THE NEW LIPO SERIES

Advanced encapsulation technology for skin care

These high-tech liposomes are based on certain biomimetic phospholipid composition such as phosphatidylcholine and cholesterol. The multi-lamellar structure protects the encapsulated active ingredients against oxidation, degradation, and interaction with other components of the formulation. The liposomes can be used over a broad temperature and pH range. A smart release system ensures the active ingredients are released exactly where they are needed.

Smart release system	Maximum temperature and pH-stability	Protection of active ingredients	Biomimetic composition

LIPOVIT

LIPOVIT contains 3% vitamin C and 0.5% each of vitamin A and vitamin E, whose well-known anti-aging mechanisms are further boosted by liposomal encapsulation.

In an *ex-vivo* study, premature skin aging was triggered on skin explants by stimulation with corticosteroids. Unlike the equivalent amount of free vitamins ACE, 2.5% LIPOVIT was able to reduce corticosteroid-induced collagen loss significantly.

In another study, skin explants were damaged using UV light, which led to an increased amount of reactive oxygen species (ROS). Application of a preparation containing 1% free vitamins ACE reduced ROS formation, while 2.5% LIPOVIT (which equates to an amount of 0.1% free vitamins ACE) reduced the release of ROS even further.

INCI: Aqua, Mannitol, Phosphatidylcholine, Glycerin, Sodium Ascorbyl Phosphate, Cholesterol, Retinyl Palmitate, Tocopheryl Acetate, Xanthan Gum, Sodium Chloride, Potassium Sorbate, Sodium Benzoate.

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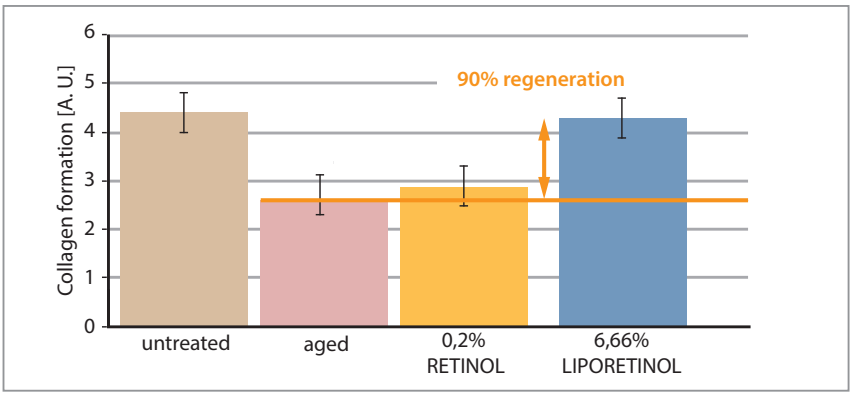
LIPORETINOL

Retinol, also known as vitamin A, is an established anti-aging active ingredient. Unfortunately, retinol and its derivatives are highly sensitive to sunlight and heat, and must be protected as well as possible against these influences.

In an *ex-vivo* study, it was shown that LIPORETINOL increases the amount of retinol in the basal layer 12 times higher than applying the identical amount of free retinol, from 0.4 µg/cm² to 5 µg/cm². In skin explants destined for premature aging by stimulation with corticosteroids, the application of 0.2% free retinol only managed to weakly increase collagen formation. By contrast, the equivalent amount of LIPORETINOL (6.66%) compensated for almost all collagen degradation induced by the corticosteroids (see graph).



Graph: While free retinol is unable to stimulate the production of collagen, an equivalent amount of LIPORETINOL promotes greatly increased collagen formation.

INCI: Aqua, Mannitol, Phosphatidylcholine, Glycerin, Retinyl Palmitate, Cholesterol, Xanthan Gum, Sodium Chloride, Potassium Sorbate, Sodium Benzoate.

LIPOADVANCE

Proteoglycans are components of the extracellular matrix. There, they form large complexes with other proteoglycans, glycosaminoglycans (GAGs, e.g. hyaluronic acid) and matrix proteins (e.g. collagen). Furthermore, it is known that proteoglycans are capable of stimulating the formation of collagen.

In skin explants treated with corticosteroids to induce premature skin aging, a preparation containing 0.016% free proteoglycans was not capable of increasing collagen formation, while the equivalent amount of LIPOADVANCE (6.4%) was able to counteract the induced collagen reduction significantly.

INCI: Aqua, Mannitol, Phosphatidylcholine, Glycerin, Cholesterol, Soluble Proteoglycan, Xanthan Gum, Sodium Chloride, Potassium Sorbate, Sodium Benzoate.

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