

Efficacy of NX35growth™ Molecule on Hair Growth : A Clinical Study

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Abstract

Mammalian hair is a protein filament that develops from follicles in the skin. The hair follicles generate a protein called keratin, which is the primary component of hair. Both men and women commonly experience hair loss, which can cause from lots of reasons such as aging, patterned hair loss, stress, illness, pregnancy in women, iron deficiency and autoimmune reactions. It is estimated that 50% of men and 15–30% of women suffer from hair loss and its accompanying psychological burden. Also, air pollution due to changing environmental conditions also affects hair health and can cause hair loss. In this study it was aimed to investigate the efficacy of a new hair serum by measuring hair density and hair thickness by using Aramo SG® ASG 200F. Hair serum consisting of NX35growth™ molecules was tested on 51 participants. 48 women and 3 men aged between 26-59 participated in this study and it was considered that participants have different hair types like normal, dry and greasy. Participants applied the formulation to the scalp once a day to get the results properly. In the first, 28th and 56th days of the study measurements were carried out and results were obtained.

As a result, the measurements presented on the 28th and 56th days of the participants who used the hair serum regularly showed that the hair serum containing the NX35growth™ molecule increased the hair density, hair volume and hair thickness in all hair types.

Introduction

Hair loss is a prevalent and distressing disorder that encompasses a range of reasons, including genetic predisposition, dietary deficiencies, medical conditions, and epigenetic factors which occur as a result of environmental conditions [1]. Approximately half of males and 15-30% of women are afflicted with hair loss, which imposes a significant psychological weight. Moreover, its frequency appears to be escalating significantly. The most prevalent cause of hair loss in males is androgenic alopecia, often known as male-pattern baldness [2]. On the other hand, hair loss in women can be attributed to several medical disorders, such as hypothyroidism, oral contraceptives, and nutritional deficiencies. Furthermore, the prevalence of this condition appears to be on the rise. Hair loss, based on its etiology and manifestations, can be categorized into three primary types: androgenetic alopecia (AGA), alopecia areata (AA), and other forms of hair loss. Among these, AGA, also known as male pattern baldness, stands out as the most widespread, being a chronic and progressive ailment [3]. AA, on the other hand, is an autoimmune disorder typified by the presence of small, hairless patches on the scalp [4].

According to scientific research, it has been observed that individuals possess an estimated count of 100,000 terminal hair follicles on their scalp at birth. These follicles are inherently programmed to produce hair that is characterized by its lengthy and robust nature. The hair growth cycle encompasses three distinct phases that occur concurrently [5]. The three phases in issue are anagen, catagen, and telogen, each with varying durations of 3-5 years, 2-3 years, and 3-4 years, respectively. The third phase, telogen, is associated with hair loss. In the telogen phase, a period of hair rest and shedding, the subsequent hair cycle is initiated. In the telogen phase, hair undergoes detachment and shedding in preparation for the subsequent cycle. The hair growth rate on a healthy scalp is approximately 90%, with less than 1% of hair found within the scalp and the remaining 5-1% remaining outside. The average daily hair loss of approximately 100 strands is widely regarded as within the normal range [6]. The persistent elevation of this particular number may contribute to the development of male or female pattern hair loss, hence potentially inducing psychological distress [7, 8]. Hair loss is a prevalent issue among women, with around 60 percent of them experiencing observable hair loss by the time they reach the age of 60 [9]. However, it is worth noting that women are more prone to hair loss earlier in

life, with a higher likelihood of experiencing this condition by the age of 50 [10]. Humans typically possess hair primarily on their heads, although it can also develop on the facial, chest, and arm areas [11]. The growth rate of scalp hair is influenced by genetic and various factors, resulting in an average monthly growth rate of around 0.5 inches, and it exhibits variations in terms of color, texture, and thickness [12, 13].

