VISIA Results – Eyelash Characteristics

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Tradename: AC AlfalfaBoost

Code: 20988

CAS #: 84082-36-0 & 68333-16-4 (or) 92128-79-5

Test Request Form #: 10010

Lot #: N221128G

Sponsor: Active Concepts, LLC; 107 Technology Drive Lincolnton, NC 28092
Study Director: Maureen Drumwright
Principle Investigator: Hannah Duckett

Test Performed:
In vivo VISIA Analysis-Eyelash Characteristics

Introduction

An *in-vivo* study was conducted over a period of eight weeks to evaluate the effects of 5.0% **AC AlfalfaBoost** in a serum on eyelash characteristics when compared to a base serum alone.

Materials & Methods

This study was conducted using 10 female participants between the ages of 25 to 32. Each participant was instructed to apply a provided eyelash serum to the upper lash-line of both eyes once nightly for an eight-week period. Participants were instructed not to start any new products for the duration of the study. Half of the participant population used 5.0% **AC AlfalfaBoost** in a base serum formula while the other half used the base serum alone as a control (Table 1).

Photographic assessments were performed using the VISIA Complexion Analysis System (Canfield Scientific., Fairfield, NJ, USA). The VISIA System, with a configurable head support, ensured consistent positioning of each subject's head. The photographic images were captured with standard light. Baseline photos were taken prior to starting the serum regimen. Photos were taken once a week during the eight-week use period. Participants were instructed to not wear makeup during the testing period. Photographs of the front, left, and right side of the face were collected.

Eyelash length (mm) was calculated with the VISIA System for every image. The values obtained from each image (front, left, & right) were averaged to provide an overall evaluation of the eyelashes. A two-sample t-test, assuming an unequal variance, was performed to compare data. The significance threshold was set at 0.05.

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Table 1. Ingredient List of Base Serum

Base Eyelash Serum
Water
Propanediol
Guar Hydroxypropyltrimonium Chloride
Lactobacillus Ferment
Lactobacillus (and) Cocos Nucifera (Coconut) Fruit Extract

Results

The data obtained from this study met criteria for a valid assay and the controls performed as anticipated.

AC AlfalfaBoost at a concentration of 5.0% was able to increase eyelash length during the eight-week treatment period.

