Active Concepts

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Moisturization/Hydration Assay

Tradename: AC Moisture-Plex Advanced PF

Code: 16503PF

CAS #: 56-81-5 & 7732-18-5 & 28874-51-3 & 57-13-6 & 99-20-7 & 125275-25-4 & 9067-32-7

Test Request Form #: 812

Lot #: 34038

Sponsor: *Active Concepts, LLC; 107 Technology Drive Lincolnton, NC 28092*
Study Director: *Erica Segura*
Principle Investigator: *Meghan Darley*

Test Performed:
Moisturization/Hydration Assay

Introduction

An *in-vivo* study was conducted over a period of three weeks to evaluate the moisturization benefits of **AC Moisture-Plex Advanced PF**. 10 M/F subjects between the ages of 23-45 participated in the study. Results indicate that this material is capable of significantly increasing moisturization compared to the control.

The moisturization assay was conducted to assess the moisturizing ability of **AC Moisture-Plex Advanced PF.**

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.

10 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 day one of the study.

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Following initial measurements, all subjects were asked to apply 2 mg of each test material on their volar forearms. Measurements were taken immediately after application of test materials and then weekly for 4 weeks. The test material consisted of 2% **AC Moisture-Plex Advanced PF** in a base lotion.

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 Moisture-Plex Advanced PF showed very high moisturizing capabilities at a 2.0% concentration. Please note, each value is an average of three consecutive readings per test site.

Averages	T = 24 Hours	T = 1 Week	T = 2 Weeks	T = 3 Weeks	T = 4 Weeks	T = -24 Hours	T = -1 Week
Experimental (2.0% AC Moisture-Plex Advanced PF + Base Lotion)	165.90	173.38	197.78	250.43	247.56	157.56	113.50
Base Lotion	140.80	145.00	151.89	175.00	171.56	118.11	97.13
Untreated	109.20	107.50	110.22	124.43	117.67	103.33	91.25

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

Percent (%) Change	T = 24 Hours	T = 1 Week	T = 2 Weeks	T = 3 Weeks	T = 4 Weeks	T = -24 Hours	T = -1 Week
Base Lotion vs. Untreated	28.94	34.88	37.80	40.64	45.80	14.30	6.44
Experimental (2.0% AC Moisture-Plex Advanced PF + Base Lotion) vs. Untreated	51.92	61.28	79.44	101.26	110.39	52.47	24.38
Experimental (2.0% AC Moisture-Plex Advanced PF + Base Lotion) vs. Base Lotion	17.83	19.57	30.21	43.10	44.30	33.40	16.86

Chart 2. Comparative Moisture Increase and Regression Scores Between Individual Test Sites

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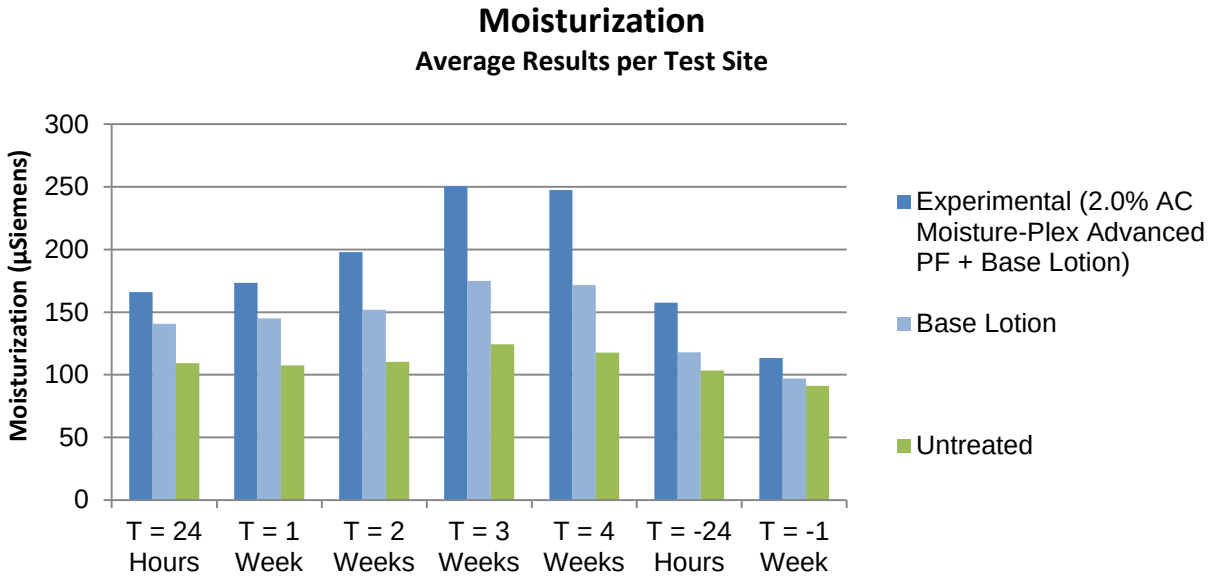

