

A complete, unique formula that's been designed using antiandrogenic phytonutrients, an anti-hair loss multivitamin complex, essential fatty acids and L-aurine, that acts on the different aspects involved in the deterioration of the hair cycle and provides the necessary elements for strengthening, revitalizing and preventing hair loss.

In addition to providing hair nutrition for both men and women, HAIR & SCALP provides the necessary active ingredients for healthy skin and nails.

Ingredients: Pumpkin seed oil (*Cucurbita pepo*), L-aurine, wild-crafted saw palmetto fruit extract (*Serenoa repens*), horsetail extract (*Equisetum arvense*), evening primrose seed oil (*Oenothera biennis*), flax seed extract (*Linum usitatissimum*), wild fish oil (*Engraulidae, Clupeidae*), nettle (*Urtica dioica*), grape seed extract (*Vitis vinifera*), green tea leaf extract (*Camellia sinensis*), thickener: beeswax, gelling agent: sunflower lecithin, D-biotin, anticaking agent: silicon dioxide, apple extract (*Malus domestica*), calcium D-pantothenate (vit. B5), nicotinamide (vit. B3), cholecalciferol (vit. D3), riboflavin 5'-phosphate sodium (vit. B2), pyridoxine hydrochloride (vit. B6), calcium L-methylfolate, methylcobalamin (vit. B12), annatto extract (*Bixa orellana*), softgel (glazing agent: gelatin; humectants: purified water and glycerol).

Nutritional information:	1 softgel (1 980 mg)
Pumpkin seed oil	400 mg
L-Taurine	240 mg
Saw palmetto (95% fatty acids)	185 mg
Horsetail (4,9 mg silica/capsule)	150 mg
Evening primrose (10% GLA)	100 mg
Fish oil (40% EPA, 20% DHA)	50 mg
Flaxseed (40% secoisolariciresinol diglucoside)	50 mg
Nettle	50 mg
Grape seed (80 % proanthocyanidins)	35 mg
Green tea (75% EGCG) (26,3 mg EGCG/softgel)	35 mg
Apple (5% proanthocyanidins B ₅)	12 mg
Niacin (vit. B ₃)	8 mg (50%*)
Pantothenic acid (vit. B ₅)	7,3 mg (122%*)
Riboflavin (vit. B ₂)	1,5 mg (107%*)
Vitamin B ₆ (pyridoxine Hcl)	1,7 mg (121%*)
D-Biotin	150 µg (300%*)
Folate (calcium L-methylfolate)	50 µg (25%*)
Vitamin B ₁₂ (methylcobalamin)	25 µg (1 000%*)
Vitamin D ₃ (cholecalciferol)	12,5 µg (500 IU) (250%*)

*NRV: Nutrient Reference Value in %

Size and format:
60 softgels

Recommended daily dose:
1-2 softgels daily with food.

It is recommended to use for a minimum of 2-3 months

Do not exceed the stated recommended daily dose (2 caps.). Do not consume a daily amount of 800 mg of EGCG or more

Cautions: Should not be used by pregnant or lactating women, children below 18 years old, if you are already using other products containing green tea, or on empty stomach. Consult a health-care practitioner if you are being treated with medication or if you have a special medical condition. **Contraindications:** Do not use if you have cardiopathy, kidney disease, heart disease or edema due to impaired heart or kidney function.

Indications and uses: Different studies have shown that the ingredients in HAIR & SCALP can be of help for: Male, female and seasonal androgenic alopecia, men experiencing age-related hormonal changes, women during menopause, and even devitalized, dry or rough hair. It can also be beneficial for brittle, fragile and discoloured nails, and for skincare (acne, blackheads, flaking).

Highlights: Complete formula with **antiandrogenic phytonutrients**, an **anti-hair loss multivitamin complex**, **essential fatty acids**, and **L-aurine**.

