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AC Southernwood Plump BG PF Efficacy Data

Code: 20419PF
INCI Name: Butylene Glycol & Artemisia Abrotanum Extract & Water
CAS #: 107-88-0 & 89957-58-4 & 7732-18-5
EINECS #: 203-529-7 & 289-576-4 & 231-791-2

Type of Study	Results
Cellular Viability Assay	As shown in figure 1, **AC Southernwood Plump BG PF** exhibited positive results by increasing cell metabolism. The increase in fluorescent signal indicates an increase in cellular metabolism and viability post **AC Southernwood Plump BG PF** treatment. For these reasons, we can assume **AC Southernwood Plump BG PF** is suitable for cosmetic applications designed to increase cell viability and metabolism.
Improvements in Skin Characteristics	The results indicate that **AC Southern Wood Plump BG PF** is capable of increasing epidermal tone by 91% while improving epidermis' elasicity by 63%. **AC Southern Wood Plump BG PF** also decreased the apperance of crow's feet by 12% while decreasing fine lines and wrinkles on the cheeks by 10%. **AC Southern Wood Plump BG PF** is therefore appropriate for use in products intended to increase skin tone and elasticity for anti-aging benefits.
Increase in Trigylcerides & G3PDH Assay	The results indicate the **AC Southernwood Plump BG PF** is capable of increasing triglyceride and G3PDH synthesis. These findings suggest that **AC Southernwood Plump BG PF** may be effective at increasing the synthesis and storage of adipose tissue.
Skin Smoothing Assay	The results indicate that **AC Southernwood Plump BG PF** is capable of reducing the appearance of Crow's feet by 12.0% and reducing the appearance of wrinkles on the cheeks by 4.0%.

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Cellular Viability Assay Analysis

Tradename: AC Southernwood Plump BG

Code: 20419

CAS #: 107-88-0 & 89957-58-4 & 7732-18-5

Test Request Form #: 370

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

Test Performed:
Cellular Viability Assay

Introduction

The cellular viability assay is useful for quantitatively measuring cell-mediated cytotoxicity, cell proliferation and mitochondrial metabolic activity. Increased metabolism in a cell indicates ample cellular respiration and adenosine triphosphate (ATP) production. ATP is the molecular energy of cells and is required in basic cell function and signal transduction. A decrease is ATP levels indicates cytotoxicity and decreased cell function while an increase in ATP levels indicates healthy cells.

The cellular viability assay was conducted to assess the ability of **AC Southernwood Plump BG** to increase cellular metabolic activity in cultured dermal fibroblasts.

Assay Principle

The assay utilizes a nonfluorescent dye, resazurin, which is converted to a fluorescent dye, resorufin, in response to chemical reduction of growth medium from cell growth and by respiring mitochondria. Healthy cells that are in a proliferative state will be able to easily convert resazurin into resorufin without harming the cells. This method is a more sensitive assay than other commonly used mitochondrial reductase dyes such as MTT. An increase in the signal generated by resazurin-conversion is indicative of a proliferative cellular state.

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Cellular Viability Assay Analysis

Materials

A.	**Kit:**	PrestoBlue™ Cell Viability Reagent (Invitrogen, A13261)
B.	**Incubation Conditions:**	37°C at 5% CO_2 and 95% relative humidity (RH)
C.	**Equipment:**	Forma humidified incubator; ESCO biosafety laminar flow hood; Light microscope; Pipettes
D.	**Cell Line:**	Normal Human Dermal Fibroblasts (NHDF) (Lonza; CC-2511)
E.	**Media/Buffers:**	Dulbecco's Modified Eagle Medium (DMEM); Penicillin-Streptomycin (50U-50mg/mL); Fetal Bovine Serum (FBS); Phosphate Buffered Saline (PBS)
F.	**Culture Plate:**	Falcon flat bottom 96-well tissue culture treated plates
G.	**Reagents:**	PrestoBlue™ reagent (10X)
H.	**Other:**	Sterile disposable pipette tips

Methods

Human dermal fibroblasts were seeded into 96-well tissue culture plates and allowed to grow to confluency in complete DMEM. A 10-fold serial dilution was performed resulting in **AC Southernwood Plump BG** concentrations on 1%, 0.1%, and 0.01% in complete DMEM and incubated with fibroblasts for 24 hours.

Ten microliters of viability reagent was added to 90µL of cell culture media in culture wells.

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Results

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

AC Southernwood Plump BG at all concentrations is able to increase cellular metabolism compared to the control.

Cellular metabolism results are expressed as a percentage of the control.

