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ACB Bamboo Isoflavones PF Efficacy Data

Code: 20433PF
INCI Name: Lactobacillus/Arundinaria gigantea Leaf Ferment Filtrate
CAS #: N/A
EINECS #: N/A

Name of Study	Type of Study	Results
ORAC Assay	*In-vitro*	Oxygen Radical Absorbance Capacity (ORAC) is a measure of a materials potential to protect against oxidative stress or reactive oxygen species (ROS). **ACB Bamboo Isoflavones PF** demonstrated antioxidant activity by reducing the presence of ROS compared with Trolox, the Vitamin E analog.
Increase in Epidermal Slip Assay	*In-vivo*	A twenty subject sensory panel was assembled to determine the *in-vivo* improvement in epidermal slip using **ACB Bamboo Isoflavones PF**. Panelists were asked to compare the improvement in slip using **ACB Bamboo Isoflavones PF** to a biological control. A 10% concentration of **ACB Bamboo Isoflavones PF** was prepared in a standard aqueous solution; a 50µl dose was then applied to the subjects' left hand. The results demonstrate that **ACB Bamboo Isoflavones PF** increases epidermal slip by more than 60% when compared to the biological control.
MTT Assay	*In-vitro*	An MTT Assay was performed to assess the ability of **ACB Bamboo Isoflavones PF** to stimulate cell proliferation. 1% **ACB Bamboo Isoflavones PF** was able to increase cell proliferation in comparison with the positive control

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ACB Bamboo Isoflavones PF
ORAC Assay

Abstract

Fluorescein is a highly fluorescent molecule that can be used to gauge the antioxidant capacity of extracts. As the compound is oxidized by peroxyl radicals it loses its fluorescent ability. When fluorescein is combined with 2,2'-azobis(2-amidinopropane)dihydrochloride (AAPH), a compound that decomposes into a peroxyl radical, there will be a time dependent loss of fluorescence. The addition of compounds that exhibit antioxidant properties will slow the loss in fluorescence as the peroxyl radicals react with the antioxidants instead of the fluorescein.

Materials and Methods

Stock solutions of **ACB Bamboo Isoflavones PF** and Trolox (positive control) were prepared in appropriate buffers (10 mM phosphate buffer (pH 7.4)). Materials were prepared at two different concentrations. Trolox was used as a reference for antioxidant capacity and prepared at a concentrations ranging from 12.5 μM to 200 μM in 10 mM phosphate buffer. For the ORAC assay, 25 μl of test material and Trolox were combined with 150 μl of 10 nM fluoroscein in 10 mM phosphate buffer and incubated in the dark at 37˚C for 30 minutes. At the end of the incubation period, two initial fluorescence measurements were made of each well (excitation 485 nm, emission 520 nm) using a fluorometer. After, 25 μl of AAPH (240 nM in 10 mM phosphate buffer) were injected into each well. Fluorescent measurements were then taken every 2 minutes for approximately 2 hours.

The oxygen radical absorbance capacity (ORAC) for each material was calculated using the following equation:

$$(\text{Sum of fluorescent measurements}_{\text{test materials}}) - (\text{Sum of fluorescent measurements}_{\text{test material vehicle}})$$

ORAC measurements for the test material were expressed in micro moles of Trolox equivalents (μMTE). To determine this calculation, the ORAC values for the test materials were converted to Trolox equivalents using regression analysis. The study was run in triplicate, findings were reported in mean values.

