

Salon Half-Head Hair Study



Marketable Trendy
 Hydrolyzed Silk Protein Functional
 Moisturization Luxurious
 Hydrating Non-irritating
 Conditioning

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.

AC Silk Hydrolysate PF is a product designed to provide film-forming, hydration and moisturizing benefits to the skin and hair. This ingredient also enhances smoothing, wet combability, anti-frizz, overall feel, shine and hydration. The purpose of this study was to confirm whether **AC Silk Hydrolysate PF** is capable of providing benefits when included in a shampoo and conditioner on ethnic hair types.

A half head study was conducted to determine the comparison of a control shampoo vs. 2.0% **AC Silk Hydrolysate PF** in the control shampoo. Additionally, a comparison between the control conditioner and 2.0% **AC Silk Hydrolysate 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, **AC Silk Hydrolysate PF** is capable of enhancing smoothing, 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: 20621PF

INCI Name: Hydrolyzed Silk
INCI Status: Conforms
REACH Status: Complies
CAS Number: 96690-41-4
EINCS Number: 306-235-8

TRF#: S25

Lot Number(s): NC150629-B

Suggested Use Levels: 2.0 - 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: Meghan Darley

Suggested Applications: Hair and Skin Conditioning, Hydrating, Film-Forming

Benefits of **AC Silk Hydrolysate PF**:

- Skin and Hair Applications
- Hydrating
- Conditioning

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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% **AC Silk Hydrolysate 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. 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% AC Silk Hydrolysate PF in Control Shampoo)	Assessment of the Control Conditioner	Assessment of the Experimental (2.0% AC Silk Hydrolysate PF in Control Conditioner)
Cleansing	7.00	7.00	X	X
Smoothing	3.00	4.00	6.00	8.00
Wet Combability	3.00	4.00	7.00	7.00
Dry Combability	X	X	7.00	7.00
Anti-Frizz	X	X	5.00	8.00
Overall Feel	X	X	5.00	9.00
Shine	X	X	5.00	8.00
Hydration	X	X	6.00	9.00
Mean	4.33	5.00	5.86	8.00

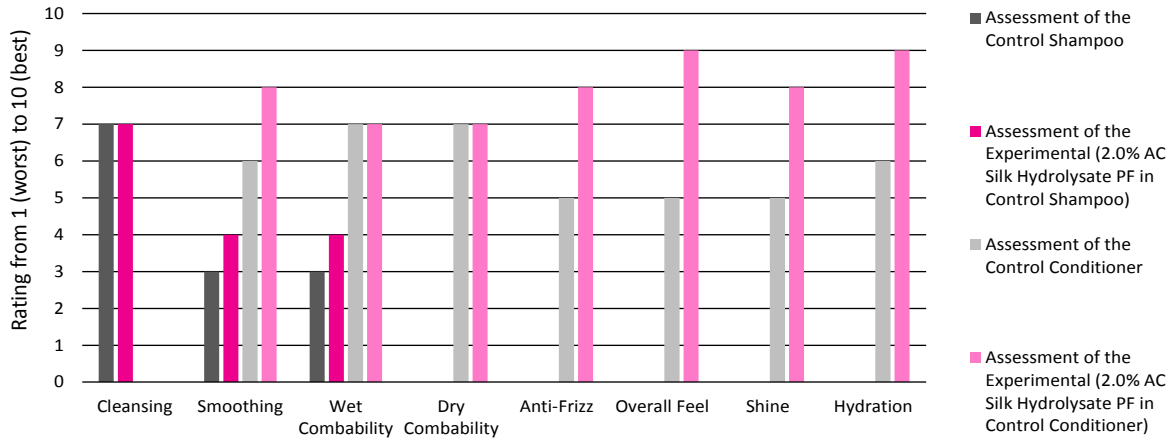
Chart 1. Average Results for Participant's Sensory Assessment

Parameters Tested	Percent Difference – Comparison of Control Shampoo vs. Experimental (2.0% AC Silk Hydrolysate PF in Control Shampoo)	Percent Difference – Comparison of Control Conditioner vs. Experimental (2.0% AC Silk Hydrolysate PF in Control Conditioner)
Cleansing	0%	X
Smoothing	29%	29%
Wet Combability	29%	0%
Dry Combability	X	0%
Anti-Frizz	X	46%
Overall Feel	X	57%
Shine	X	46%
Hydration	X	40%
Mean	19%	31%

