

Collagen Liquid **Enhanced**



- Promotes skin elasticity, as well as collagen and elastin production[‡]
- Helps reduce wrinkles and maintains healthy skin structure[‡]
- Supports nail strength and growth[‡]
- Includes a blend of clinically researched Verisol® Hydrolyzed Collagen, zinc and biotin
- Delicious natural pomegranate-raspberry flavor

Collagen Liquid Enhanced works deep within the skin to support healthy skin structure and appearance. Each great-tasting serving offers Verisol® hydrolyzed collagen, a clinically studied ingredient demonstrated to increase dermal collagen production, promote skin elasticity, and help reduce the appearance of wrinkles. Beyond supporting markers of skin aging, Verisol® significantly helped decreased the appearance of cellulite and improved skin surface structure in a recent clinical trial. Additional research shows the benefits of Verisol® on nail health, including promotion of nail growth and increased nail strength. While collagen is normally resistant to digestion, Verisol® provides a hydrolyzed form for easy absorption and distribution to the skin. Collagen Liquid Enhanced also includes the nutrient cofactors biotin and zinc to further support healthy skin, nails and hair.[‡]



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Serving Size 2 Teaspoons (10 mL) Servings per Container about 45

AMOUNT PER SERVING	% DV
20	
2 g	<1%^
2.5 g	5%^
250 mcg	833%
5 mg	45%
2500 mg	*
	20 2 g 2.5 g 250 mcg 5 mg

Daily value (DV) not established

Other ingredients: Purified water, glycerin, xylitol, natural flavors, citric acid, organic stevia leaf extract, potassium sorbate



VERISOL® VERISOL® is protected by UN FALER TOO. 2.2 and is a registered trademark of GELITA AG. VERISOL® is protected by US Patent No. US 9,072,724

Recommended Dose

Take 2 teaspoons (10 mL) 1 to 2 times daily, a few hours before or after taking medications or other supplements, or as recommended by your health professional.

Size

15.2 fl oz (450 mL)

Product Code 10330



GMO





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[^] Percent daily values (DV) are based on a 2,000 calorie diet

Collagen Liquid Enhanced

Scientific Rationale:

The skin is the largest organ in the body and acts as an important barrier against the external environment. It protects the body against harmful factors including pathogens, chemicals, changing temperatures. ultraviolet (UV) radiation and dehydration. However, exposure of the skin to these environmental influences, in addition to the normal aging process, can result in changes that impact its structure, function and overall appearance.2

While the dermal effects of aging are rarely visible by the second decade of life, the skin's appearance begins to change as individuals enter their 30s.² The factors that result in skin aging can be both intrinsic and extrinsic.1 Intrinsic changes are inevitable and result from genetic, cellular, hormonal and temporal factors. In contrast, extrinsic changes are avoidable and result from repeated exposure to harmful substances such as poor diet, pollutants, chemicals or UV light (which is associated with premature photo-aging).¹

Both intrinsic and extrinsic factors lead to metabolic and structural changes in the dermis, the middle layer of the skin.² The dermis is primarily composed of extracellular matrix (ECM) proteins, especially collagen, which is responsible for skin strength and elasticity. While the production of ECM proteins such as collagen and elastin naturally decreases with age, their synthesis is especially reduced after sun exposure, as UV radiation promotes the skin's expression of matrix metalloproteinases (MMP, enzymes that break down ECM proteins). 12 Due to the increase in collagen breakdown and its reduced synthesis in the dermis, fine lines begin to appear on the skin.² As individuals age, these wrinkles deepen and skin eventually becomes looser, dryer and more fragile.²

Emerging research has demonstrated that collagen supplementation can help support the integrity of the skin.² Preclinical studies suggest that collagen acts by promoting the activity of collagen-producing fibroblast cells, increasing the amount and thickness of collagen fibers, supporting skin repair, and decreasing MMP2 activity.^{3,4} However, before collagen can exert any beneficial effects, it must first cross the intestinal barrier, enter the bloodstream and finally reach the skin.² While intact collagen has a high molecular weight and is normally resistant to digestion, hydrolyzed collagen (containing a blend of polypeptides) is easily metabolized into peptides with low molecular weight for improved absorption and distribution to the skin.^{2,3‡}

Verisol® is a proprietary hydrolyzed collagen supplement that has been extensively studied in clinical research. Randomized, double-blind, placebo-controlled trials have reported that daily intake of 2.5 g of Verisol® for eight weeks significantly improves markers of skin aging, including increased skin elasticity and reduced eye wrinkles.^{5,6} Additionally, Verisol® intake has been shown to increase collagen and elastin synthesis, suggesting a potential mechanism for its sustained beneficial effects on skin aging (including improvements four weeks after Verisol® consumption ended).6‡

