

# Salon Half-Head Hair Study



Botanical  
 Water Soluble Extract  
 Natural Alternative  
 Exfoliation anti irritant Versatile  
 Antioxidant Activity

## ABSTRACT

The condition of the cuticle (the outer most layer of the hair) significantly affects both the manageability and sleekness of our hair. Overtime, hair can become damaged, which can result in the cuticle lifting because of both environmental and styling influences and processes. The result: lifeless, dull hair that is difficult to manage. Improving the sleekness of hair has been shown to instantly create a healthier more youthful appearance. Increasing combability not only eases manageability, but also helps to minimize physical damage that perpetuates the loss of body and difficulty in styling.

**ACB Willow Bark Extract 20%** is a product designed to provide exfoliation and antioxidant benefits to the skin and hair. However, this unique ingredient also enhances smoothing, wet and dry combability, anti-frizz, shine and hydration when used in hair care applications. The purpose of this study was to confirm whether **ACB Willow Bark Extract 20%** is capable of providing benefits when included in a shampoo and conditioner.

A half head study was conducted to determine the comparison of a control shampoo vs. 2.0% **ACB Willow Bark Extract 20%** in the control shampoo. Additionally, a comparison between the control conditioner and 2.0% **ACB Willow Bark Extract 20%** in the control conditioner were reported. Each volunteer's hair was photographed prior to the treatment and again after the shampoo and conditioner had been applied and the hair was styled. The images of the half head study were used in conjunction with a sensory assessment subjectively rating the parameters - cleansing, smoothing, dry and wet combability, anti-frizz, overall feel, shine and hydration. This assessment was conducted both before and after treatment. Based on the results obtained, **ACB Willow Bark Extract 20%** is capable of enhancing the smoothing, anti-frizz, overall feel, shine and hydration, making it an ideal ingredient for use in products intended for all hair types.

**Code Number: 20200**

**INCI Name:** Salix Nigra (Willow)  
 Bark Extract

**INCI Status:** Approved

**REACH Status:** Complies

**CAS Number:** 7732-18-5 & 84650-64-6

**EINECS Number:** 231-791-2 & 283-522-3

**TRF#:** S46

**Lot Number(s):**  
 #NC151207-H, #NC151207-I

**Suggested Use Levels:** 1.0 - 10.0%  
**Use Level for Assay:** 2.0%

### Sponsor:

Active Concepts, LLC  
 107 Technology Drive  
 Lincolnton, North Carolina 28092

**Study Director:** Erica Segura

**Principle Investigator:**  
 Maureen Danaher

### Benefits of **ACB Willow Bark Extract 20%:**

- Versatile in Formulations
- Intense Moisturizing Benefits
- Strong Exfoliation
- Ideal for Problem Skin Applications

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## MATERIALS AND METHODS

The study was conducted using five participants. Each subject had their baseline photo taken prior to having their hair washed. The participant was also asked to complete a survey rating their hair prior to treatment on a scale of 1 to 10, with 1 being the lowest and 10 being the highest, using the following parameters cleansing, smoothing, dry and wet combability, anti-frizz, overall feel, shine and hydration.

Half of the head was treated with the control shampoo and conditioner while the other half of the head was treated with 2.0% **ACB Willow Bark Extract 20%** in the base shampoo and base conditioner. After the application and rinse of the test and positive control products, each participant's hair was blown dry using a round brush on both sides of the head. Once the hair was completely dry, the participant was asked to again assess the same parameters of both halves of their hair. Assessments were made using a rubric from 1 to 10, with 1 being the lowest and 10 being the highest.

