

FILCORTEX VEG

REPLACES PROTEINS OF THE HAIR CORTEX



HAIR PROPERTIES PROTEINS, LIPIDS AND MINERALS

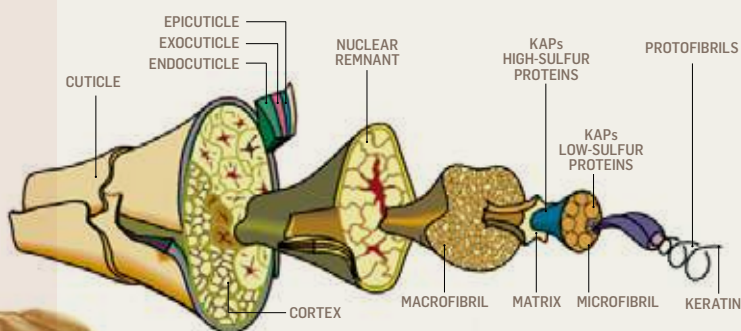
Hair is an extremely complex and sophisticated composite, where different proteins are combined with lipids and minerals to form a unique structure with extraordinary properties. Hair macrostructure consists of an outer cuticle, an inner cuticle, an inner cortex and occasionally a central medulla.

The cortex is the thickest hair layer, and is made of long cells joined together by an intercellular cement made of proteins and lipids. Each cortical cell is filled with bundles of keratin fibers, or Keratin Intermediate Filaments (KIFs).

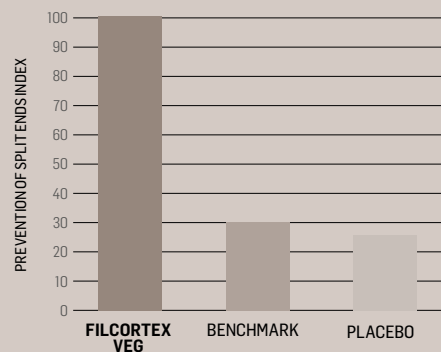
Recent findings based on highly sensitive proteomic analytical tools show that human KIFs are composed by acid (type I) and neutral (type II) keratins, organized in bundles: each keratin forms structures in form of a spiral α -helix twisted in pairs that form larger structures called **PROTOFIBRILS**.

Those, in turn, are organized in groups of four **PROTOFIBRILS**, forming structures further reinforced, known as **FIBRILS**. The empty spaces of these complex structures are filled with proteins, known generically as **Keratin Associated Proteins**, or **KAPs**.

HAIR FIBER



PREVENTION OF SPLIT ENDS



- Filcortex VEG is **3.3 times** better in the prevention of the appearance of split ends than a benchmark leave-on product with silicone.
- Filcortex VEG is **4 times** better in the prevention of the appearance of split ends than a placebo formula.

KAPS

KAPs comprises more than 100 different proteins and can be organized into 3 major groups that have different influences on the mechanical properties of hair.

Two groups, generally called High Sulfur KAPs, present large amounts of sulfur containing amino acids, and form crosslinks with keratin fibrils, being the main responsible for the structural strength of the hair fibers. A third group is composed of Low Sulfur KAPs and is known as the HGT group. Kaps of this group do not form crosslinks with the fibrils, and acts as a filling material between macrofibrils, adding flexibility and resistance to fibers.

Since they are not chemically bound to macrofibrils, the KAPs of the HGT group are less resistant than the High Sulfur KAPs and therefore are the first proteins to be damaged and removed by chemical or physical treatments of the fibers, causing a decrease in the cohesion between the proteins of the matrix, leading to the fragility of the hair fibers.

FILCORTEX VEG

FILCORTEX VEG is the result of the association of hair proteomics with bio-computing tools and associates the amino acids of the HGT KAPs with an exclusive Cuticle Interlock System – CIS which seals the amino acids into the hair fiber, increasing hair mass and reinforcing its structure.

FILCORTEX VEG replaces proteins of the hair cortex, repairs brittle and damaged hair, replaces hair mass and acts as a thermal protector of hair fiber.