Hair serves a multitude of important functions, such as shielding the body from the sun and environmental elements, providing insulation, and facilitating sensor perception. Furthermore, hairstyles often function as a medium for self-expression and cultural affiliation, playing a pivotal role in social interactions and personal identity [14, 15].

In this study NX35growth™ molecule, an innovative targeted plant-based messenger molecule consisting of peptides, proteins and active biomolecules, was developed. This article presents the results from a clinical study that investigates the efficacy of this new hair serum for hair length, volume, density and thickness. This study was conducted as a controlled clinical study at a third party accredited testing laboratory.

Methods

Clinical evaluation of the NX35growth™ efficacy according to the scale

The aim of the test was to define the direct influence of the tested product on hair length and hair volume. Parameters have been evaluated according to the scale below (Table 1):

Table 1: Scale chart of parameters for hair length and hair volume

Hair Length									
1	2	3	4	5	6	7	8	9	10
Very Short Hair					Very Long Hair				

Hair Volume									
1	2	3	4	5	6	7	8	9	10
Small Volume					Large Volume				

The evaluation of the parameters was conducted prior to (D0) product application, at 28 days (D28), and at 56 days (D56) of consistent usage. The research was conducted on a sample number of 52 individuals. The confirmation of product efficacy is based on a significant increase in the difference between the findings obtained before (D0), after 28 days (D28), and after 56 days (D56).

Measurement of hair density using Aramo SG® ASG 200F

The aim of the study is to assess the direct impact of the product on hair density. The test has been conducted using a special measuring device manufactured by ARAM HUVIS Co., Ltd. – ARAMO SG® ASG 200F. Instrumental study has been carried out on 52 subjects. The measurements in zoom 60-times have been performed at the specified zone – before product application (D0), after 28 days (D28) and after 56 days (D56) of regular use. The study has been carried out in an air-conditioned room in the temp. of 20±2°C and relative humidity 50±10%. The product efficacy is confirmed in case of the positive results obtained in more than 50% of subjects.

Macrophotography of the surface of the scalp and hair in zoom 60-times using Aramo SG® ASG 200F

The aim of the test was to define the direct influence of the tested product on hair thickness. The test has been conducted using a special measuring device manufactured by ARAM HUVIS Co., Ltd. – ARAMO SG® ASG 200F. Instrumental study has been carried out on 52 subjects. The measurements in zoom 200-times have been performed before application (D0), after 28 days (D28) and after 56 days (D56) of regular use. The study has been carried out in an air-conditioned room in the temp. of 20±2°C and relative humidity 50±10%. The product efficacy is confirmed in case of the positive results obtained in more than 50% of subjects.