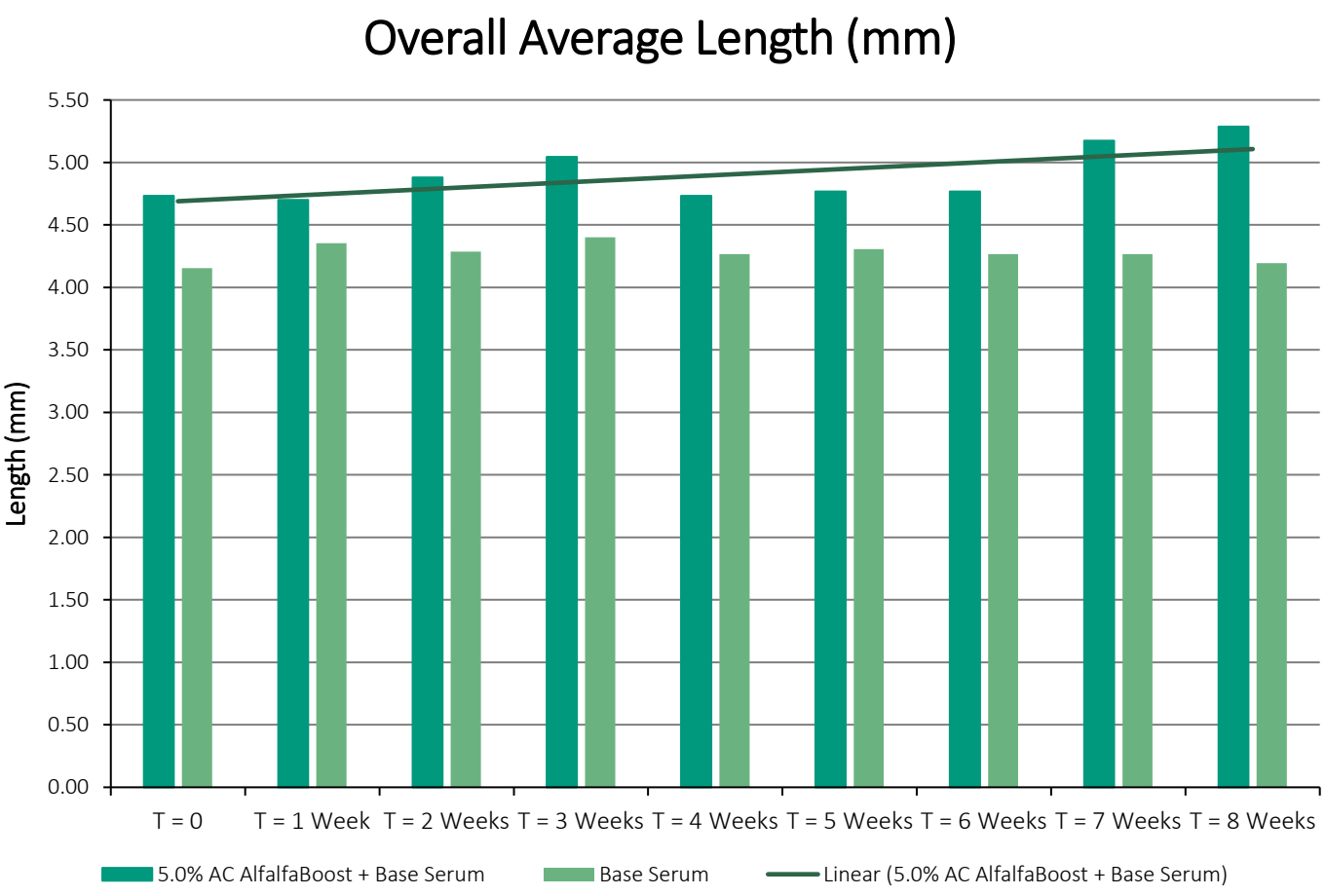

Figure 1. Average Overall Eyelash Length over Time with Linear Trendline

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Table 2. Comparison of Overall Eyelash Length (mm) over Time for Each Test Material

Percent (%) Change	T = 0 vs T = 1 Week	T = 0 vs T = 2 Weeks	T = 0 vs T = 3 Weeks	T = 0 vs T = 4 Weeks	T = 0 vs T = 5 Weeks	T = 0 vs T = 6 Weeks	T = 0 vs T = 7 Weeks	T = 0 vs T = 8 Weeks
Experimental (5.0% AC AlfalfaBoost + Base Serum)	-0.39	3.14	6.52	0.21	0.55	0.93	9.58	11.97
Base Serum	5.11	3.45	5.93	2.95	3.90	2.87	2.94	0.96

Table 3. Difference in Overall Eyelash Length (mm) Between 5.0% **AC AlfalfaBoost** in Base Serum and Base Serum at Each Time Point

Percent (%) Difference	T = 0	T=1 Week	T=2 Weeks	T=3 Weeks	T=4 Weeks	T=5 Weeks	T=6 Weeks	T=7 Weeks	T=8 Weeks
Eyelash Length (mm)	13.05	7.66	12.95	13.65	10.37	10.14	11.07	19.21	23.07

Image 1. Images of Participant Treated with 5.0% **AC AlfalfaBoost** in Base Serum with and without VISIA Image Enhancement Left=Initial, Right=Eight Weeks

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Image 2. Images of Participant Treated with 5.0% **AC AlfalfaBoost** in Base Serum with and without VISIA Image Enhancement Left=Initial, Right=Eight Weeks

Table 4. T-test Analysis of the Percent Change (%) in Eyelash Length (mm) Between Baseline and T = 8 Weeks of 5.0% **AC AlfalfaBoost** (n=15, α=0.05, df=23)

	T = 0	T= 8 Weeks
Mean	4.73	5.29
Variance	0.77	0.28
t Stat	0.024	
P(T<=t) two-tail	0.047	
t Critical two-tail	2.069	

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Table 5. T-test Analysis of the Percent Difference (%) in Eyelash Length (mm) Between 5.0% **AC AlfalfaBoost** and Base Serum at T = 4 Weeks (n=15, α=0.05, df=26)

	AC AlfalfaBoost	Base Serum
Mean	4.73	4.27
Variance	0.43	0.23
t Stat	2.23	
P(T<=t) two-tail	0.035	
t Critical two-tail	2.056	

Table 6. T-test Analysis of the Percent Difference (%) in Eyelash Length (mm) Between 5.0% **AC AlfalfaBoost** and Base Serum at T = 8 Weeks (n=15, α=0.05, df=28)

	AC AlfalfaBoost	Base Serum
Mean	5.29	4.19
Variance	0.28	0.23
t Stat	5.95	
P(T<=t) two-tail	2.084E-6	
t Critical two-tail	2.048	

Discussion

As evidenced in this eight-week study, **AC AlfalfaBoost** is capable of significantly increasing eyelash length. After 8 weeks, participants using the experimental product containing 5.0% **AC AlfalfaBoost** saw an increase of 23.07% (p=0.047) in eyelash length when compared to baseline readings. By comparison, the base serum alone only had an increase of only 0.96% in length after the 8-week period. Additionally, 4 out of the 5 participants using the serum containing **AC AlfalfaBoost** noted that their eyelashes felt longer at the end of the study.

Halfway through the study, the participants using the experimental product had 10.37% (p=0.035) longer lashes than those using the base serum alone. By the end of the eight-week study, participants using the experimental product had 23.07% (p=2.084E-6) longer lashes than the population using the base alone.

With the present study, we can confirm that **AC AlfalfaBoost** is capable of improving eyelash characteristics such as eyelash length when added to personal care applications at recommended use levels.