High concentrated antiandrogenic phytonutrients: pumpkin seeds (400 mg/softgel); saw palmetto (185 mg/softgel); flaxseed, grapeseed (95% proanthocyanidins), greentea (75 EGCG), nettle (1% silicic acid)

Anti-hair loss multivitamin-complex (B₃, B₅, B₂, B₆, D-biotin, folate, B₁₂, and vitamin D) and horsetail (150 mg/softgel) for an improved restructuring action.

Essential fatty acids omega-3, 40% EPA y 20% DHA from small fatty fish species to guarantee a high-purity oil without environmental contaminants. Evening primrose oil providing a minimum of 10% GLA.

Pumpkin seed and saw palmetto are organic and wild-crafted.

High content of the sulfur-containing amino acid L-aurine (240 mg/softgel) in synergy with greentea.

Acts on the different aspects involved in the deterioration of the hair cycle and provides the necessary elements for strengthening, revitalizing and preventing hair loss.

It is recommended to use this product for a minimum of 2-3 months for an improvement of healthy hair.

PUMPKIN SEED OIL: Pumpkin seed oil is a good source of polyunsaturated fatty acids, phytosterols, tocopherols, carotenoids, zinc, magnesium and selenium, essential nutrients for prostate health and also for scalp health. This oil has been widely studied and is highly valued due to its hormonal effect on certain androgen-dependent pathologies such as benign prostatic hyperplasia and androgenic alopecia. Its action is attributed to the lipid-steroidal fraction of the pumpkin seed, whose lipid fraction (essential fatty acids) is associated with antiinflammatory activity, and whose steroid component is related to its antiandrogenic effect. This effect is based on the ability of these compounds to inhibit the passage of testosterone to DHT (dihydrotestosterone) through 5- α -reductase. It is known that both prostate tissue and pilosebaceous follicles are very sensitive to this androgen, so high levels of DHT are associated with prostate pathology as well as androgenic alopecia, known as male pattern baldness^(4,6). Specifically, high DHT in sebaceous glands and hair follicles produces hypertrophy of the glands with its consequent seborrhoea, associated with increased cell mitosis and deficient proteosynthesis in hair follicles, which means shorter hair cycles, causing hair loss. Alopecia progresses to a miniaturization of hair follicles, which then end up forming scars, and they stop producing hair⁽¹⁾. Baldness affects men in particular, and may affect up to 50% of the male population over 50, and 10% of the female population, while toward the end of life, female alopecia reaches over 30%, with male alopecia around 70%. In women, hormonal imbalance (menopause, pregnancy) can also play an important role in the development of alopecia^(19,23). Genetics, however, is the decisive factor in alopecia, with 85% of cases being hereditary, while other factors such as nutritional deficiency, environmental contaminants, stress, scalp infections, chronic diseases or certain treatments can accelerate the process. In our formulation we've opted for organic pumpkin seeds in order to guarantee the maximum purity and quality of its active principles, in a high concentration of 400mg per capsule. In a study in which the efficacy of 270mg of pumpkin seed oil along with B vitamins was assessed on 90 men, after 12 weeks of treatment a reduction in hair loss was observed, as well as an increase in growth speed and hair thickness^(12,22,23).

L-TAURINE: L-aurine is a sulfur-containing amino acid that is necessary for keratin synthesis, the protein that gives structure to hair, and which is also found in the epidermis of our skin. This amino acid presents a great affinity for the hair bulb; when injected in experimental models, large deposits of it were found in the hair bulb, specifically in the conjunctive-tissue hair sheath, exerting a protective, bulb-repairing and antioxidant effect. L-aurine has shown an anti-TGF- β effect, which is beneficial for hair growth. TGF- β is a protein that promotes thickening of the conjunctive-tissue hair bulb sheath, miniaturization of the hair follicle and worsening of local microvascularization. It has been reported that nutritional L-aurine and green tea catechins act synergically to reduce the number of hairs lost and improve density and shine⁽²⁰⁾.