Figure 1. Average increase in moisturization per test site

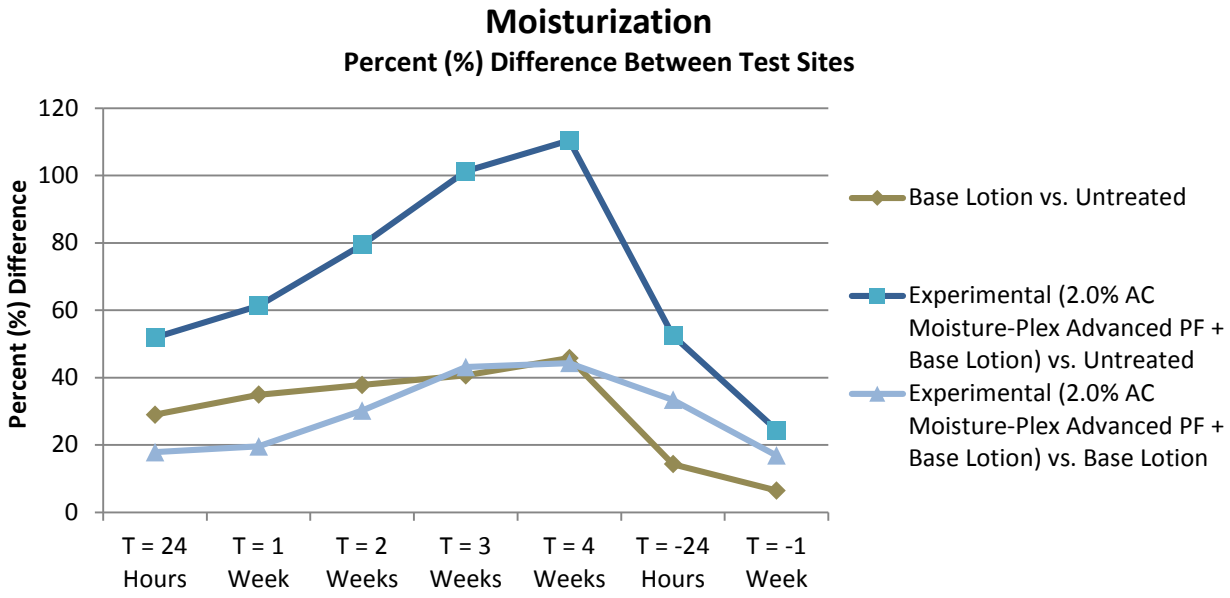

Figure 2. Percent difference in moisturization between two test sites over four weeks

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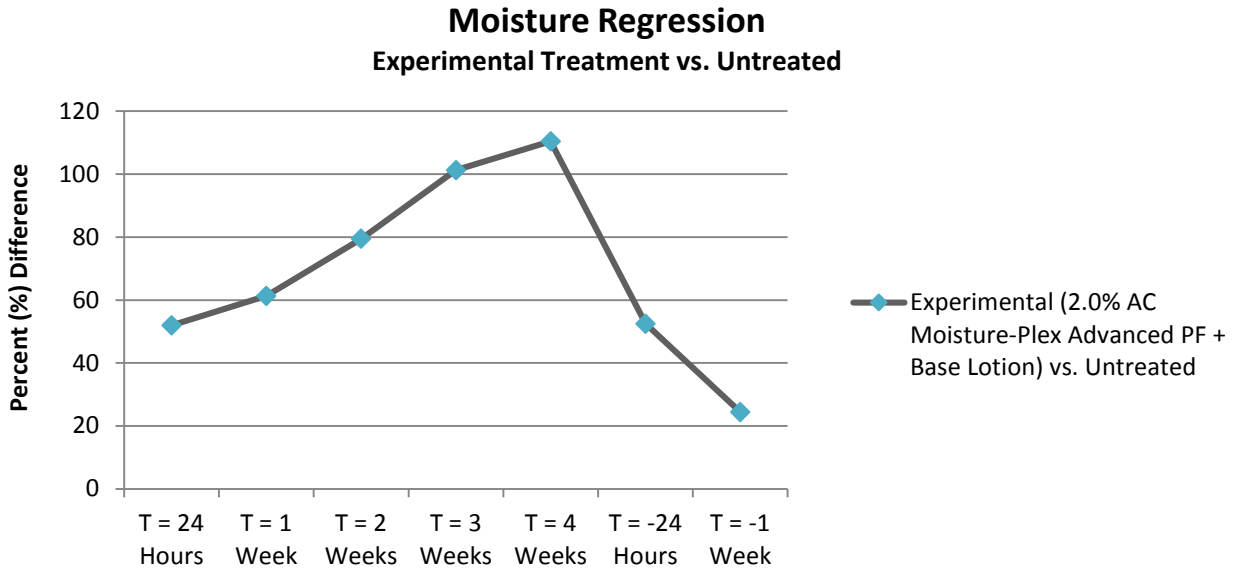

Figure 3. Regression in skin moisturization after application of experimental material ceased

Discussion

As evidenced in a 4 week efficacy study of **AC Moisture-Plex Advanced PF** on skin, moisture levels were improved by 51.92% after 24 hours and by 61.28% after 4 weeks when compared to the untreated control. When compared to the base cream **AC Moisture-Plex Advanced PF** improved moisturization 17.83% better after 24 hours. After 4 weeks **AC Moisture-Plex Advanced PF** improved moisturization levels 44.30% better than the base lotion alone. Results indicate that **AC Moisture-Plex Advanced PF** is capable of increasing moisturization when compared to both the untreated control as well as the base lotion.

Furthermore, when examining the moisture levels on the skin after application of test materials stopped, it was determined that **AC Moisture-Plex Advanced PF** is capable of sustaining increased skin moisturization when compared to the skin site that remained untreated through the duration of the study. After 24 hours, the site testing 2.0% **AC Moisture-Plex Advanced PF + Base Lotion** was approximately 52.47% more moisturized than the site which received no treatment. After one week, the experimental test site was still yielding moisturization results that were 24.38% better than the untreated site. Additionally, in comparison to the site tested with the base lotion alone, the site treated with 2.0% **AC Moisture-Plex Advanced PF + Base Lotion** moisturized the skin 33.40% better after 24 hours and was still 16.86% more effective in moisturizing the skin when reading were taken one week after the applications of both test materials ceased.

The present study confirms that **AC Moisture-Plex Advanced PF** is not only capable of providing functional benefits but it is also capable of providing moisturizing and skin hydrating benefits when added to cosmetic applications.