Results

Clinical evaluation of the NX35growth™ efficacy according to the scale

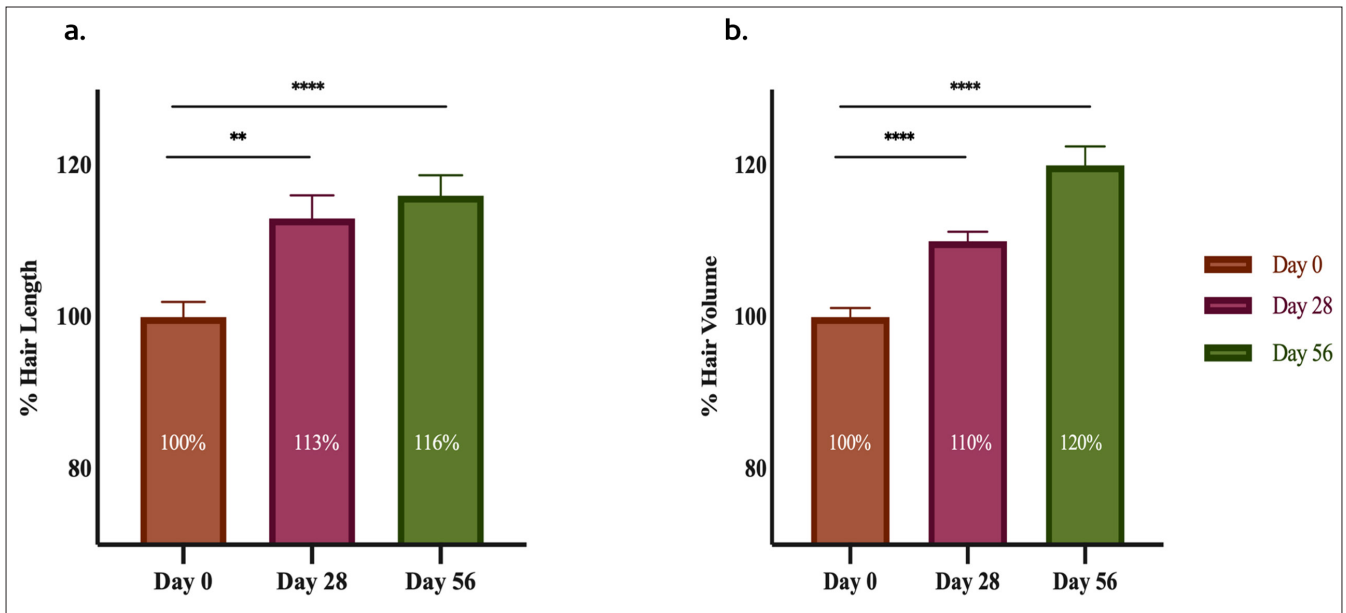


Figure 1: Hair length and hair volume evaluation on D28 and D56 compared to D0. Mean ± SE, *p<0.05 by one way ANOVA

The length and the volume of hair were evaluated with scale bar 1 to 10 (Table 1) and the results were statistically analyzed with STATISTICA 13. Wilcoxon signed rank test was used to assess differences in comparison to assessment before. The level of significance was set p<0,05. According to figure 1, hair length was increased 13% on day 28 and 16% on day 56. Also, hair volume percentage was increased on both day 28 and day 56 with 10% and 20% respectively.

