

Bio-Capigen PT

(Paraben Free)

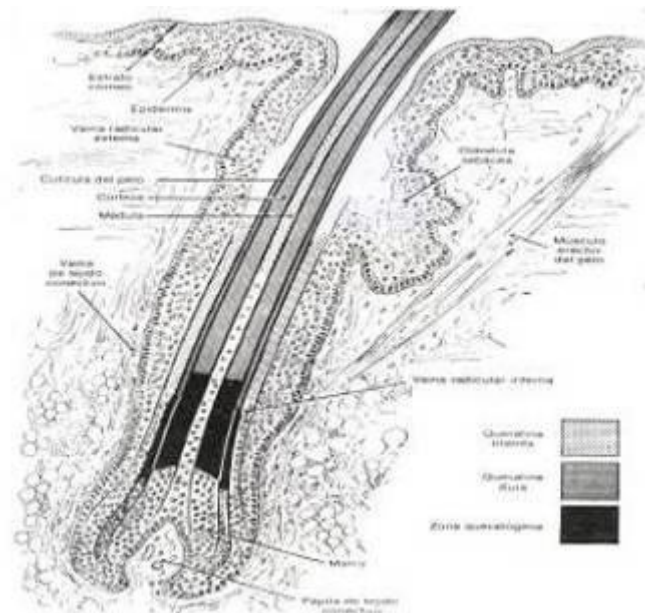
INCI name

Placental Protein, Hydrolyzed Soy Protein, Propylene Glycol, Panthenol, Zinc PCA, Glucose, Ornithine HCL, Niacinamide, Arginine HCL, Pyridoxine HCL, Glucosamine HCL, Citrulline, Biotin

Hair structure

The hair is a keratinized dead structure, growing from a tubular invagination on the epidermis called hair follicle.

The different parts are:



- Bulb: Deepest area. It contains the matrix cell with a very high metabolic activity. It is responsible for the hair growth.

- Papilla: Located at the base of the bulb, it is highly vascularized and contains matricidal cells with a quick multiplication.

- Hair stem: Visible part, it is made from 3 layers of cells: Central marrow, cortex and outer cuticle

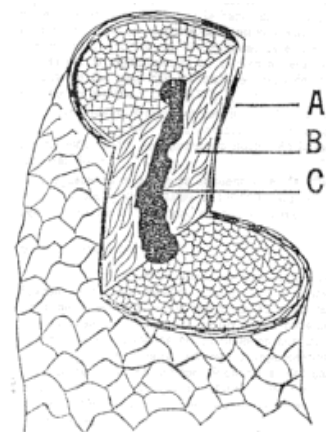
The hair stem

The hair stem is the visible part, and it is made out from 3 layers of cells:

A. Outer cuticle: flattened cells arranged in scales. They protect the hair.

B. Cortex: rich in keratin, is a bulky median area with cells producing melanin (hair pigmentation).

C. Central marrow: anucleated cells and not very dense area.



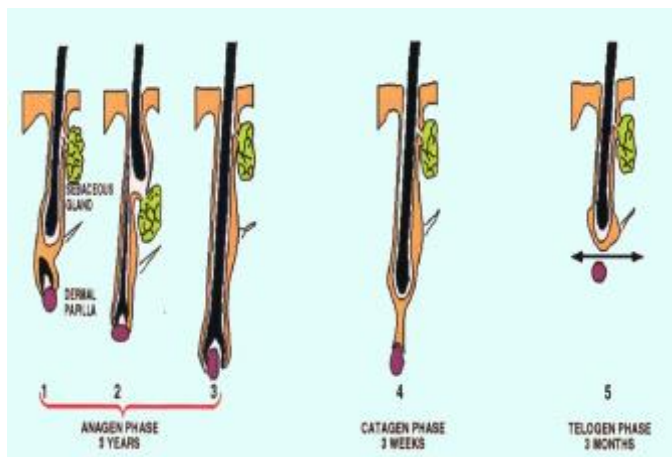
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Follicular cycle

The hair follicle have a periodical activity defined by three differentiated phases: **Anagen phase:** Growing phase, it lasts around 3 to 4 years. **Catagen phase:** Intermediate period, in which the hair stem starts to move towards the scalp surface. It takes around three weeks. **Telogen phase:** Last phase before the hair's loss. The papilla is now free. It lasts around two to three months.

