



**Tradename:** ACB Kale Protein Blend

**Code:** 20036

**Lot #:** 7807500

**CAS #:** 100209-45-8 & 100209-45-8 & 100209-45-8

**Test Request Form #:** 787

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

**Study Director:** *Erica Segura*

**Principle Investigator:** *Maureen Danaher*

**Test Performed:**

Volumizing Assay

### Abstract

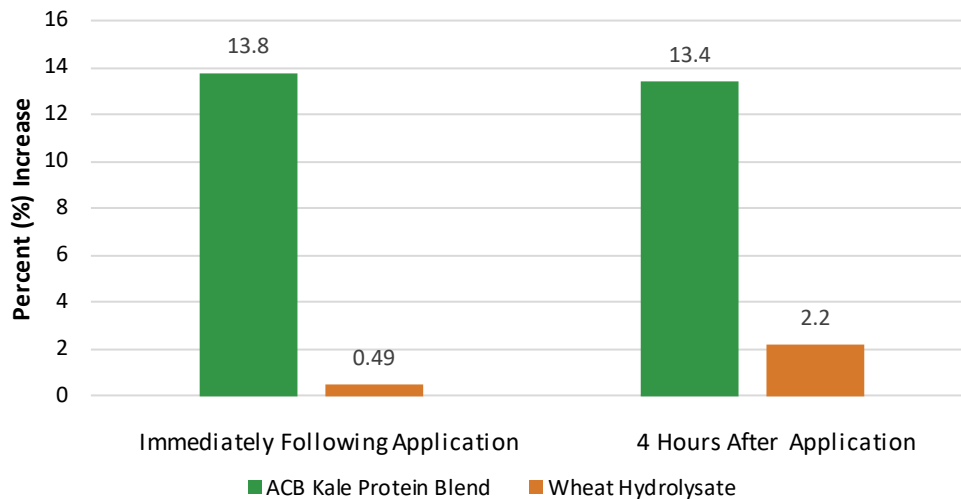
Hydrolyzed proteins, such as oat, soy and wheat have been used in hair care as a traditional means to hydrate the hair and provide strengthening properties. Until recently, hydrolysis was induced using acid, water, or fermentation. **ACB Kale Protein Blend** combines the power of kale, carrot, and lemon into one nutrient rich formula designed to condition and hydrate while offering antioxidant properties.

### Materials and Methods

The hair samples used in this study were tested using identical intervals and percentages of two protein hydrolysates, **ACB Kale Protein Blend** and Wheat Hydrolysate. The materials used in the procedure to determine the diameter of each strand were an untreated control hair sample, the control hair sample (treated with 2.0% Wheat Hydrolysate Solution), and the sample treated with the test material (2.0% **ACB Kale Protein Blend**). Each hair was imaged and measured before a solution was applied. The hairs were then removed from the slide and either placed in the 2.0% solution of the Wheat Hydrolysate or the 2.0% solution of **ACB Kale Protein Blend**. Each hair was removed, measured and imaged then placed aside. After four hours, each hair was reimaged and measured to demonstrate sustained volume potential of each respective hydrolyzed protein.

## Results

### Effects on Hair Diameter



**Figure 1.** Percent increase in hair diameter over time after treatment with **ACB Kale Protein Blend** and Wheat Hydrolysate.

### Microscopy Imaging of Individual Hair Strands



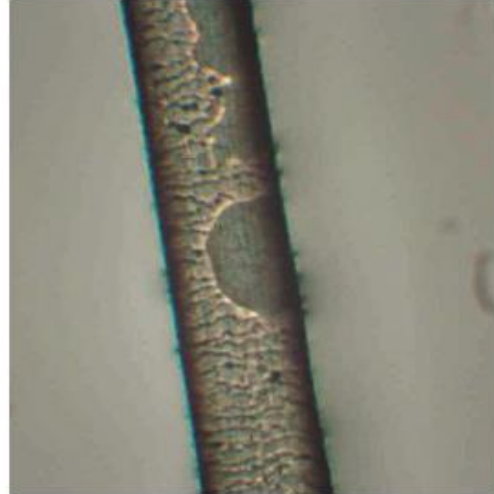
**Figure 2:** Individual strand immediately following treatment with wheat Hydrolysate (note beading).



**Figure 3:** Individual strand immediately following treatment with **ACB Kale Protein Blend**.



**Figure 4:** Individual strand 4 hours after treatment with wheat Hydrolysate.



**Figure 5:** Individual strand 4 hours after treatment with **ACB Kale Protein Blend**.

## Discussion

Immediate results showed an average increase in hair diameter of 13.80% with an average increase of 13.4% four hours following the initial application. After placing individual hair strands under a microscope, Microscopy Imaging of the individual strands were taken to visually demonstrate the increase in hair diameter achieved when using **ACB Kale Protein Blend** at 2.0% in a solution compared to the use of Wheat Hydrolysate at 2.0% in a solution. **ACB Kale Protein Blend** is able to effectively volumize the hair for thicker and younger looking hair, a revolutionary step for anti-aging hair care products.