

Note on Benefits of Retinoid for Skin

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DESCRIPTION

Retinoids reduce fine lines and wrinkles by increasing the production of collagen. They also stimulate the assembly of new blood vessels in the skin that improves skin colour. Additional benefits include fading age spots and softening rough patches of skin. Vitamin A and its derivatives, notably retinol slows both chronological and photo-induced aging processes. Retinol reduces the appearance of wrinkles and therefore they decrease the skin firmness and elasticity property by protective against scleroprotein and elastin fiber changes [1]. Additionally to retinol's rejuvenating skin advantages through direct transcriptional activation, recent study suggest an epigenetic regulation through micro-RNAs (miRNAs) modulation. We investigated how retinol supports the stimulation of Type I scleroprotein and elastin through proteomic, transcriptomic and epigenetic miRNA-expression changes in human skin fibroblasts. Acne may be a complex skin condition, characterized by proliferation of bacterium, hyper keratinization, inflammation, and excess secretion production. Acne sufferers want to address all aspects of their acne, including the disease initial state of the lesions and cosmetic complexion issues, such as marks, tone, and redness. One first-line topical treatment for mild to moderate skin acne that dermatologists suggest is a combination of Benzoyl Peroxide (BPO), to target the bacteria, and a retinoid, to promote surface cell turnover.

Retinol uses

Retinols are widely used in anti-aging cosmetic products. The mechanism of action for retinol was shown to involve modulation of cellular proliferation and differentiation. Hydroxyacetic acid also stimulates cellular proliferation and is a well-known exfoliating agent through its result on adhesion of corneocytes. Retinol exfoliates the skin, will increase skin cell turnover, and stimulates scleroprotein synthesis. It is considered the gold standard for its anti-aging and skin clearing advantages. It is available in the market within the forms of oils, creams, and serum. It is readily absorbed from the surface of the skin once applied topically.

The tiny molecules of retinol go deeper into the skin layer (dermis). It helps neutralize free radicals and will increase surface skin cell turnover, creating new cells grow beneath. They reduce the breakdown of collagen and thicken the deeper layer of the skin [2]. They also stimulate the production of new blood vessels on the skin, reducing skin pigmentation. The retinoid family contains vitamin A (retinol) and its natural derivatives like retinaldehyde, retinoic acid, and retinyl esters, as well as a large number of synthetic derivatives.

Retinol consists of a cyclohexenyl ring, an aspect chain with four double bonds (all in transconfiguration), and an alcohol end group. Hence the name all-trans-retinol. The chemical reaction of the alcohol end group in vitamin A ends up in the formation of an aldehyde (all-trans retinaldehyde or retinal), which might be further oxidized to a carboxylic acid (all-trans retinoic acid or tretinoin). Vitamin A can't be synthesized by the body; hence it needs to be supplied to the body. Naturally, it's present as retinyl esters and beta-carotene [3]. The retinyl esters are born-again to vitamin A before absorption from the internal organ and back to retinyl esters for storage within the liver. In the plasma, retinol is bound to plasma-retinol binding proteins. If you have moderate to severe acne disease that hasn't gotten better with alternative treatments, a retinoid may help.

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