Measurement of the hair density and thickness using Aramo SG® ASG 200F

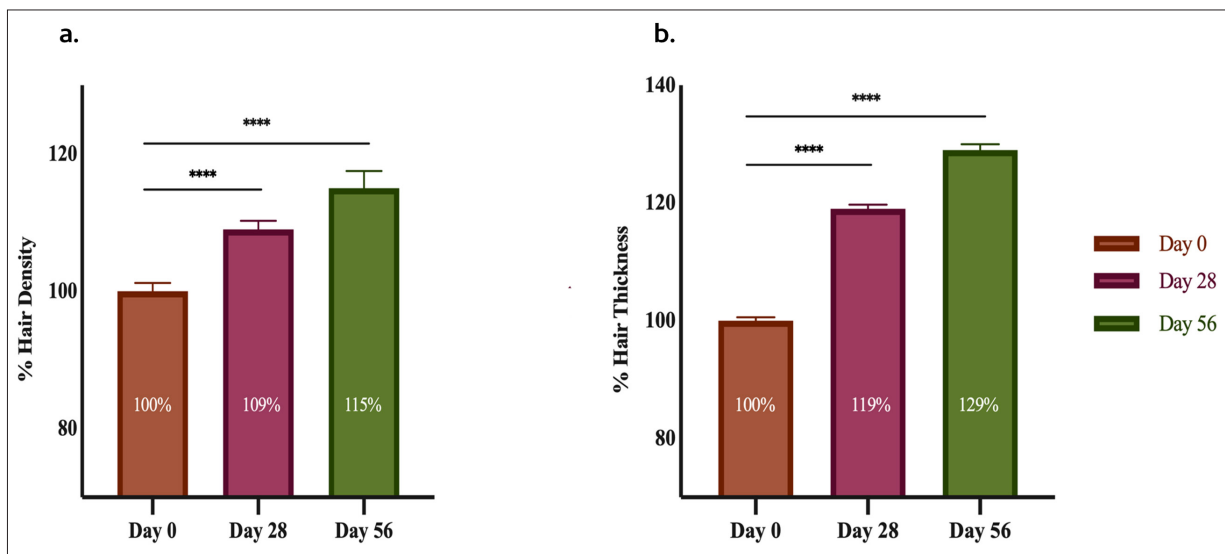


Figure 2: The hair density and hair thickness percentages on D28 and D56 compared to D0. Mean ± SE, *p<0.05 by one way ANOVA

Density (average amount of hair/cm²) and thickness (mm) of hair were evaluated with Aramo SG® ASG 200F and the results were statistically analyzed. The level of significance was set p<0,05. Results from figure 2 indicates that the product NX35growth™ improves hair density and thickness. Hair density was increased to 109% and hair thickness was increased to 119% after 28 days of regular use. At the end of 56 days, these values were getting higher with 15% increment for hair density and 20% rise for hair thickness.

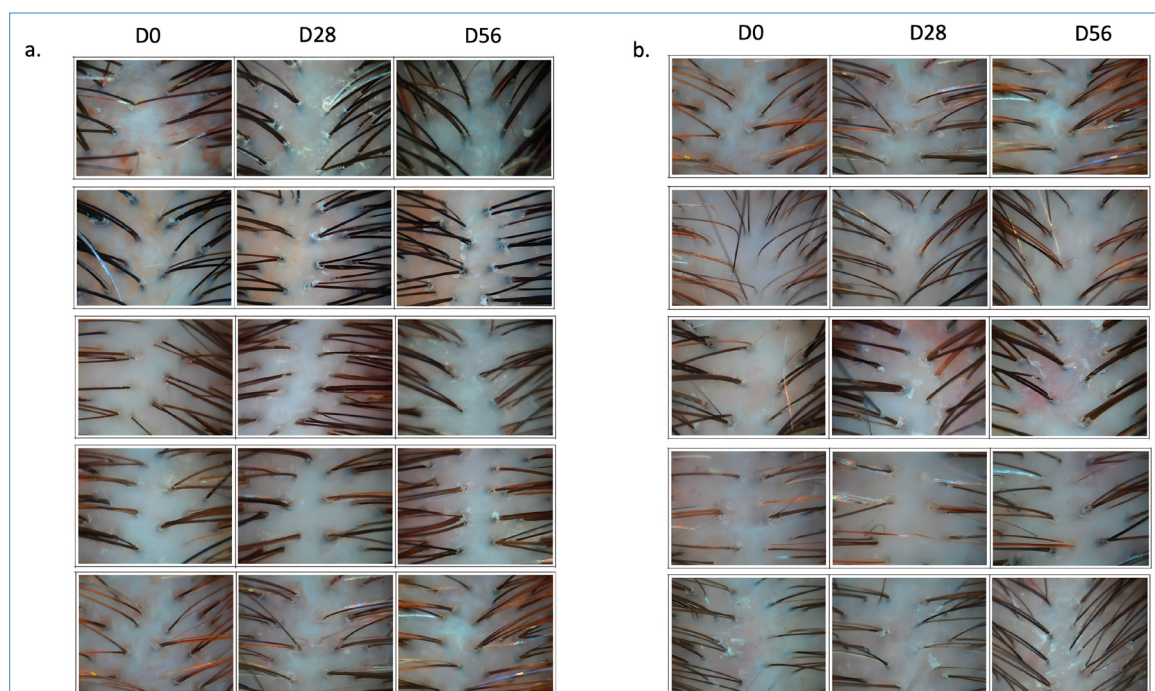


Figure 3: Macrophotography images of the surface of the scalp and hair in zoom 60-times using Aramo SG® ASG 200F of volunteers.

