



Moisturization Assay

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Tradename: AC AmaraSense

Code: 12011

CAS #: 7732-18-5 & 84775-66-6 & 84082-82-6 & 84012-14-6 & & 1686112-36-6 (or)
68333-16-4 (or) 9015-54-7

Test Request Form #: 8734

Lot #: N211119A

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

Study Director: *Maureen Danaher*

Principle Investigator: *Grant Tyler*

Test Performed:

Moisturization Assay

Introduction

An *in-vivo* study was conducted over a period of four weeks to evaluate the moisturization benefits of **AC AmaraSense**. 20 M/F subjects between the ages of 23-45 participated in the study. Results indicate that **AC AmaraSense** is capable of significantly increasing moisturization.

The Moisturization Assay was conducted to assess the moisturizing ability of **AC AmaraSense**.

Materials

A. Equipment: DermaLab Skin Combo (Hydration/ Moisture Pin Probe)

Methods

The moisture module provides information about the skin's hydration by measuring the conducting properties of the upper skin layers when subjected to an alternating voltage. The method is referred to as a conductance measurement and the output is presented in the unit of uSiemens (uS). A moisture pin probe is the tool used to gather hydration values.

20 volunteers M/F between the ages of 23 and 45 and who were known to be free of any skin pathologies participated in this study. A Dermalab Corneometer was used to measure the moisture levels on the subject's volar forearms. The Corneometer is an instrument that measures the amount of water within the skin. The presence of moisture in the skin improves conductance therefore results in higher readings than dry skin. Therefore the higher the levels of moisture, the higher the readings from the Corneometer will be. Baseline moisturization readings were taken on the first day of the study.

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Following initial measurements, subjects were instructed to apply 2 mg of each treatment to their volar forearm. Measurements were taken 24 hours after the application of test materials and then weekly for four weeks.

For added perspective, measurements of an untreated test site and a site treated with a base lotion (Cetaphil Moisturizing for All Skin Types) were recorded

Results

AC AmaraSense showed high moisturizing capabilities alone at a 2.0% concentration. Please note, each value is an average of three consecutive readings per test site.

Percent change in moisturization is calculated by the following formula:

$$\text{Percent (\%) Change} = \frac{\text{Average Moisture Value}_{T=24 \text{ hours.etc}} - \text{Average Baseline Value}_{T=0}}{\text{Average Baseline Value}_{T=0}} \times 100$$

Table 1. Average Moisture Increase and Regression Scores of Individual Test Sites

Averages	T = 0	T = 24 Hours	T = 1 Week	T = 2 Weeks	T = 3 Weeks	T = 4 Weeks	T = -24 Hours	T = - 1 Week	T = -2 Weeks
Experimental (2.0% AC AmaraSense + Base Lotion)	83.70	113.00	116.90	118.40	112.80	107.00	87.55	79.00	85.63
Base Lotion	90.60	96.50	102.25	95.95	88.10	99.40	89.75	82.60	85.40
Untreated	86.75	89.15	90.20	85.70	75.25	71.45	75.00	70.20	74.40

Table 2. Comparative Moisture Increase and Regression Scores from Baseline

Percent (%) Change	T = 0 vs 24 Hours	T = 0 vs 1 Week	T = 0 vs 2 Weeks	T = 0 vs 3 Weeks	T = 0 vs 4 Weeks	T = 0 vs - 24 Hours	T = 0 vs - 1 Week	T = 0 vs - 2 Weeks
Experimental (2.0% AC AmaraSense + Base Lotion)	35.01	39.67	41.46	34.77	27.84	4.60	-5.62	2.31
Base Lotion	6.51	12.86	5.91	-2.76	9.71	-0.94	-8.33	-5.74
Untreated	2.77	3.98	-1.21	-13.26	-17.64	-13.54	-19.08	-14.24