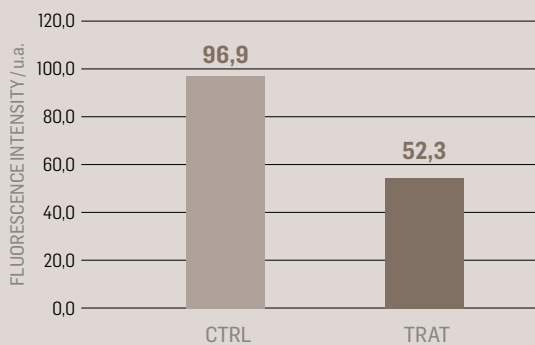
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REPLACES PROTEINS OF THE HAIR CORTEX

PROOF

Tresses submitted to one treatment cycle TRAT (shampoo+conditioner+mask) showed significantly lower cortical fluorescence intensity (1.9 times) in relation to strands in CTRL treatment. When a product with high substantivity is applied to hair, there is a connection between the active ingredients and damaged hair sites and thus the number of sites available for binding to the marker dye is reduced. Consequently, the fluorescence intensity is lower.

EFFECTS ON THE CORTEX

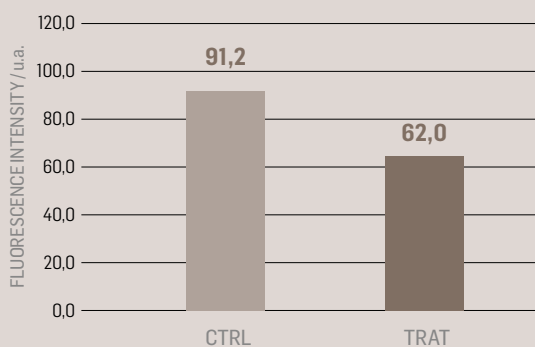


CTRL



TRAT

EFFECTS ON THE SURFACE (CUTICLE LAYER)



CTRL

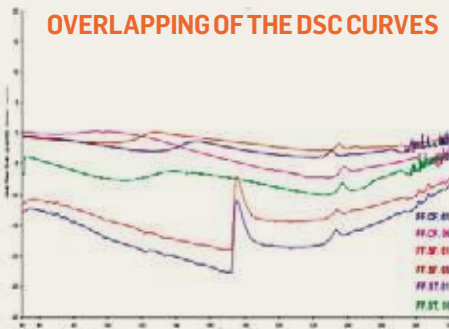


TRAT

THERMAL PROTECTION OF THE HAIR FIBER

The enthalpy necessary for the denaturation of α -keratin in hair treated with the products containing Filcortex increased by 62% after the first cycle. The treatment with Shampoo/Conditioner/Treatment cream/DD Cream with Filcortex, followed by drying and aligning (flat iron) was effective in protecting hair from heat damage.

OVERLAPPING OF THE DSC CURVES



LEGEND

- FF.CF.01 - Active group 1st cycle
- FF.CF.05 - Active group 5th cycle
- FF.SF.01 - Placebo Group 1st cycle
- FF.SF.05 - Placebo Group 5th cycle
- FF.ST.01 - Control Group 1st cycle
- FF.ST.05 - Control Group 5th cycle

The background noise observed at the end of the thermograms indicates the degradation of hair keratin.

USAGE LEVELS

PRODUCT	%
SHAMPOO	1.0 TO 3.0
CONDITIONER	1.5 TO 3.0
LEAVE-IN	1.5 TO 3.0
HAIR MASK	1.5 TO 3.0
HAIR SERUM	1.5 TO 3.0

INCI NAME

Aqua, Kappaphycus Alvarezii Extract, Laminaria Saccharina Extract, Hydrolyzed Rice Bran Protein, Hydrolyzed Soy Protein, Glycine, Phenoxyethanol and Ethylhexylglycerin

AMINOACIDS PROFILE

AMINOACID	DISTRIBUTION %
Arginine	6.61
Aspartic Acid	9.93
Cystine	1.64
Glutamic Acid	13.65
Glycine	23.14
Hystidine	2.46
Isoleucine	4.22
Leucine	7.27
Lysine	4.77
Methionine	1.49
Phenilalanine	4.63
Proline	3.88
Serine	4.45
Threonine	3.70
Tryptophan	0.28
Tyrosine	2.79
Valine	5.05

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