

Salon Half-Head Hair Study



let your outer beauty mirror
 your inner health
 Hydrating Moisturization
 vitamins + minerals
 Conditioning

ABSTRACT

The condition of the cuticle (the outer most layer of the hair) significantly affects both the manageability and sleekness of our hair. Over time, 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 damage that perpetuates the loss of body and difficulty in styling.

ACB Bio-Chelate 5 PF is a product designed to nourish the scalp and provide hydration and moisturizing benefits to the skin and hair. This ingredient also enhances dry combability, anti-frizz, overall feel, shine and hydration. The purpose of this study was to confirm whether **ACB Bio-Chelate 5 PF** 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 Bio-Chelate 5 PF** in the control shampoo. Additionally, a comparison between the control conditioner and 2.0% **ACB Bio-Chelate 5 PF** 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 Bio-Chelate 5 PF** is capable of enhancing dry combability, anti-frizz, overall feel, shine and hydration when used in a conditioner. These attributes makes it an ideal ingredient for use in products intended for thick, unruly or ethnic hair types.

Code Number: 20339PF

INCI Name: Water & Saccharomyces/
 Zinc Ferment & Saccharomyces/Copper
 Ferment & Saccharomyces/Magnesium
 Ferment & Saccharomyces/Iron Ferment
 & Saccharomyces/Silicon Ferment

INCI Status: Conforms

REACH Status: Conforms

CAS Number: 7732-18-5 & 8013-01-2
 & 8013-01-2 & 8013-01-2 & 8013-01-2 &
 8013-01-2

EINCS Number: 231-791-2 & 232-387-9
 & 232-387-9 & 232-387-9 & 232-387-9 &
 232-387-9

TRF#: S8

Lot Number(s):

NC150209C & NC150209D

Suggested Use Levels: 0.5 - 5.0%

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

Suggested Applications: Hair and
 Skin Conditioning, Hydrating

Benefits of ACB Bio-Chelate 5 PF:

- Skin and Hair Applications
- Hydrating
- Conditioning
- Anti-Frizz

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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 Bio-Chelate 5 PF** 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. The parameters tested for shampoo are cleansing, smoothing, and wet combability, while the parameters tested for conditioner are smoothing, wet combability, dry combability, anti-frizz, overall feel, shine, and hydration. An X is placed where the parameter is not assessed. 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 Bio-Chelate 5 PF in Control Shampoo)	Assessment of the Control Conditioner	Assessment of the Experimental (2.0% ACB Bio-Chelate 5 PF in Control Conditioner)
Cleansing	7.00	6.00	X	X
Smoothing	5.00	5.00	5.00	7.00
Wet Combability	4.00	6.00	6.00	7.00
Dry Combability	X	X	6.00	7.00
Anti-Frizz	X	X	5.00	9.00
Overall Feel	X	X	6.00	9.00
Shine	X	X	6.00	9.00
Hydration	X	X	6.00	9.00
Mean	5.33	5.67	5.71	8.14

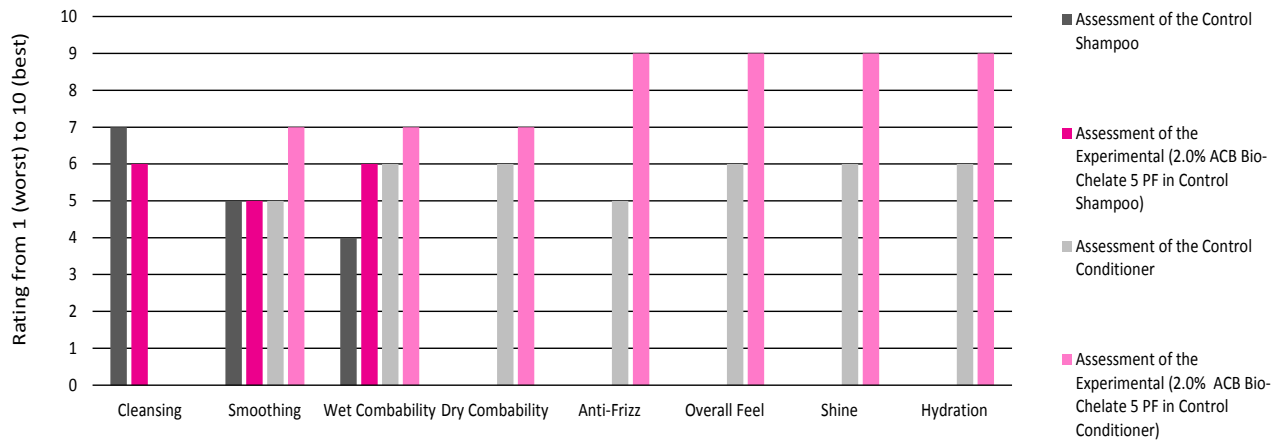
Chart 1. Average Results for Participant's Sensory Assessment