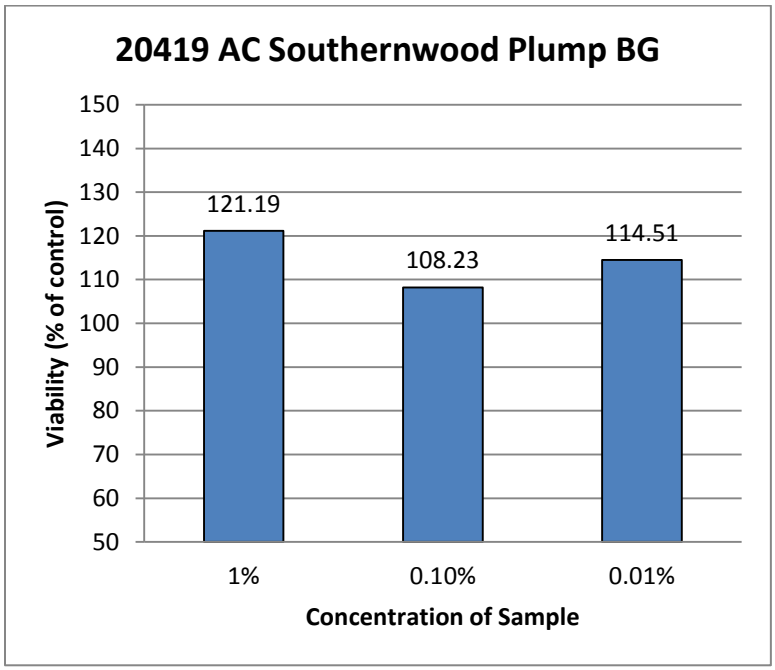

Figure 1: Cellular Metabolism of **AC Southernwood Plump BG**-treated fibroblasts expressed in terms of percent of control.

Discussion

As shown in figure 1, **AC Southernwood Plump BG** exhibited positive results by increasing cell metabolism. The increase in fluorescent signal indicates an increase in cellular metabolism and viability post **AC Southernwood Plump BG** treatment. For these reasons, we can assume **AC Southernwood Plump BG** is suitable for cosmetic applications designed to increase cell viability and metabolism.

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AC Southern Wood Plump BG Improvements in Skin Characteristics

Code: 20419
INCI Name: Butylene Glycol & Water & Artemisia Abrotanum Extract
Suggested Use Levels: 2.0 - 4.0%

Abstract

An *in-vivo* study was conducted to assess the effects that **AC Southern Wood Plump BG** has on skin characteristics, such as tone, elasticity and fine lines and wrinkles. **AC Southern Wood Plump BG** is capable of increasing epidermal tone and elasticity.

Materials and Methods

20 M/F subjects between the ages of 47 and 61 were used. Subjects applied a lotion cotaining 4% **AC Southern Wood Plump BG** to their face twice daily for 60 days. Subjects abstained from using products on the test sites prior to analysis.

The SEM 575 Cutometer was used to non-invasively quantify modifications in epidermal elasticity and tone via suction. Sensors a the tip of the probe measured the amount of epidermis drawn into the probe to determine the structural integrity of the epidermis e.g. tone and elasticity.

The results were compared to the baseline tone and elasticity values that were measured prior to the start of the study.

Results

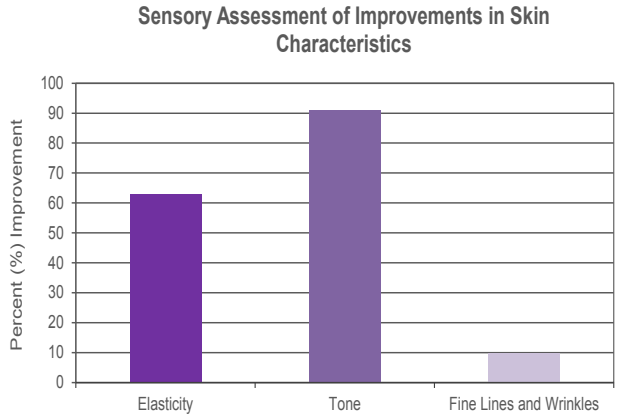

Figure 1. Effects of 4% **AC Southern Wood Plump BG** on skin characteristics.

Discussion

The results indicate that **AC Southern Wood Plump BG** is capable of increasing epidermal tone by 91% while improving epidermis' elasicity by 63%. **AC Southern Wood Plump BG** also decreased the apperance of crow's feet by 12% while decreasing fine lines and wrinkles on the cheeks by 10%. **AC Southern Wood Plump BG** is therefore appropriate for use in products intended to increase skin tone and elasticity for anti-aging benefits.