SAW PALMETTO (95 % fatty acids): The liposterolic extract obtained from the mature fruit is responsible for its inhibitory action on 5- α -reductase, presenting recognized antiandrogenic properties that work against hair loss and prostate problems in men. Many studies have shown its activity on benign prostatic hypertrophy (BPH), improving urinary symptoms and flow rate at a dose of 160mg. It exerts a proven anti-alopecia and seborrhoea-regulating effect on sebaceous hair follicles. Sabal extract has been proven effective for alopecia in a study in which patients with alopecia were administered sabal liposterolic extract and β -sitosterol for 4 months. The results showed that 60% of the subjects improved by the end of the visits. It can also be beneficial for re-establishing hormonal balance in conditions of excess androgen levels in women (hirsutism, polycystic ovary syndrome). In our formulation we've included Sabal at a dose of 185mg per pearl, which is wild-harvested, that is obtained from controlled cultivation without using chemical treatments, pesticides or synthetic fertilizers^(2,3).

HORSETAIL (7% silica): Horsetail is one of the most consumed medicinal plants in the world because of its multiple therapeutic properties. It's a coadjuvant diuretic in treatment for excess weight, an anti-inflammatory, antioxidant, antimicrobial agent, hepatoprotector and a useful remineralizing agent for recovering from fatigue, lesions (post-traumatic oedema) and convalescence. Among its main constituents are abundant mineral salts, especially the silicic acid salts, with silica concentrations that range from 3 to 16%, which are the highest values found. Silicon promotes collagen production, an essential protein structure for skin elasticity. Horsetail has been proven an excellent treatment for certain cutaneous alterations such as acne and eczema, and it favours scar formation in wounds. It favours the growth of hair and nails, which become stronger and better quality (thickness, resistance, elasticity and breakage threshold). Due to its antiseptic properties, it also helps treat skin infections (herpes, fungal infections), and can help combat dandruff and excessive seborrhoea production. It plays a crucial role in the formation of hair, nails and skin, as well as bones, cartilage, tendon and arterial walls, upon maintaining the structure of the fundamental substance of connective tissue⁽¹⁶⁾.

EVENING PRIMROSE OIL (10% GLA): Evening primrose oil, or primula, is a natural source of essential fatty acids pertaining to the omega 6 family, cis-linoleic acid (LA; 65-80%), and cis-gamma linolenic acid (GLA; 8-14%). GLA and its metabolite, dihomogamma-linolenic acid (DGLA), are direct precursors in the synthesis of anti-inflammatory prostaglandins (PGE-1). This anti-inflammatory action can be of use for stopping microinflammation generated in the follicular sheath in alopecia. It seems to also favour vasodilation in the follicular area, increasing microcirculation. The effects of evening primrose oil on skin are well known. Its efficacy has been proven for atopic dermatitis and eczema, improving itching, flaking, dryness and inflammation, and it has been used in many formulations to combat cutaneous ageing, providing the essential dermolipids for maintaining a good state of hydration and nutrition in the skin^(7,17).

FLAXSEED: It seems that lignans, especially secoisolariciresinol diglucoside (SDG), are related to the antiandrogenic activity of linseeds. They provide a variety of benefits for health due to their phytoestrogenic, antioxidant and chemoprotective properties that protect against hormone-dependent cancers (prostate and breast). They inhibit 5- α -reductase, reducing plasma free androgen levels (testosterone and DHT), which is why it has anti-alopecia activity. In 87 patients with BPH, treatment with SDG for 4 months improved urinary symptoms associated with this disorder^(5,6).

WILD FISH OIL (40% EPA, 20% DHA): An insufficient supply of these essential fatty acids is related with hair loss, dehydration, dry skin and fragile nails. Both EPA and DHA, when ingested, are quickly incorporated into the phospholipids of cell membranes where they can be released by lipoxygenase and cyclooxygenase enzymes, creating products with powerful cytoprotective and, above all, anti-inflammatory properties. For this reason, they've been used as prevention for many pathologies with a chronic inflammatory component, for cardiovascular health, and for neurodegenerative diseases. They are used on skin disorders because of their anti-inflammatory and immune-modulating activity. The latest studies have revealed that in areas affected by baldness, prostaglandin D2 (PGD2) is found in much greater amounts than in areas with hair in patients with androgenetic alopecia. This recent discovery suggests that PGD2 could be reduced by the administration of EPA and DHA^(7,8).