This cyclic activity can be evaluated and measured by the Trichogram technique. Taking out around 50 hairs at a time, we can study the bulbs at the microscope to determine the number of hairs at each phase. The normal ration for a healthy hair and scalp is: Anagens: 80-90%, Catagens: 1% and telogens: 6-20%.



The trichogram will determine basically the relation between anagen (A) and telogen (B) hairs.

If $A/T = 4$, there is a normal and healthy hair and scalp. If $A/T < 3$ we can anticipate a pathological situation.

The most frequent cause of hair loss is the androgenic and seborrheic alopecia. It is directly linked to the action of the androgens over the papilla. This is most frequent on men, but it is also possible on

women

Androgenetic alopecia on men and diffuse androgenetic alopecia on women. By Hamilton (A) y Ludwig (B)



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Description

BIO-CAPIGEN PT is a complete biological, botanical and biotechnological complex designated to reduce the hair loss and stimulate the hair growth.

Its composition is made of:

- **SULFOPEPTIDES:** To stimulate protein biosynthesis. They also modulate the sebaceous secretion thus helping to maintain the scalp and hairs cleaner.
- **AMINOSACCHARIDES:** Important precursors for the biosynthesis of the fibroblasts.
- **PEPTIDES, AMINO-ACIDS AND OLIGOELEMENTS:** from the hydrolysis of soy proteins. In a short time, provides nutritive elements to the hair cells. In a long time, improves the cellular metabolism to the germinative cells.
- **GLUCOSE:** Indispensable energy source for the trichogenesis and cellular activity.
- **VITAMINS FROM GROUP B:** reinforces the hair vitality and modulates the lipogenesis.

Effects in Cosmetic Products

Its excellent and well-balanced composition makes BIO-CAPIGEN PT the first choice for hair treatment preparations, with the following properties:

a) Decrease of the hair loss rate and stimulation of its growth:

- Encourage cellular metabolisms
- Improves oxygen consumption of hair cells.
- Stimulates the microcirculation at the scalp.

b) Improves the esthetic look of the hair:

- Decreases the sensation of grease hair.
- Revitalizes the hair fibers.
- Improves the aspect of dry and non flexible hair

c) Ameliorates the seborrheic scalps and decreases dandruff:

- Provokes a dandruff dispersion
- Decreases itching sensation
- Modulates the sebaceous secretion

BIO-CAPIGEN PT can be used at lotions, gels, creams, shampoos, or at any aqueous or hydro-alcoholic balsams.

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Dosage – Solubility – Processing

A- DOSAGE:

From 3 to 10%. It can be used at higher concentrations at, for example, shock treatments in ampoules.

B- SOLUBILITY:

Hydro-soluble and compatible with alcohol up to 30%. Insoluble in oils.

C- PROCESSING:

BIO-CAPIGEN PT is compatible with most of the raw materials normally used in cosmetics, with a pH range of 4 to 8, like glycerin, propylene glycol, most surfactants (anionic, cationic, no ionic), most gelling agents. Avoid direct contact with polyethylene glycol hexylene glycol. 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: Liquid, light yellow colored.
- pH: 5,50 – 6,50
- Dry extract: 5,50 – 7,50%
- Density (at 20 °C): 1,020 – 1,040
- Refractive index (at 20 °C): 1,350 – 1,360
- Total nitrogen: 0,60 – 0,80%

- PRESERVATIVES: EC & USA approved. Paraben Free.
- MICROBIOLOGY: Maximum 50 CFU/gram (not pathogenic)
- TOLERANCE: Excellent
- STORAGE: Store at room temperature, dry and away from light.

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