Results

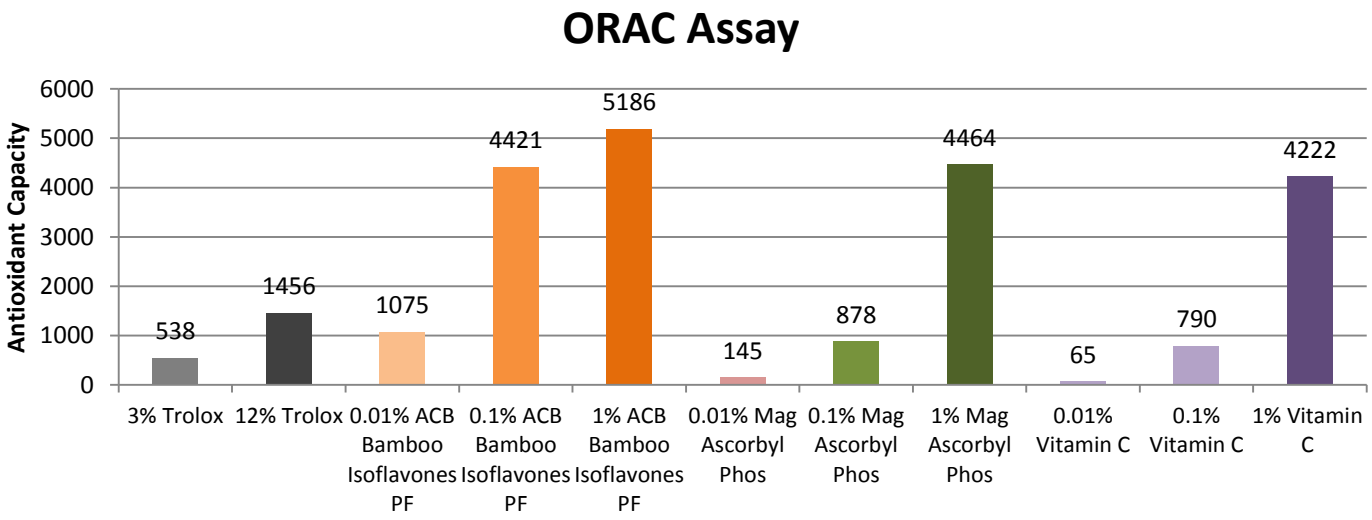

Figure 1. Antioxidant Capacity Results

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Discussion

As shown in figure 1, **ACB Bamboo Isoflavones PF** exhibited higher antioxidant activity than Trolox, Vitamin C and Magnesium Ascorbyl Phosphate. These 3 substances are very well known antioxidants that are typically added into cosmetics. The antioxidant capacity of **ACB Bamboo Isoflavones PF** increased as the concentration increased, as a result we can assure that its ability to minimize oxidative stress is dose dependant.

ACB Bamboo Isoflavones PF was designed to provide enhanced slip properties, however with the present study we can confirm that this unique ingredient is not only capable of providing functional benefits but it is also capable of providing potent antioxidant benefits when added to cosmetic applications. This product is an excellent alternative to any of the previously mentioned common antioxidants were superior antioxidant benefits are desired.

ACB Bamboo Isoflavones PF
Increase in Epidermal Slip Assay

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Abstract

An *in-vivo* study was conducted to test the affects that 10% **ACB Bamboo Isoflavones PF** has on epidermal slip. Bamboo is a natural source of silica and can be used to improve the slip and aesthetics of a formulation. Bamboo coincides with consumer trends can be used as a natural replacement for silicone.

Materials and Methods

A twenty subject sensory panel was assembled to determine the *in-vivo* improvement in epidermal slip using **ACB Bamboo Isoflavones PF**. Panelists were asked to compare the improvement in slip using **ACB Bamboo Isoflavones PF** to a biological control. A 10% concentration of **ACB Bamboo Isoflavones PF** was prepared in a standard aqueous solution; a 50µl dose was then applied to the subjects' left hand.

