



THE PERFECT BLEND: COLLAGEN, KERAGEN IV™ & VITAMINS FOR BEAUTY FROM WITHIN

WHITE PAPER

Keraplast

Introduction

In the beauty and personal care industry, supplements are increasingly recognised for enhancing hair, skin, and nail health from within. While collagen is well-known for its benefits, adding vitamins boosts effectiveness. Market collagens typically provide only types I, II, and III. However, other crucial types like IV and VII, essential for healthy skin, hair, and nails, are not available from supplements and are lacking in our daily nutrition.

Collagen IV and VII are essential for the structure of hair follicles and the skin's outer layer [1]. Collagen IV helps support the skin's foundation, making it stronger and more resilient. Collagen VII connects the top and bottom layers of the skin, keeping it intact and preventing damage. These collagens are crucial for healthy hair follicles, promoting strong hair growth and reducing hair loss. For nails, Collagen IV and VII support the nail bed and the surrounding skin, resulting in stronger and healthier nails.

KeraGEN-IV™ has been scientifically proven to promote the natural synthesis of these vital collagens, particularly collagen IV and VII [2]. This white paper explores the synergistic benefits of combining collagen, KeraGEN-IV™, and vitamins in beauty supplements, supported by scientific research, to highlight the importance of these ingredients for optimal beauty results.

The Essential Trio for Health & Beauty: Collagen, Keratin, and Vitamins

Collagen: Collagen makes up 30% of your body's protein, primarily composed of proline, glycine, and hydroxyproline [3]. This essential structural protein provides strength, elasticity, and hydration to the skin, hair, and nails. Collagen supplements are known to improve skin hydration and elasticity, reduce wrinkles, and support hair strength and growth. Naticol™ and Verisol™ collagens significantly benefit skin hydration, elasticity, and wrinkle reduction. However, both lack cysteine, an amino acid crucial for body metabolism.

Keratin: Keratin is a fibrous structural protein found in the skin, hair, and nails, with the highest amount of cysteine, a crucial amino acid for many metabolic processes [4]. It acts as a protective barrier, making these tissues more resistant to damage and offering superior antioxidant and anti-inflammatory protection from internal and external stress [5].

Vitamins: Vitamins play a vital role in maintaining healthy skin and hair. Vitamins such as B-complex, vitamin E, and biotin are crucial for cellular processes and structural integrity [6]. Supplementing with these vitamins can enhance the effects of collagen and keratin, providing holistic support for beauty from within.



Holistic Beauty Solutions: Synergistic Benefits of Collagen, Keratin, and Vitamins

Enhanced Skin Healing and Regeneration: Research shows that keraGEN IV™ enhances the migration of human keratinocytes and stimulates the production of type IV and VII collagens, which are critical for skin integrity, hair growth and nail structure. This synergy is highly beneficial in supplements aimed at improving skin repair and reducing the appearance of wrinkles. keraGEN IV™ supplementation has shown to increase skin elasticity by 10.1% and significantly reduce skin moisture loss by 12.5% [7,8]. When combined with vitamins, the healing and regenerative effects are further amplified, providing a robust solution for skin health.

Improved Hair Strength and Elasticity: Collagen and keratin are both needed to strengthen and enhance hair health and quality. Collagen supplies some amino acids, while keratin provides cysteine for structural hair follicle integrity while protecting hair against stress and damage. Adding vitamins like biotin and B-complex to supplements can boost hair growth, reduce hair loss, and improve hair strength and lustre. Clinical trials show significant hair health improvements with the combined use of keraGEN IV®, collagen and vitamins [8].

Boosted Protein Synthesis and Cell Growth: Keratin has been shown to regulate protein synthesis and epithelial cell growth through the natural body signaling pathway [9]. keraGEN IV® is the only keratin that is scientifically proven for cell growth, collagen production and tissue repair. This regulation is crucial for both skin and hair health, ensuring continuous renewal and repair of cells. Collagen provides the structural framework, while vitamins support metabolic processes that are vital for maintaining healthy skin and hair.

Supporting Studies and Findings

With over 350,000,000 doses administered in three years, keraGEN IV® is a novel keratin-based oral supplement designed to enhance hair, skin, and nail health. Leveraging the bioactive properties of keratin, a crucial protein for structural integrity, keraGEN IV® is supported by extensive scientific studies establishing it as the only validated keratin supplement on the market through in-vitro, ex-vivo and in-vivo studies. In a double-blind, placebo-controlled study involving 65 women aged 45-60 over 60 days, keraGEN IV® showed significant improvements in hair loss, hair cortex integrity, skin barrier function, and skin elasticity compared to the placebo group. Participants reported enhanced hair and skin health with no significant adverse effects [7, 8, 10].

Key benefits of keraGEN IV® include [7, 8, 10]:

- 43.1% reduction in hair loss after 60 days (hair pull test)
- 17.6% increase in hair cortex integrity (enhanced birefringence)
- 12.5% reduction in Trans Epidermal Water Loss (TEWL)
- 10.1% increase in skin elasticity
- 56.2% of participants experienced improved nail strength

The Ultimate Benefits: Maximising Beauty with Collagen, Keratin, and Vitamins

Skincare Supplements

Anti-Aging Formulas: Combining collagen, KeraGEN-IV, and vitamins can reduce wrinkles, improve skin elasticity, and enhance overall skin texture.

