

Hairdensyl Complex

INCI name:

Water, Soluble collagen, Honey extract, Sodium PCA, Hydrolyzed elastin, Serine, Glycogen, Propylene glycol, Glycerin

Description:

HAIRDENSYL COMPLEX is a complete marine & botanical multi-functional complex for the care of thin, devitalized and weak hair. **Volume for the hair**

It is a hair treatment to repair and strengthen the hair structure, supplying the hair with substances for external and internal use to increase its **volume**:

- **Proteins** from **native marine collagen** for the hair's external protection
- **Amino acids** from **hydrolyzed marine elastin** for internal use to improve the vitality of hair follicles in the scalp
- **Polysaccharides** and **moisturizing factors** extracted from **honey extract** to improve the hydroretention and hydrocaptation capacity
- **Energy source** from **marine glycogen** to stimulate new hair growth.

Collagen is a fibrous protein which acts as a structural protein, holding the upper layers of the scalp.

Native collagen is one of the strongest proteins in nature. It has a high molecular weight and it leaves a protective film on the scalp and hair to defend itself from the environmental damages, specially the UV exposition.

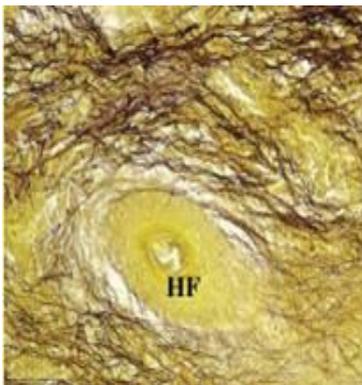


Figure 2. Follicle-associated elastin in the scalp of a human infant.

With the **Marine Elastin**, we can

provide to the scalp, nutrients and amino-acids which will be used by the fibroblasts for the production of new fibers of elastin and collagen. It is a supply of bio-disponible substances, similar to the ones founded at the scalp follicle. It contains the peptides and amino acids of elastin, among them: Aspartic Acid, Threonine, Serine, Glutamic Acid, Proline, Glycine, Lysine, and Arginine.

Damage to the proteins (Collagen and Elastin) in the scalp from sunlight and environmental conditions is affecting to thinning and loss of hair. This is a self-reinforcing problem, because as hair thins and becomes sparser, greater amounts of sunlight, in particular in the UV range of the spectrum, can penetrate to the scalp and damage the proteins in the scalp

matrix.

Collagen and Elastin are the proteins responsible for structure, protection and moisture of hair

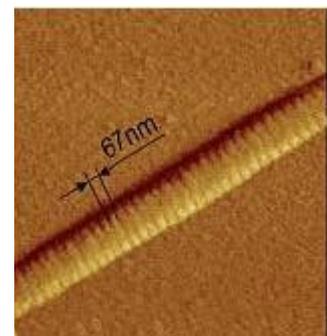


Fig1. Native Collagen fiber

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With the **Honey Extract**, the hair and scalp cells get analogue substances as the one founded at the NMF. We also provide the skin with components with an important capacity of hydro-retention and hydro-regulation.

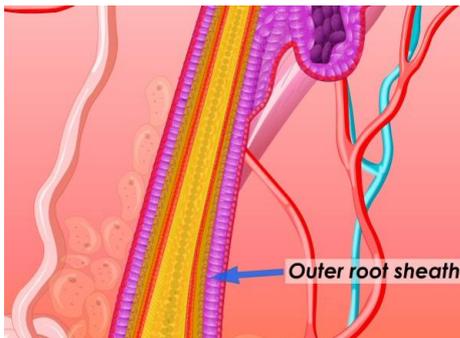
Natural moisturizing factor (NMF) is a collection of water-soluble compounds which absorb water from the atmosphere and combine it with their own water content allowing the outermost layers of the hair and scalp to stay hydrated despite exposure to the elements.

Main components of Honey Extract: Sodium Pirrolidon Carboxilate (PCA), Amino Acids, Polysaccharides, Lactic Acid and Urea.



Glucose is the most important sugar at cellular level. It plays a very important role at the energetic metabolism of the cells. **Glycogen** is a combination of glucose molecules and it is one of the main energy sources for the cells activities and it is present at the cytoplasm. At

hair level glycogen it is present and metabolized in the human hair follicle, especially at the outer root sheath cells. The cells of the outer root sheath contain clear vacuolated cytoplasm because of the presence of large amounts of glycogen.



The store of glycogen in the outer root sheath is utilized for a local supply of energy and materials for bulbar cell activities.

It is a complete active ingredient from which the hair will get substances to nourish, increase its moisture and get external protection against damaging substances. The most complete marine & botanical

multi-functional complex for the care of thin, devitalized & weak hair. It is a great active to **INCREASE THE HAIR VOLUME**

Effects in Cosmetic Products

HAIRDENSYL COMPLEX is indicated to **increase the hair volume**

HAIRDENSYL COMPLEX will also improve the protection of the hair against environmental damages thank to the native collagen film forming capability. It can gives to the hair a sensation of softness. Thanks to its hygroscopic feature, it has an important moisturization capacity. It offers to the scalp follicles amino acids and peptides to help increase its proteins synthesis, which decreases with environmental damage, in particular in the UV range of the spectrum Collagen and Elastin are the proteins responsible for structure, protection and moisture of hair. HAIRDENSYL COMPLEX has a stimulating effect of the growth of the hair follicle.

MULTIFUNCTIONAL ACTIVE TO INCREASE HAIR VOLUME:

- Increasing hair **protection** and reinforcing the cohesion of the cuticular scales
- Restoring the **vitality** of hair follicles and preventing from UV penetration
- Recovering the **energetic reserves** of follicle's cells
- Stimulating effect on the growth of human hair follicles
- Increasing **hydration** and hair's flexibility

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HAIRDENSYL COMPLEX is especially suitable for:

- Treatments to help to reduce hair loss and stimulate new hair growth
- Preparations for strengthens hair and increases the diameter of thin hairs
- Protection for permanent waved hair
- Shampoos and lotions for devitalized, dry, scaly or weak hair
- Protective hair conditioners
- Preparations to increase the hair Volume.

Dosage – Solubility – Processing

A- DOSAGE:

From 5,00 to 10,00 %

B- SOLUBILITY:

HAIRDENSYL COMPLEX is hydro soluble and soluble in ethanol up to 30%. Insoluble in oils

C- PROCESSING:

It is compatible with emulsified O/W or W/O excipients, in a pH range from 4 to 8. Nevertheless, it is the duty of the formulator to make sure of the stability of the formulae with the necessary tests.

It would be preferably incorporated into cosmetic preparations during the finishing process, at the cooling phase at around 50 °C

Analytical Data:

- APPEARANCE: Transparent liquid, pale amber colored with weak characteristic odor.
- pH: 4,00 – 6,00
- Dry extract: 7,0 – 10,0%
- Density (at 20 °C): 1,020 – 1,060
- Total Nitrogen: 0,4 – 0,6%

- PRESERVATIVES: EC, USA & JAPAN approved

- MICROBIOLOGY: Maximum 50 CFU/gram (not pathogenic)

- TOLERANCE: Excellent

- STORAGE: Store at room temperature, dry and away from light.

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If original container is opened, to avoid secondary microbiological contamination handle with special care and keep refrigerated.