

Ellagi-C: An Advanced Youth Elixir for Skin Rejuvenation

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Abstract

Our company has a natural solution to prevent skin ageing: Ellagi-C. It is extracted from the bark of an African tree, *Anogeissus leiocarpus*. This natural active ingredient helps the skin recover its youthful resilience and firmness through three complementary activities. It stimulates vitamin C incorporation into fibroblasts to help boost collagen production. Ellagi-C also has a potent anti-oxidant property and protects the derma-epidermal junction by inhibiting MMP-2 and MMP-9 activities. It has been proved by an *in vivo* study (panel, 19 volunteers) that 2% Ellagi-C visibly and significantly decreases the wrinkle depth in 14 days vs placebo.

With Ellagi-C, we provide an advanced youth elixir for your skin rejuvenation.

Introduction

The skin reflects our health and our age. It is the largest sensory organ and its functionality is essential.

Ellagi-C is an extract from the bark of an African tree, *Anogeissus leiocarpus*. It is an anti-ageing active ingredient with multiple functions against the signs of ageing. The leaves, the roots and the bark are well-known to provide health benefits.

The unique composition of Ellagi-C is responsible for its remarkable anti-ageing properties and it has an innovative mechanism of action. This active ingredient increases the incorporation of vitamin C into fibroblasts, thus restoring and maintaining collagen synthesis. As an antioxidant, it prevents premature ageing due to oxidative stress, and fights against enzymic degradation of the derma-epidermal junction.

These three combined activities fight wrinkles and preserve the youth of the skin.

Ellagi-C is an efficient and innovative active ingredient.

Skin Ageing and Wrinkles

Collagen Synthesis Decreases with Age

With age, the dermis gets thinner and the tone and elasticity of the skin decrease. The first signs of ageing appear on the

face in specific zones: eye and mouth contour. Expression lines become wrinkles.

These symptoms of ageing are mainly due to modifications to the composition of the extracellular matrix (ECM). Collagen reduction is specifically observed. Age creates an imbalance between the synthesis collagen and degradation mechanisms. Then the skin loses its elasticity.

Collagen is a fibrous protein, essential for the extracellular matrix and conjunctive tissues. It is formed by three polypeptide chains, made of repetitive units of amino acids: Glycine, Proline and Hydroxyproline. These chains may combine and form up to 28 types of different collagens. The main ones found in the dermis are type I (present in this skin layer at 80 to 90%) and III (Figure 1, see next page).

Vitamin C and Collagen Synthesis

Vitamin C plays a key role in collagen synthesis. This molecule is a cofactor required for the hydroxylation reaction of procollagen in fibroblasts.

This step is essential for stabilising the triple helix structure of maturing collagen. It enables it to be secreted normally in the extracellular matrix. This protein is secreted by the fibroblasts in the ECM in order to maintain skin firmness.

Vitamin C passes through biological membranes by simple diffusion according to a concentration gradient. Some membranes enable vitamins to pass through using specific transporters. Altogether, these transport mechanisms regulate the level of vitamin C in the intracellular medium.

The reduction of vitamin C incorporated into fibroblasts and collagen secretion occurs in ageing skin. Vitamin C transportation in specialized cells is a key step in synthesising this protein (Figure 2, Figure 3, see next page).

It is particularly important to maintain fibroblast activity by optimising vitamin C transportation, in order to prevent loss of skin mechanical properties.