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AC Southernwood Plump BG PF Increase in Triglycerides and G3PDH

Code: 20419PF
INCI Name: Butylene Glycol & Water & Artemisia Abrotanum Extract
Suggested Use Levels: 2.0 - 4.0%

Abstract

20 (m/f) subjects between the ages of 38 and 53 participated Triglycerides are among the primary components of adipose tissue. G3PDH (glycerol-3-phosphate dehydrogenase) is an enzyme that is involved in the storage of fat. Adipocytes were incubated with 0.5% **AC Southernwood Plump BG PF** to determine whether or not it may increase the synthesis of triglycerides and G3PDH.

Materials and Methods

Adipocytes were incubated in the presence and absence of medium containing 0.5% **AC Southernwood Plump BG PF** for 10 days.

Following the incubation period triglycerides and G3PDH were isolated from adipocytes cultured in both the control and variable medium.

Results

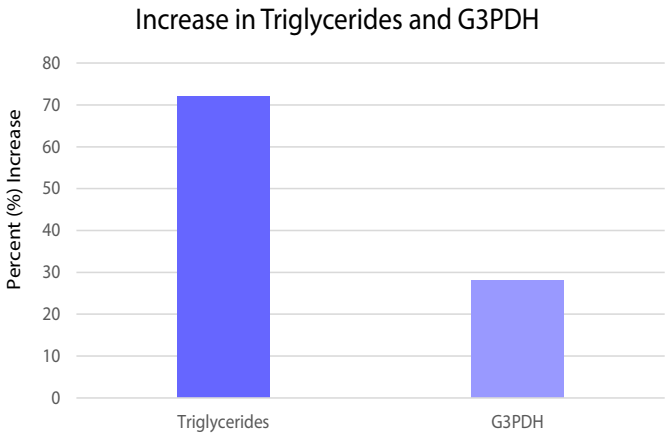

Figure 1. Percent increase in triglycerides when using AC Southernwood Plump BG PF

Discussion

The results indicate the **AC Southernwood Plump BG PF** is capable of increasing triglyceride and G3PDH synthesis.

These findings suggest that **AC Southernwood Plump BG PF** may be effective at increasing the synthesis and storage of adipose tissue.

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AC Southernwood Plump BG PF Skin Smoothing Assay

Code: 20419PF
INCI Name: Butylene Glycol & Water & Artemisia Abrotanum Extract
Suggested Use Levels: 2.0 - 4.0%

Abstract

20 (m/f) subjects between the ages of 38 and 53 participated in the study to determine an increase in skin smoothness using **AC Southernwood Plump BG PF.** The study was based on comparing silicone impressions that were made of the test sites before and after the 30 day twice daily treatment using 4.0% **AC Southernwood Plump BG PF.**

Materials and Methods

Subjects abstained from using any products on their faces prior to the trial's commencement. Two areas along the outer eye were selected for the trial.

Area 1 was treated with the variable, while area 2 was treated with the placebo. Two areas on subject's cheeks were selected for the study; area 3 was treated with the variable while area 4 was treated with the placebo. Both the variable and placebo were applied twice daily for 30 days.

The variable material consisted of an emulsion containing 4.0% **AC Southernwood Plump BG PF**. Impressions of the test areas were made using silicone molds. Laser profiling with a three dimensional confocal surface measurement system from NanoFocus was used on the molds to quantify the effects of **AC Southernwood Plump BG PF** and the placebo on the skin. The molds were kept at a relative humidity between 40.0% and 60.0% and at a room temperature of approximately 22C (72F).

Results

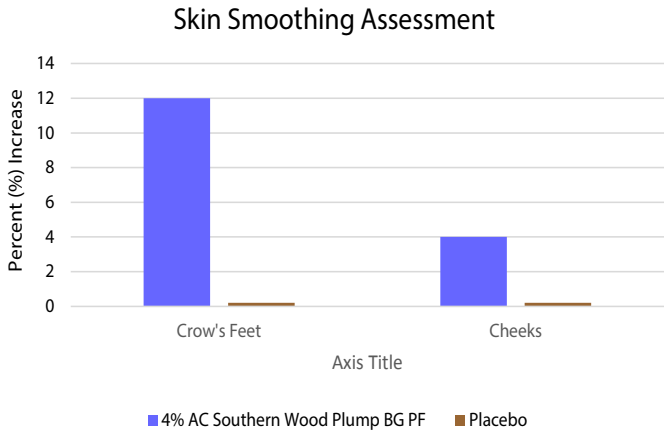

Figure 1. Effects of 4.0% **AC Southernwood Plump BG PF** on skin characteristics.

Discussion

The results indicate that **AC Southernwood Plump BG PF** is capable of reducing the appearance of Crow's feet by 12.0% and reducing the appearance of wrinkles on the cheeks by 4.0%.

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