

A collagen organising tetrapeptide to restore skin suppleness

Regulates the fibrillogenesis process

Controls fibril dimensions

Gives suppleness to the skin



Description

Mimic tetrapeptide of the sequences of decorin that specifically bind to collagen fibrils, improving skin suppleness and providing higher resiliency.

decorinyl[®] *functional ingredient* comprises a liposomal system for enhanced penetration and increased efficacy.

Appearance

Suspension containing 0.2% Tripeptide-10 Citrulline.



INCI

Water (Aqua), Lecithin, Tripeptide-10 Citrulline, Carbomer, Triethanolamine, Caprylyl Glycol, Phenoxyethanol.

Properties

decorinyl[®] *functional ingredient* increases the skin suppleness and tonicity, improving skin appearance.

Applications

Cosmetic formulations designed for mature skin where an improvement of suppleness and strength of skin is desired.

Science

Fibrillogenesis is an essential process in tissue formation, but must be controlled and regulated in order to avoid excessive bundle-like aggregation of collagen. The fibrillogenesis control is the role of decorin, a small leucine-rich proteoglycan, which is associated with collagen fibrils at specific binding sites in the protein core, controlling fibril dimensions, the uniformity of their diameter and their regular spacing.

Aging skin contains a truncated form of decorin, which lacks binding regions with collagen fibrils, producing a negative effect on the elasticity on the skin.

decorinyl[®] *functional ingredient* contains a mimic peptide of these binding sequences that has proved to regulate fibrillogenesis, control collagen fibril diameter and increase skin suppleness.

Dosage 5%

Solubility

Dispersible in water.







decoringl[®] functional ingredient

In vitro efficacy

1. REGULATION OF COLLAGEN FIBRILLOGENESIS

Type I collagen samples were treated with decorinyl[®] functional ingredient at different concentrations. The process of fibrillogenesis was measured by turbidity readings. All tested concentrations of decorinyl[®] functional ingredient present significant activity on regulation of fibrillogenesis respect to control, in a dose-dependent manner.



1.0

0.8

0.6

0.4

0.2

0.0

deviation

Sta

0.80

Control

0.52

decorinyl

functional ingredient

2. DERMAL COLLAGEN FIBRILS STUDY

Tissues from a tridimensional human skin model were treated with 0.01% decorinyl[®] functional ingredient (peptide concentration).

Skin sections were observed by transmission electron microscopy (TEM).

The diameter of collagen fibres was measured and statistically analysed using the One way ANOVA analysis.



HISTOCHEMICAL STUDY OF HUMAN BIOPSIES

Skin biopsies of three volunteers were evaluated before and after a two-month treatment with a cosmetic formulation containing 0.01% decorinyl[®] functional ingredient (peptide concentration). The collagen fibril diameter was measured from transmission electron micrographs.





0 months

In vivo efficacy

SKIN SUPPLENESS

The test was performed on a group of 22 female volunteers between the ages of 40 and 58. A cream containing 5% **decorinyl**[®] *functional ingredient* was applied daily on the face for 28 days.

Another group of 21 female was treated with a placebo cream. Variations of skin suppleness were measured at time 0 and after 28 days.



Significant effect on the regulation of fibrillogenesis decorinyl® functional ingredient ensures

the regular spacing of collagen fibrils, maintaining tissue shape.



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9% decrease of the standard deviation of collagen fibril diameter decorinyl[®] *functional ingredient* is able to mimic decorin activity and interact with collagen fibrils, regulating the fibrillogenesis process and controlling fibril dimensions.

54% increase in skin suppleness after 28 days

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lsaac Peral 17 Pol. Industrial Camí Ral - 08850 Gavà (Barcelona) Spain - Tel +34 93 638 80 00 - commercial@lipotec.com