Parameters Tested	Percent Difference – Comparison of Control Shampoo vs. Experimental (2.0% ACB Bio-Chelate 5 PF in Control Shampoo)	Percent Difference – Comparison of Control Conditioner vs. Experimental (2.0% ACB Bio-Chelate 5 PF in Control Conditioner)
Cleansing	15%	X
Smoothing	0%	33%
Wet Combability	40%	15%
Dry Combability	X	15%
Anti-Frizz	X	57%
Overall Feel	X	40%
Shine	X	40%
Hydration	X	40%
Mean	18%	34%

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

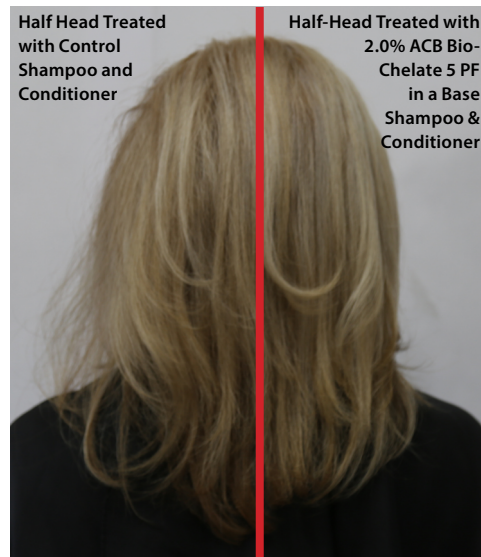


Figure 2. Half Head Treated



Figure 3. Full head Baseline, Untreated Hair



Figure 4. Half Head Treated

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Figure 5. Full head Baseline, Untreated Hair