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

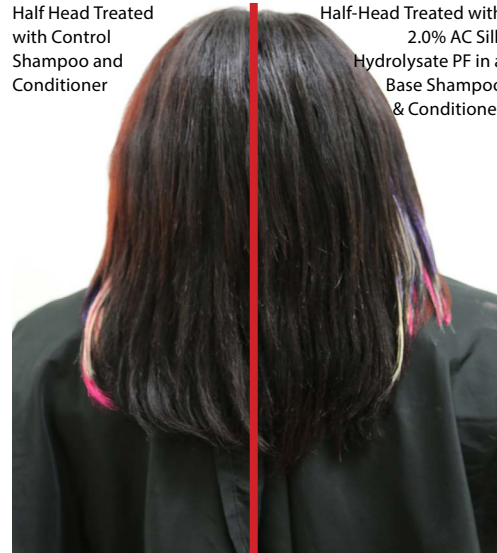


Figure 2. Half Head Treated

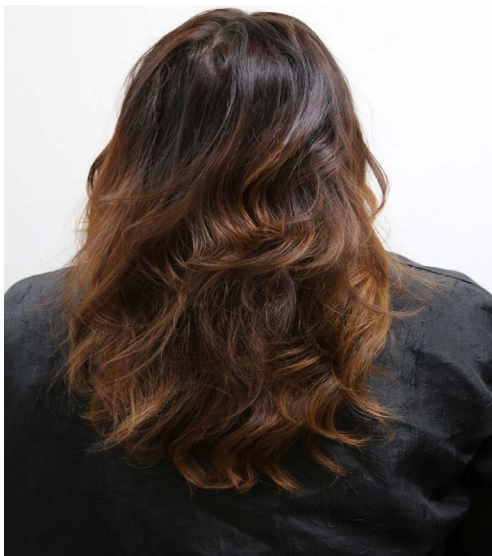


Figure 3. Full head Baseline, Untreated Hair

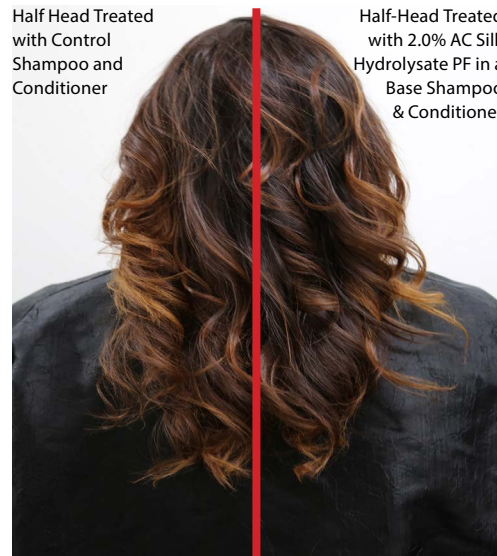


Figure 4. Half Head Treated

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Figure 5. Full head Baseline, Untreated Hair

