designated lotion to their right and left target facial area twice daily for a period of 4 weeks. Areas of application were selective to the individual participants.
3. Moisture, elasticity, and skin density (ultrasound) levels were also measured once per week on each side target area via DermLab Skin Combo instrumentation.

## Results

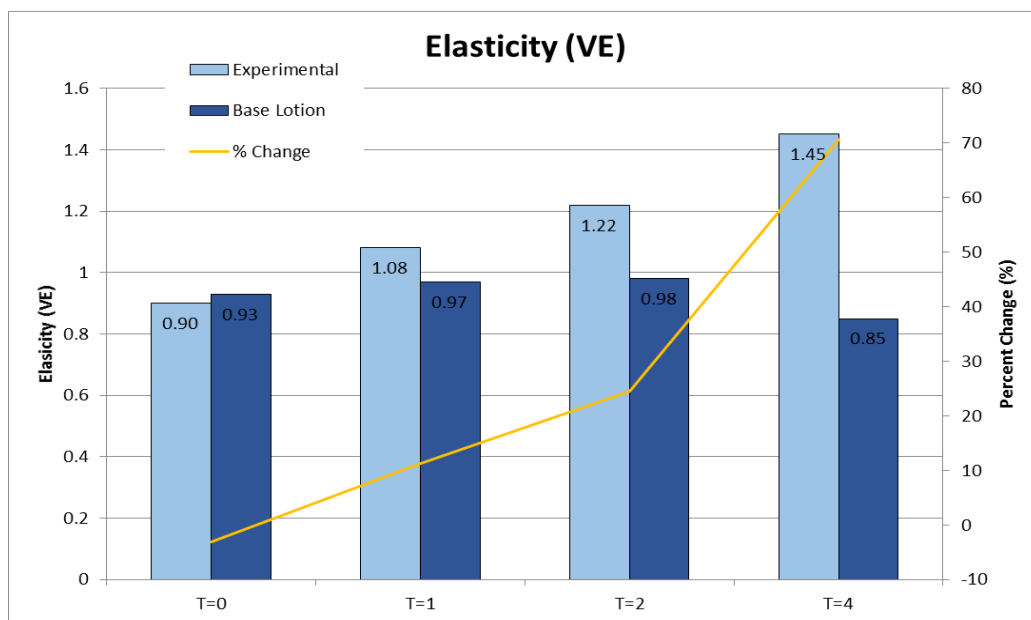


**Figure 1:** Improvements in skin density following application of the test materials after a period of 4 weeks.

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**Figure 2:** Improvements in moisturization following application of the test materials after a period of 4 weeks.



**Figure 3:** Improvements in elasticity following application of the test materials after a period of 4 weeks.

## Skin Plumping Assay



T=0, Active(L) vs. Control(R)



T=4, Active(L) vs. Control(R)

**Figure 4:** Volunteer 2. Before (T=0) and after (T=4) *in-vivo* photographs demonstrating improvement in the visual appearance of fine lines and wrinkles following application of the test materials after a period of 4 weeks.



T=0, Control



T=0, Active



T=4, Control



T=4, Active

**Figure 5:** Volunteer 2. Before (T=0) and after (T=4) *in-vivo* photographs demonstrating improvement in the visual appearance of fine lines and wrinkles following application of the test materials after a period of 4 weeks.



## Skin Plumping Assay



T=0, Active(L) vs. Control(R)



T=4, Active(L) vs. Control(R)

**Figure 6:** Volunteer 4. Before (T=0) and after (T=4) *in-vivo* photographs demonstrating improvement in the visual appearance of fine lines and wrinkles following application of the test materials after a period of 4 weeks.



T=0, Control



T=0, Active



T=4, Control



T=4, Active

**Figure 7:** Volunteer 4. Bbefore (T=0) and after (T=4) *in-vivo* photographs demonstrating improvement in the visual appearance of fine lines and wrinkles following application of the test materials after a period of 4 weeks.

## Skin Plumping Assay



T=0, Control(L) vs. Active(R)



T=4, Control(L) vs. Active(R)

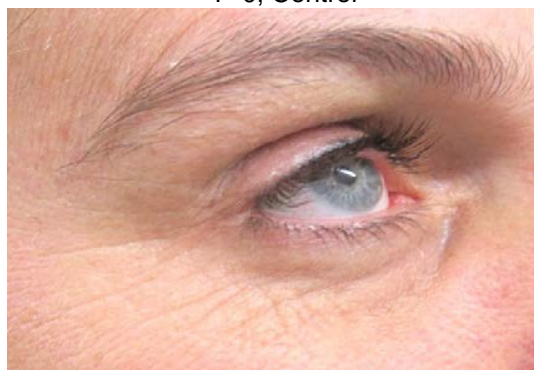
**Figure 8:** Volunteer 5. Before (T=0) and after (T=4) *in-vivo* photographs demonstrating improvement in the visual appearance of fine lines and wrinkles following application of the test materials after a period of 4 weeks.



T=0, Control



T=0, Active



T=4, Control



T=4, Active

**Figure 9:** Volunteer 5. Before (T=0) and after (T=4) *in-vivo* photographs demonstrating improvement in the visual appearance of fine lines and wrinkles following application of the test materials after a period of 4 weeks.



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## Discussion

Improvements in skin density were analyzed using an ultrasound on the test areas. Results indicate that the solution containing 5% **AC MVS Lips** improves skin density 9% better than using only a base lotion after one week and improves skin density 20% better after four weeks than using the base lotion alone.

Moisturization results indicate that after 1 week, the solution containing 5% **AC MVS Lips** moisturized the skin 22% more effectively than the base lotion alone, while enhancing hydration levels 45% better than the base lotion alone after four weeks of application.

Lastly, results for elasticity indicate that after 1 week, the solution containing 5% **AC MVS Lips** improves skin elasticity 11% better than using only a base lotion after one week, while improving skin elasticity levels 71% more efficiently after four weeks than using the base lotion alone. Therefore **AC MVS Lips** is recommended to be used in cosmetic applications to provide tightening benefits, resulting in smoother, younger-looking skin.

Improvements in the structural matrix significantly reduce the appearance of fine lines and wrinkles, promoting a youthful appearance. Overall skin plumping effects can be observed in Figures 4-9 which provide before and after *in-vivo* comparison photographs of three volunteer subjects. These results indicate that **AC MVS Lips** improves the visual appearance of fine lines and wrinkles more efficiently than with a base lotion alone, by providing efficient skin plumping and tightening benefits.