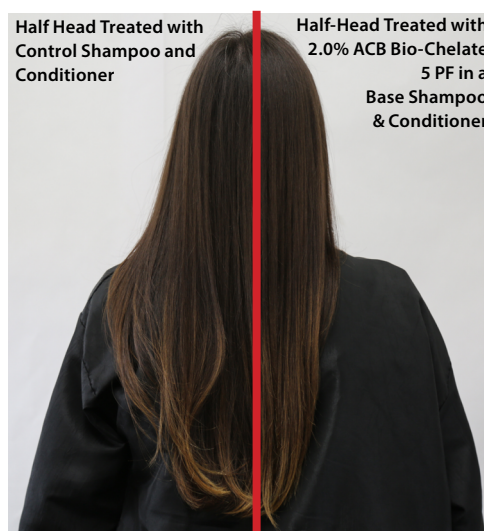


Figure 6. Half Head Treated



Figure 7. Full head Baseline, Untreated Hair

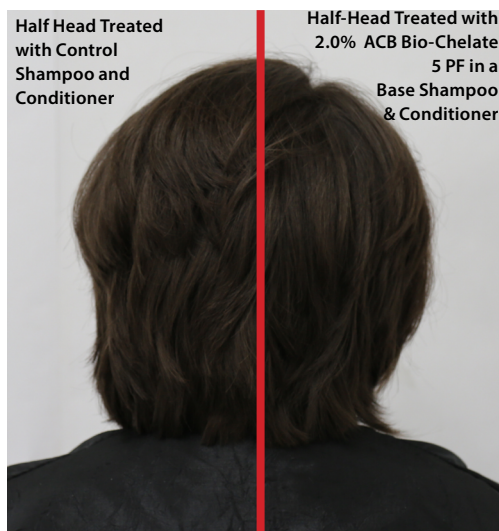


Figure 8. Half Head Treated



Figure 9. Full head Baseline, Untreated Hair

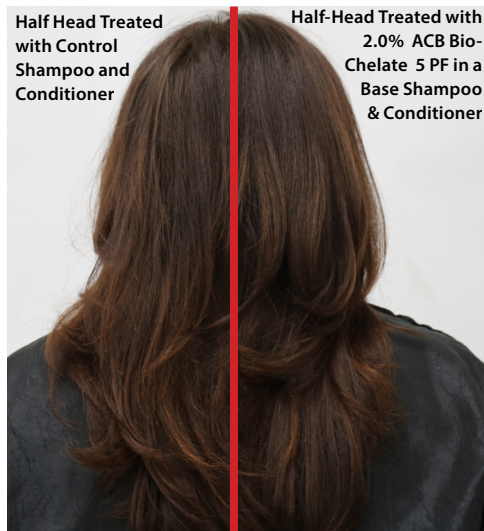


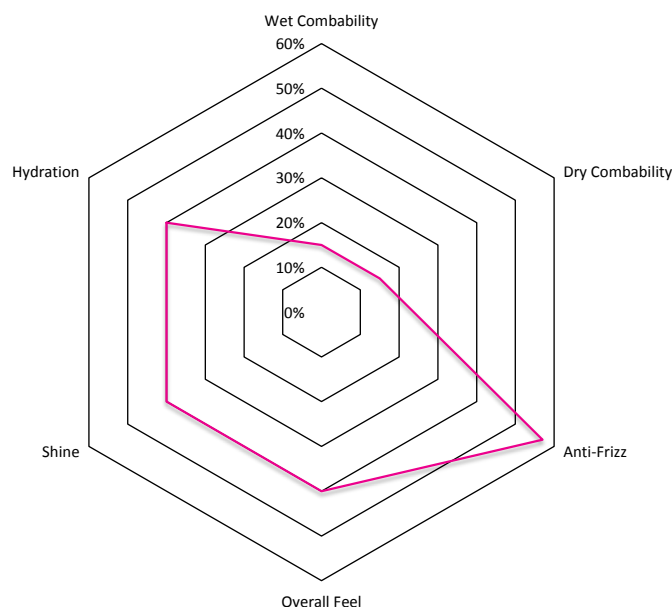
Figure 10. Half Head Treated

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When comparing hair characteristics of the baseline assessments to the post style assessments, the benefits of including 2.0% **ACB Bio-Chelate 5 PF** 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 dry combability, anti-frizz, overall feel, shine and hydration by 15%, 57%, 40%, 40% and 40%, respectively. It is clear from the images in this study that **ACB Bio-Chelate 5 PF** helps create a smooth hairstyle. Additionally, in all images, the hair is noticeably shinier, with less frizz and has a more hydrated appearance.

The professional stylist who performed the actual tests by applying the product, styling the hair and documenting the images said **ACB Bio-Chelate 5 PF** is great for use on curly or straight hair. This product works well at reducing frizziness of the hair. This product enhances the sleekness, combability and overall feel of the hair. Recommended for consumers with thick or unruly hair to achieve a silky, less frizzy style. **ACB Bio-Chelate 5 PF** is good for use in a leave on application or shampoo and conditioner for a silky smooth hairstyle.

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 Bio-Chelate 5 PF** did show improvement in the parameters tested. However, when used in a conditioner **ACB Bio-Chelate 5 PF** is capable of improving dry combability, anti-frizz, overall feel, 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 Bio-Chelate 5 PF** appears sleek, smooth and less frizzy. Additionally, the subjects reported a significant increase in smoothness, shine and overall feel of the hair, especially when heat was applied for styling.