NETTLE (1% silicic acid): Its richness in mineral salts (iron, sulfur, manganese and silicic acid, among others) make this plant a good remineralizing agent and tonic for people with iron-deficiency anemia, one of the main factors related to hair loss in women. A 5- α -reductase inhibitor, it improves the symptoms of BPH, according to results obtained in 558 patients who were administered 120mg of nettle extract. Its effect on hair health is based on scalp regeneration and combating dandruff and seborrhoea^(8,10).

GRAPSEED (80% proanthocyanidins): The proanthocyanidins in grapeseed have been shown to promote the proliferation of hair epithelial cells, and are capable of favouring the anagen phase of the hair cycle. They also increase hair resistance, improving microcirculation in the hair bulb, favouring the entry of nutrients into the follicle. Grapeseed protects and gives resistance to collagen and elastin in hair dermal papillae, and to the dermis in general. In a study in which proanthocyanidins were administered to 30 people with male pattern baldness, stimulation of hair growth was observed⁽⁸⁾.

GREEN TEA (75% EGCG): Green tea is used in the prevention and treatment of androgenic alopecia for the inhibitory effect of EGCG on 5- α -reductase. EGCG has been proven to stimulate hair growth upon favouring the proliferation of dermal papillae cells in the scalp. Catechins also exert a vasodilating effect that may improve capillary microcirculation, providing more nutrition⁽⁹⁾.

APPLE EXTRACT: Apple extract, specifically type B proanthocyanidins (blueberry proanthocyanidins are type A) have been shown in experimental studies to promote the growth of epithelial hair cells and induce the anagen phase (stage of the hair life cycle where the greatest hair growth occurs). The mechanism by which this stimulation occurs is due to the fact that type B proanthocyanidins inhibit or reduce the expression of an enzyme (protein kinase C) which is present in the root and hair follicle sheath with more activity in the phase where there is more hair loss (telogen phase)^(11,12,24).

B VITAMINS: The B vitamins promote the formation of keratin in the hair and nails, and are essential nutrients for the formation of red blood cells, necessary for the transport of nutrients and oxygen to the scalp, and are key co-factors for the metabolism and production of iron. Our formulation contains vitamin **B₃** (niacinamide) which increases blood circulation in the scalp, favouring hair growth, and intervenes in collagen synthesis in skin^(21,22); **B₅** (D calcium pantothenate), known as the "anti-grey hair vitamin", and whose deficiency is associated with hair loss, is essential for healthy skin and nails. It exerts seborrhoea-regulating and pore-reducing activity, beneficial for treating acne⁽¹⁵⁾; **B₂** (riboflavin) is absolutely necessary for protein metabolism, helping conserve skin, nails and hair⁽²²⁾; **B₆** (pyridoxine) participates in zinc metabolism and cysteine synthesis, basic nutrients for the formation of keratin in hair, skin and nails⁽²²⁾; **D-biotin**, a deficiency of this is associated with alopecia and skin outbreaks. Numerous studies have shown its efficacy in treating brittle nails and dermatitis⁽²¹⁾; **folate**, a deficiency of which is associated with reduced follicular division, and it is essential for metabolizing methionine, a sulfur-containing amino acid that participates in keratin formation⁽²¹⁾; **B₁₂** (methylcobalamin) acts in synergy with folic acid in the synthesis of sulfur-containing amino acids, and in its anti-anaemic function^(8,22).

VITAMIN D3 (cholecalciferol): Vitamin D3 is a critical co-factor in hair metabolism. It stimulates hair follicle growth and hair fiber production. Studies have shown that the vitamin D receptor (VDR) is expressed in the pilosebaceous unit, exerting anti-inflammatory activity⁽⁸⁾.

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