## RESULTS

Parameters Tested	Assessment of the Control Shampoo	Assessment of the Experimental (2.0% ACB Willow Bark Extract 20% in Control Shampoo)	Assessment of the Control Conditioner	Assessment of the Experimental (2.0% ACB Willow Bark Extract 20% in Control Conditioner)
Cleansing	8.00	8.00	X	X
Smoothing	6.00	7.00	6.00	9.00
Wet Combability	5.00	7.00	6.00	9.00
Dry Combability	X	X	6.00	8.00
Anti-Frizz	X	X	7.00	10.00
Overall Feel	X	X	8.00	8.00
Shine	X	X	6.00	9.00
Hydration	X	X	7.00	9.00
Mean	6.33	7.33	6.57	8.86

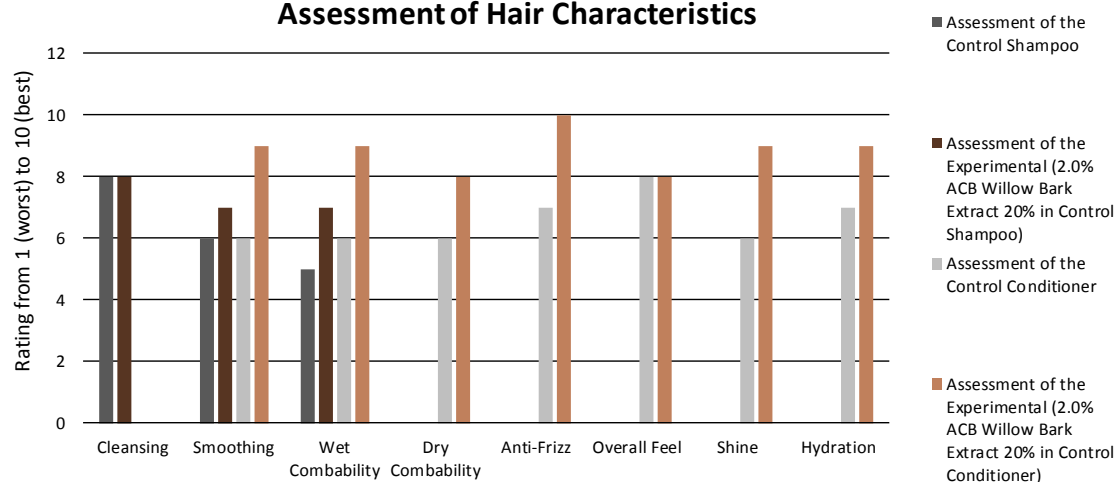
**Chart 1.** Average Results for Participant's Sensory Assessment.

Parameters Tested	Percent Difference – Comparison of Control Shampoo vs. Experimental (2.0% ACB Willow Bark Extract 20% in Control Shampoo)	Percent Difference – Comparison of Control Conditioner vs. Experimental (2.0% ACB Willow Bark Extract 20% in Control Conditioner)
Cleansing	0%	X
Smoothing	15%	40%
Wet Combability	30%	40%
Dry Combability	X	29%
Anti-Frizz	X	35%
Overall Feel	X	0%
Shine	X	40%
Hydration	X	25%
Mean	15%	30%

**Chart 2.** Percent Difference of Participant's Sensory Assessment

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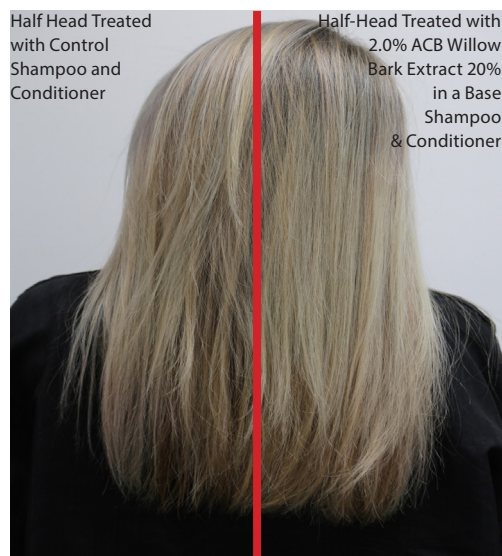
## Assessment of Hair Characteristics



**Graph 1.** Rating of hair characteristics following sensory assessment.



**Figure 1.** Full head Baseline, Untreated Hair.



**Figure 2.** Half Head Treated.



**Figure 3.** Full head Baseline, Untreated Hair.



**Figure 4.** Half Head Treated.



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**Figure 5.** Full head Baseline, Untreated Hair.