The measurements in zoom 200-times have been performed before application (D0), after 28 days (D28) and after 56 days (D56) of regular use. Macrophotography images of volunteer’s hair and scalp surface can be seen on figure 3 on day 28 and 56.

Discussion

The present study shows that the hair serum formulation containing only NX35growth™ as key ingredients that increases hair density, thickness, volume and and potentiates hair growth in both male and female volunteers that are experiencing hair fall.

The findings of this study demonstrate that NX35growth™ yields beneficial outcomes for hair maintenance. Product evaluations by users indicate favorable outcomes from a subjective standpoint, affirming that it effectively prevents hair from becoming weighed down, avoids greasiness on both the hair and scalp, provides moisture to both the hair and scalp, enhances hair luster, and imparts manageability, strength, softness, smoothness, and optimal hydration to the hair. These findings indicate that the product is capable of fulfilling users’ hair care expectations and promoting hair well-being.

Furthermore, this study demonstrates, through the findings of objective assessments, that consistent usage of the NX35growth™ can enhance hair length by an average of 13% within a period of 28 days. This discovery suggests that the substance has a stimulatory effect on hair growth.

These data suggest that NX35growth™ could be regarded as a potentially efficacious hair care product. Specifically, further research is required to investigate the prolonged usage of this

product and its impact on various hair textures. Furthermore, it is crucial to take into account the methodological constraints of this study and the characteristics of the participants.

Upon extending the usage period to 56 days, the serum exhibits an even more substantial effect, with an average increase in hair length of 16%. This underscores the NX35growth™ long-term impact on promoting hair length, which is a key concern for many individuals seeking hair care solutions.

Additionally, the instrumental tests reveal a notable enhancement in hair volume. After 28 days of regular use, NX35growth™ is associated with an average increase in hair volume of 10%. This improvement provides evidence of the serum’s ability to boost hair thickness and body.

After 56 days of consistent use, the impact of NX35growth™ on hair volume becomes even more pronounced, with an average increase of 20%. This reinforces its potential to address concerns related to hair thinning and lack of volume.

Furthermore, the product demonstrates a positive effect on hair density. After 28 days of regular application, there is an average increase in hair density of 9%, which indicates that NX35growth™ helps in making hair appear fuller and denser.

Extending the usage to 56 days leads to an even more significant improvement, with an average increase in hair density of 15%. This substantiates ability of the NX35growth™ to address concerns related to hair thinning and reduced hair density.

Finally, the instrumental tests highlight the NX35growth™ effect on hair thickness. After 28 days of regular use, the average increase in hair thickness is an impressive 19%. This demonstrates the ability of NX35growth™ to add substance and thickness to individual hair strands.

After 56 days of consistent application, the effect of NX35growth™ on hair thickness becomes even more remarkable, with an average increase of 29%. This substantial improvement indicates its long-term potential in enhancing hair thickness, which is often associated with healthier and more robust-looking hair.

The client's stated features have been verified through thorough instrumental testing, demonstrating a compelling range of advantages linked to the consistent application of NX35growth™. These instrumental tests offer significant proof of the product's effectiveness in improving many elements of hair health.

Ultimately, this study asserts that NX35growth™ yields favorable outcomes in hair maintenance and has the potential to enhance hair well-being, thus serving as a potential reference for future investigations. Nevertheless, additional research and thorough clinical trials are necessary to establish more conclusive findings regarding the efficacy and safety of the substance.

Firstly, NX35growth™ demonstrates a remarkable improvement in hair length. After 28 days of consistent application, the average increase in hair length is an impressive 13%. This substantiates the claim that the product contributes significantly to hair growth.

Conclusion

In conclusion, the instrumental tests confirm that NX35growth™ delivers tangible and substantial benefits in terms of improving hair length, volume, density, and thickness. These findings underscore the product's efficacy in addressing a wide range of hair care concerns and make it a promising option for individuals seeking to enhance their hair's overall health and appearance.

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