Skin Hydration: A combination of collagen and KeraGEN-IV can significantly improve the skin hydration.

Wound Healing Support: Supplements targeting skin repair can leverage the synergistic effects of collagen, KeraGEN-IV, and vitamins to accelerate healing and reduce scarring.

Hyperpigmentation Reduction: Vitamins like vitamin C and E, when combined with collagen and KeraGEN-IV™, can help reduce hyperpigmentation and even out skin tone.

Sun Damage Repair: Collagen, KeraGEN-IV™, and antioxidant vitamins can repair and protect skin from UV damage, reducing the effects of sun exposure.

Acne and Inflammation Control: The anti-inflammatory properties of KeraGEN-IV™, combined with vitamins like B5 and C, can help reduce acne and skin inflammation, promoting clearer skin.

Hair Care Supplements

Strengthening Formulas: Combining collagen, KeraGEN-IV™, and vitamins can fortify hair strands, reduce breakage, and enhance shine.

Hair Anchoring: Collagen and KeraGEN-IV™ improve hair follicle health. KeraGEN-IV™ promotes the synthesis of collagen IV and VII, crucial for hair follicle anchoring, while collagen provides collagen I for structural support.

Hair Elasticity and Resilience: Keratin and collagen enhance hair elasticity, making it more resilient to styling and environmental stressors, thus reducing the risk of damage and split ends.

Hair Growth Stimulation: The combination of collagen, KeraGEN-IV™, and vitamins such as biotin and vitamin D can stimulate hair growth and increase hair density.

Scalp Health: Collagen and KeraGEN-IV™, along with vitamins like E and B-complex, can improve scalp health by reducing inflammation and maintaining moisture balance, creating an optimal environment for hair growth.

Dandruff and Dryness Prevention: The hydrating properties of collagen and KeraGEN-IV™, along with vitamins, can help prevent dandruff, itchiness and dryness, ensuring a healthy and well-moisturized scalp.

Protection from Environmental Damage: Vitamins A, C, and E, combined with collagen and KeraGEN-IV™, provide antioxidant protection to hair, shielding it from damage caused by pollution, UV rays, and other environmental factors.

Comprehensive Beauty Supplements: Blending collagen, KeraGEN-IV™, and vitamins in supplements offers holistic benefits for hair, skin, and nails, promoting beauty from within.

Nail Care Supplements

Nail Strengthening: Combining collagen, KeraGEN-IV™, and vitamins can fortify nails, reducing brittleness and breakage.

Enhanced Growth: Collagen and KeraGEN-IV™ promote nail growth by providing essential amino acids and structural proteins, while vitamins like biotin and vitamin D support cellular growth.

Nail Bed Health: Collagen and KeraGEN-IV™ improve the health of the nail bed, ensuring strong and healthy nail growth.

Improved Resilience: The combination of collagen, KeraGEN-IV™, and vitamins enhances nail resilience, making them less prone to splitting and peeling.

Hydration and Moisture: Collagen and KeraGEN-IV™ help maintain nail hydration, preventing dryness and cracking, while vitamins like E and B-complex support overall moisture balance.

Enhanced Appearance: The synergistic effects of collagen, KeraGEN-IV™, and vitamins can improve the overall appearance of nails, making them smoother, shinier, and more attractive.

Reduced Inflammation: Vitamins with anti-inflammatory properties, such as vitamin C, combined with collagen and KeraGEN-IV™, can reduce nail bed inflammation, promoting healthier nails.

Comprehensive Nail Health: Blending collagen, KeraGEN-IV™, and a range of vitamins offers holistic benefits for nail health, supporting strength, growth, and appearance from within.

Protection Against Environmental Damage: Vitamins A, C, and E, along with collagen and KeraGEN-IV™, provide antioxidant protection, shielding nails from environmental damage and enhancing their natural defense mechanisms.

Not All Keratin Ingredients are Created Equal

Keratin ingredients vary widely in their properties and effectiveness, making the choice of keratin critical for achieving desired results in hair and skin care products. Among the various options, Keraplast keratin, including KeraGEN IV™ stands out as the best due to its extensive in-vitro, ex-vivo, and in-vivo studies, establishing it as the only scientifically validated keratin supplement on the market:

Strong Homology with Human Keratin: Closely resembles human keratin for better integration and effective results.

Optimised Molecular Weight: Ensures better digestibility and absorption for comprehensive repair and protection.

High Cysteine Content: Essential for hair strength and structure, effectively repairing damaged hair.

Sustainable Sourcing: Derived from regeneratively farmed New Zealand sheep's wool, supporting environmental conservation and ethical farming practices.



Conclusion

The synergy between collagen, keraGEN IV™, and vitamins offers amazing potential in enhancing the efficacy of beauty supplements. By leveraging their combined benefits, formulations can provide superior results in improving skin integrity, improving hair follicles, and enhancing hair strength and elasticity. Scientific research supports the integration of these ingredients, paving the way for innovative products that cater to the growing consumer demand for effective and natural beauty solutions. Keraplast Keratin's exceptional properties, including its strong homology with human keratin, specific amino acid sequence, optimal molecular weight, high cystine content, and superior bioavailability, make it the best choice among keratin ingredients. Additionally, its sustainable sourcing from regeneratively farmed New Zealand sheep's wool adds to its appeal as a high-quality, environmentally responsible ingredient.

References

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