Results

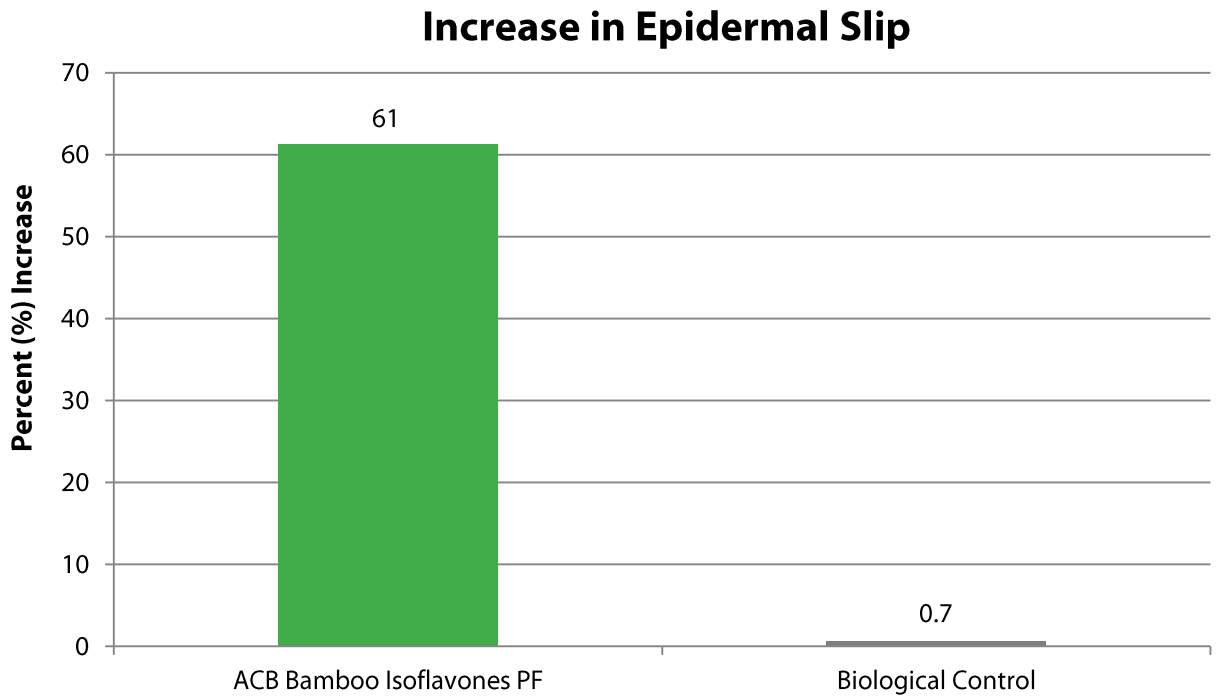

Figure 1**.** Increase in Epidermal Slip following application of **ACB Bamboo Isoflavones PF**.

Discussion

ACB Bamboo Isoflavones PF was designed to provide enhanced slip properties. The results demonstrate that **ACB Bamboo Isoflavones PF** increases epidermal slip by more than 60% when compared to the biological.

Version#1/10-10-14

ACB Bamboo Isoflavones PF
Cell Proliferation Assay (MTT)

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Abstract

The purpose of this study was to determine whether or not ACB Bamboo Isoflavones PF is capable of increasing cellular proliferation by conducting an MTT assay.

Today MTT assays are one of the most accepted and reliable methods used to examine cell proliferation. In this assay the tetrazolium MTT (3-(4,5-deimethylthiazolyl-2)-2, 5-diphenyltetrazolium bromide), a water-soluble yellow dye, is reduced to formazan, a water-insoluble purple dye. This reduction occurs in the mitochondria of metabolically active cells. A spectrophotometer is then used to quantify the absorbance of the formazan at a wavelength between 500 and 600 nm.

Since the conversion of the yellow dye into the purple dye only occurs in live cells, this conversion is directly correlated to an increase in cellular proliferation. The increase can be quantified by measuring the absorbance of the sample as darker substances are understood to exhibit a higher absorbance.

MTT assays are also commonly used as in-vitro indicators of toxicity. This is because if the absorbance results are lower in the variable than the control that is an indication that the substance affected the viability of the cells, and therefore it should be considered as toxic.