**Figure 6.** Half Head Treated.



**Figure 7.** Full head Baseline, Untreated Hair.



**Figure 8.** Half Head Treated.



**Figure 9.** Full head Baseline, Untreated Hair.



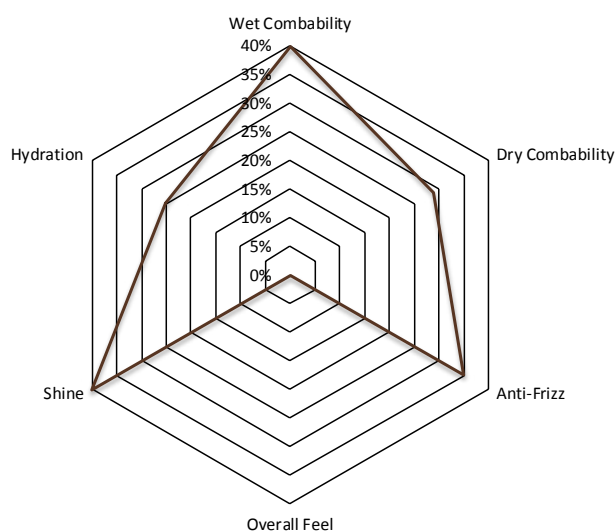
**Figure 10.** Half Head Treated.

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When comparing hair characteristics of the baseline assessments to the post style assessments, the benefits of including 2.0% **ACB Willow Bark Extract 20%** in a conditioner are even more apparent. In relation to the baseline readings, the test-half of the head improved the intended subjective parameters, improving smoothing, wet and dry combability, anti-frizz, shine and hydration by 40%, 40%, 29%, 35%, 40% and 25%, respectively. It is clear from the images in this study that **ACB Willow Bark Extract 20%** helps create a smooth, sleek hairstyle. Additionally, in all images, the hair is less frizzy and has an improved appearance.

The professional stylist who performed the actual tests by applying the product, styling the hair and documenting the images said **ACB Willow Bark Extract 20%** is great for smoothing frizzy, unruly hair but can be too heavy for thinner hair. This product can tame the hair while enhancing the shine and softness of styled hair. The product is good for damaged, dry and/or unruly hair and helped minimize the appearance of split ends. **ACB Willow Bark Extract 20%** can be used in a leave on application or conditioner for perceivable benefits.

## Comparison of Control Conditioner vs. Experimental



**Graph 2.** Hair Assessment results for sensory characteristics.

## DISCUSSION

The results of the assessment indicate that when incorporated into a shampoo, 2.0% **ACB Willow Bark Extract 20%** did show improvement in wet combability and smoothing. However, when used in a conditioner **ACB Willow Bark Extract 20%** is capable of improving smoothing, wet and dry combability, anti-frizz, shine and hydration more than the control conditioner. These results can be further supported by figures 1 through 10, where clearly the half of the subject's head treated with 2.0% **ACB Willow Bark Extract 20%** appears shiny, smooth, less frizzy and more hydrated. Additionally, the subjects reported a significant increase in hydration and overall feel of the hair.

### References:

- 1) Scobie, A. R.; Wilcock, C. C. (2009). "Limited mate availability decreases reproductive success of fragmented populations of *Linnaea borealis*, a rare, clonal self-incompatible plant". *Annals of Botany* 103 (6): 835–46
- 2) Botanical Journal of the Linnean Society, Volume 151 Issue 3 Page 437. July 2006, doi:10.1111/j.1095-8339.2006.00516.x, Volume 151 Issue 3