In addition to skin aging, Verisol® has been found to promote a smoother skin surface.⁷ Healthy adults with moderate thigh cellulite who consumed 2.5 g of Verisol® for six months reported significantly reduced appearance of cellulite and improved skin waviness (a skin surface profile marker).⁷ These beneficial effects likely resulted from the actions of Verisol® on connective tissue synthesis in the dermis, as the supplement significantly mediated dermal density (as demonstrated by skin compaction and stronger connective tissue).⁷ Likewise, another clinical study demonstrated that supplementation with 5-10 g of Verisol® for 45-90 days supports skin repair and dermal collagen production.8‡

Research suggests that Verisol® also exerts beneficial effects directly on the nail matrix and bed. Daily Verisol® supplementation (2.5 g for 24 weeks) in healthy women with brittle nails significantly decreased the frequency of broken nails (-42%), increased nail growth (+12%), and led to global clinical improvements in brittle nails in more than two-thirds of participants (which increased to 88% four weeks after supplementation ended).9 In addition, 80% of participants stated that the supplement improved the appearance of their nails and they were satisfied with the outcome, while more than 70% believed their nails were stronger and grew faster and longer.9‡

To further promote dermal health, Collagen Liquid Enhanced offers a combination of zinc and biotin. 10,11 Zinc is found in high levels in the skin, where it is critical for collagen production, skin repair, and transporters related to keratinocyte proliferation and dermal formation. 12,13 Biotin is a coenzyme required for carboxylation reactions, such as those involved in gluconeogenesis and the production of amino acids and fatty acids (compounds required for healthy skin structure and function). 11,13 Adequate intake of both biotin and zinc have been associated with the maintenance of healthy skin, nails and hair. 114

- Pérez-Sánchez, A, Barrajón-Catalán, E, Herranz-López, M, Micol V. Nutrients. 2018; 10(4). pii: E403. Lupu, MA, Gradisteanu Pircalabioru, G, Chifiriuc, MC, Albulescu, R, Tanase, C. Exp Ther Med. 2019; 2019: 1-6. Diehl, C. UJDVC. 2018; 1(68): 99-109.
- Dieni, C. DUJVC. 2018; 1687-99-109. Zague, V., de Freitas, V., da Costa Rosa, M., de Castro, G.Á., Jaeger, R.G., Machado-Santelli, G.M. J Med Food. 2011; 14(6): 618-24. Proksch, E., Segger, D., Degwert, J., Schunck, M., Zague, V., Oesser, S. Skin Pharmacol Physiol. 2014; 27(1): 47-55. Proksch, E., Schunck, M., Zague, V., Segger, D., Degwert, J., Oesser, S. Skin Pharmacol Physiol. 2014; 27(3): 113-9.
- Schunck, M., Zague, V. Oesser, S. Proksch E. J Med Food. 2015; 18(12): 1340-8. Knefell, HC, Durani, B. Nutrafoods. 2017; 16: 9-12. Hexsel, D. Zague. V. Schunck, M., Siega, C., Camozzato, FO, Oesser S. J Cosmet Dermatol. 2017; 16(4): 520-526.
- 10. Panel on Micronutrients, Subcommittees on Upper Reference Levels of Nutrients and of Interpretation and Use of Dietary Reference Intakes, and the Standing Committee on the Scientific Evaluation of Dietary Reference Intakes. (2001). Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, lodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc. National Academies Press. Washington, DC: National Academies Press.
- A Keport of the Standing Committee on the Scientific Evaluation of Dietary Reference Intakes and its Panel on Folate, Other B Vitamins, and Choline and Subcommittee on Upper Reference Levels of Nutrients, Food and Nutrition Board, Institute of Medicine. (1998). Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin BG, Folate, Vitamin BIZ, Pantothenic Acid, Biotin, and Choline. National Academies Press. Washington, D.C: National Academies Press. Chasapis, CT, Loutsidou, AG, Spiliopoulou, CA, Stefanidou, ME. Arch Toxicol. 2012; 86(4): 521-34. 11. A Report of the Standing Committee on the Scientific Evaluation of Dietary
- 13. Ogawa, Y, Kinoshita, M, Shimada, S, Kawamura, T. Nutrients. 2018; 10(2). pii: E199.

