

# decorinyl™



## A new 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™** has been incorporated into a liposomal system for enhanced penetration and increased efficacy.

### Appearance

Suspension containing 0.2% active ingredient.

### INCI

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

Please contact us for information on the preservative system.

### Properties

**decorinyl™** 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™** is a mimic peptide of these binding sequences that has proved to regulate fibrillogenesis, control collagen fibril diameter and increase skin suppleness.

### Dosage

5%

### Solubility

Water soluble



decorinyl™

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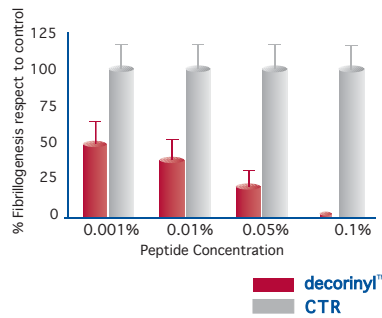
## In vitro efficacy

### • Regulation of Collagen Fibrillogenesis

Type I Collagen samples were treated with **decorinyl™** at different concentrations.

The process of fibrillogenesis was measured by turbidity readings.

All tested concentrations of **decorinyl™** present significant activity on regulation of fibrillogenesis respect to control, in a dose-dependent manner.

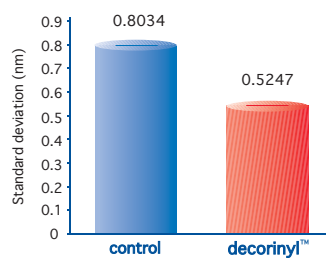


### • Dermal collagen fibrils study

Tissues from a tridimensional human skin model were treated with **decorinyl™** 0.01%. (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.



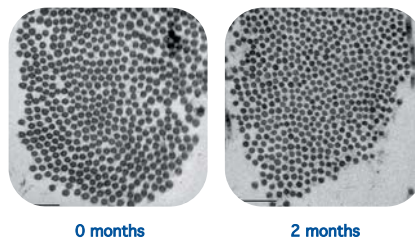
**Significant effect on regulation of fibrillogenesis**  
**decorinyl™** ensures the regular spacing of collagen fibrils, maintaining tissue shape.

**Improvement in the quality of collagen fibres**  
**decorinyl™** guarantees uniformity of fibril diameter, helping to establish skin mechanical properties.

## Ex vivo efficacy

### • Histochemical study of human skin biopsies

Skin biopsies of three patients were evaluated before and after a two-month treatment with a cosmetic formulation containing 0.01% **decorinyl™** (peptide concentration). The collagen fibril diameter was measured from Transmission Electron Micrographs.



**decorinyl™ 9% Decrease of standard deviation of collagen fibril diameter**

**decorinyl™** is able to mimic decorin activity and interact with collagen fibrils, regulating the fibrillogenesis process and controlling fibril dimensions.

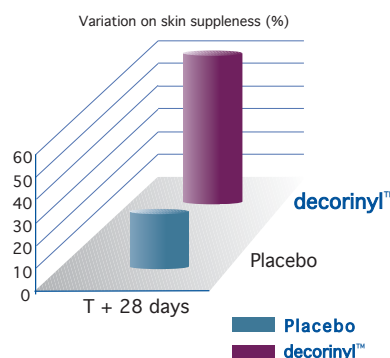
## In vivo efficacy

### • Skin suppleness

The test was performed on a group of 22 female volunteers, aged 40 to 58. A cream containing 5% **decorinyl™** was applied daily on the face during 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.



**54% Increase in skin suppleness after 28 days**