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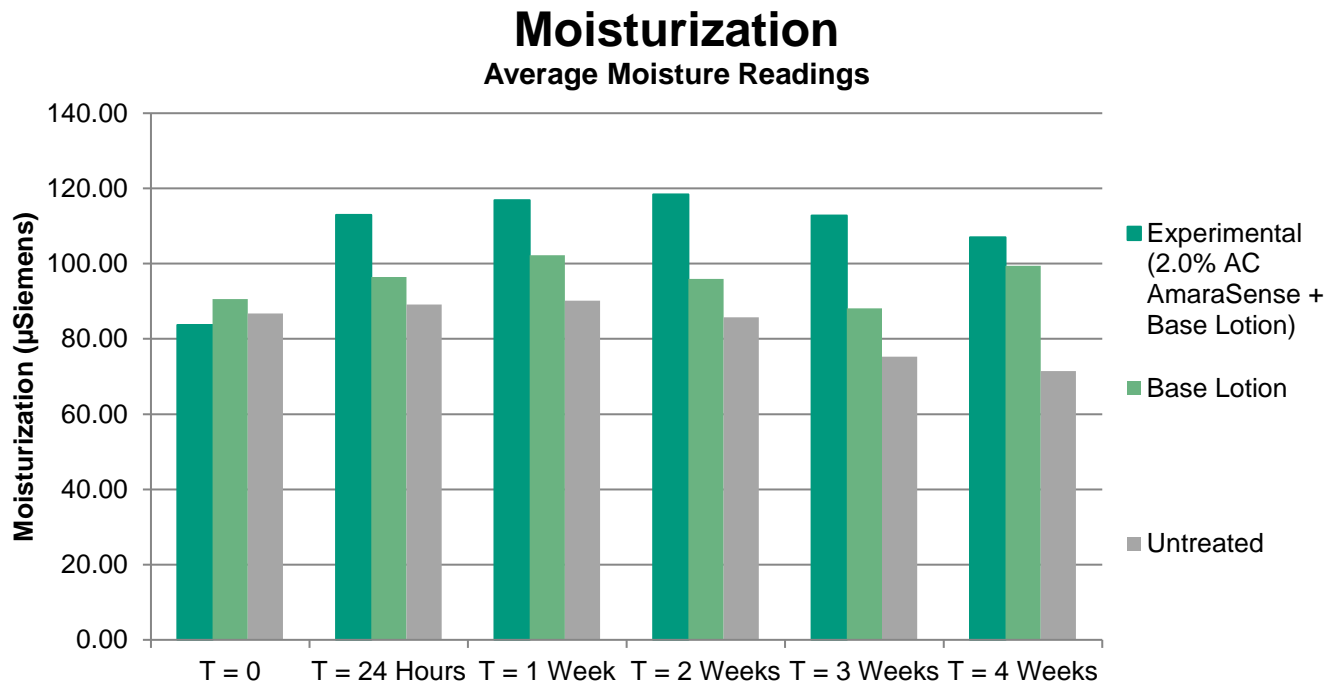


Figure 1. Average Increase in Moisturization

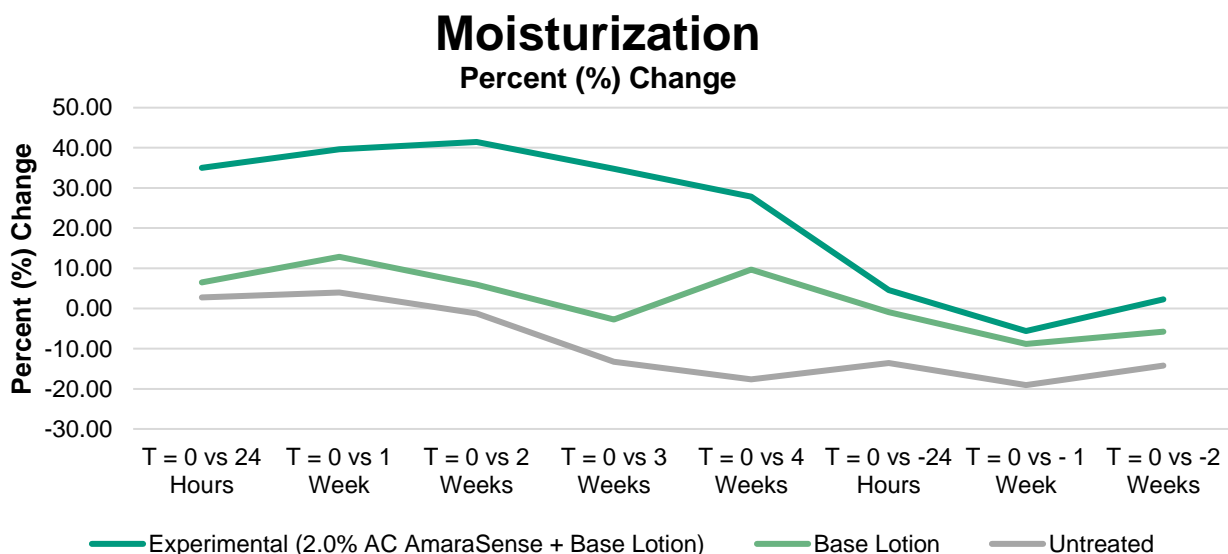


Figure 2. Percent Change in Moisturization of Each Time Point Compared to Baseline

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Discussion

As evidenced in a four-week efficacy study of **AC AmaraSense** on skin, moisture levels were improved by 35.01% after 24 hours and by 27.84% after four weeks when compared to the baseline value. Results indicate that **AC AmaraSense** in a lotion base is capable of increasing skin moisturization to a greater degree when compared to the base lotion alone.

With the present study, we can confirm that **AC AmaraSense** is capable of providing moisturizing and hydrating benefits when added to personal care applications.

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