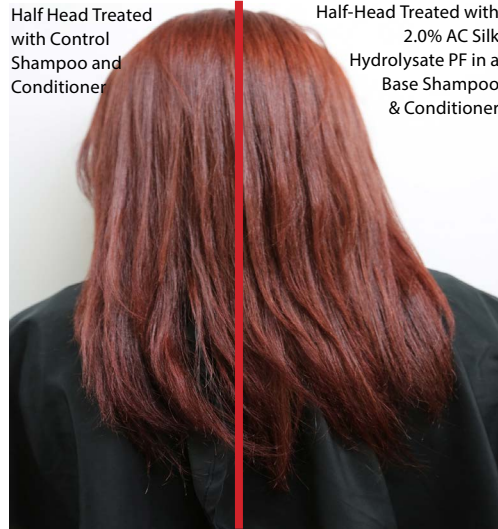


Figure 6. Half Head Treated



Figure 7. Full head Baseline, Untreated Hair

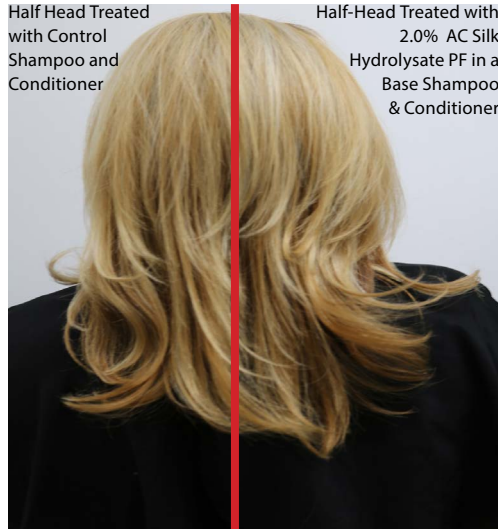


Figure 8. Half Head Treated



Figure 9. Full head Baseline, Untreated Hair

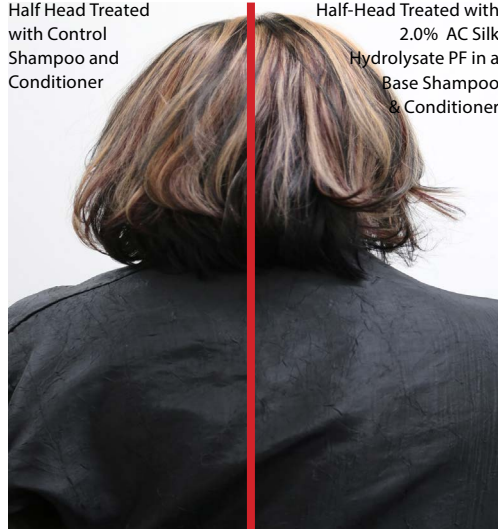


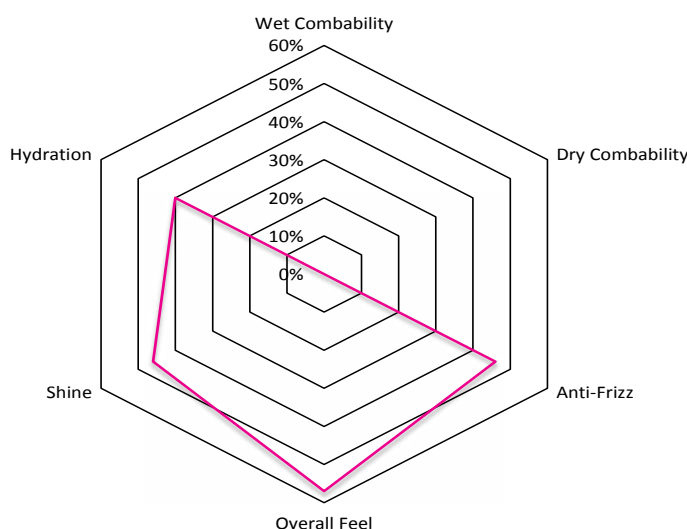
Figure 10. Half Head Treated

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When comparing hair characteristics of the baseline assessments to the post style assessments, the benefits of including 2.0% **AC Silk Hydrolysate PF** in a shampoo and conditioner are apparent. In relation to the baseline readings, the test-half of the head improved the intended subjective parameters, improving smoothing, wet combability, anti-frizz, overall feel, shine and hydration by 29%, 29%, 46%, 57%, 46% and 40%, respectively. It is clear from the images in this study that **AC Silk Hydrolysate PF** helps create a smooth hairstyle. Additionally, in all images, the hair is noticeably shinier, with less frizz 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 **AC Silk Hydrolysate PF** is great for use on thick, thin or fine hair for hydration. This product works well at reducing frizziness while adding shine. It also enhances the smoothness and feel after using hot tools, such as blow dryers or flat irons. **AC Silk Hydrolysate PF** is good for use in hair applications to improve the smoothness of the hair, while providing a silky, soft feel.

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% **AC Silk Hydrolysate PF** did show improvement in smoothing and wet combability more than the controls shampoo. When used in a conditioner **AC Silk Hydrolysate PF** is capable of improving smoothing, 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% **AC Silk Hydrolysate PF** appears smooth and less frizzy.