Materials

- MTT solution: 5mg/ml MTT in PBS. (Solution was filter sterilized after adding MTT)
  - Storage temperature: 4°C.
- MTT solvent: 4nM HCL, 0.1% Nondet P-40 (NP40) in isopropanol.
- Tested materials:
  - ACB Bamboo Isoflavones PF (0.1%, 0.5% & 1.0%)
  - FGM

Method

1. A T-25 flask was trypsinized.
2. 5 ml of complete media were added to the trypsinized cells.
3. Cells were centrifuged in a sterile 15 ml falcon tube at 500 rpm in a swinging bucked rotor (~400 x g) for 5 minutes.
4. Media was removed and cells were suspended to 1ml with complete media.
5. Cells per ml were counted aseptically.
6. Complete media was used to dilute cells to 75,000 cells per ml.
7. 100 µl of cells were added into each well.
8. Wells were incubated overnight.

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9. Cells were treated with 30 ng/ml of the tested materials.
10. 20 µl of 5 mg/ml MTT solution were added to each well aseptically.
    - One set of wells with MTT without cells was used as control.
11. Wells were incubated for 3.5 hours at 37°C in culture hood.
12. All media was carefully removed.
13. 150 µl of MTT solvent were added.
14. Wells were covered with tinfoil.
15. An orbital shaker was used to agitate wells for 15 minutes.
16. A reference filter of 620 nm was used to read the absorbance at 590 nm.

Results

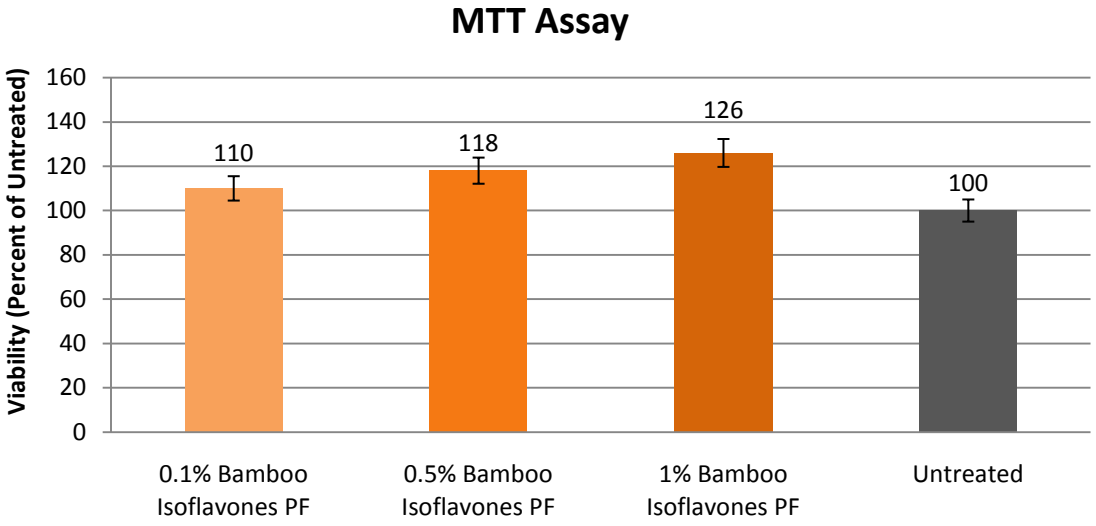

Figure 1. Fibroblast Proliferation Results

Discussion

As shown in figure 1, ACB Bamboo Isoflavones PF exhibited an increase in fibroblast proliferation. However, as the concentration increased, the viability also increased, for this reason we can cocnlude that the cellular proliferation properties of ACB Bamboo Isoflavones PF are dose dependant.

Based on our results, we can confirm that ACB Bamboo Isoflavones PF in addition to providing excellent slip properties and antioxidant benefits, it is also an ideal ingredient to use in cosmetic applications where an increase in cellular proliferation is desired, to help provide a younger, healthier looking and more radiant complexion.