

# Mool Hair Grow

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Mool Hair Grow is a dietary supplement developed to enhance hair re-growth and reduce hair loss.

The product contains:

- Natural Marine Protein Complex™ -- marine polysaccharides.
- Amino acids
- Zinc gluconate
- Extracts of grape skin and grape seeds (antioxidants)
- Vitamin B-complex
- Vitamin E
- Vitamin C
- Chlorophyll

The recommended dose is 1-2 tablets per day.

**Mool Hair Grow may help you reduce hair loss, get a more healthy looking hair, and improve re-growth of your hair.**

The special composition of Mool Hair Grow has been developed in order to ensure that your hair gets all the nutrients needed for a healthy hair. In addition it contains a natural marine protein complex that has been demonstrated to increase the hair follicles' ability to maintain healthy hair growth.

The efficacy of Mool Hair Grow has been studied in a double-blind, placebo-controlled clinical study with 60 participants over 6 months, with a further follow-up over another 6 months. The inclusion criterion for participating was that they had experienced excessive hair loss for a minimum of 1 year. The number of hair strands in a defined area on the head was counted using an electronic device. At the end of the 6 months the participants using Mool Hair Grow had a significantly higher number of hair strands in the defined area – both when compared with the situation prior to treatment and when compared to the group receiving an ineffective treatment (placebo). In addition, the participants were asked to record their level of satisfaction with the treatment and reported a significant improvement in satisfaction. (1)

## Hair growth

The hair growth cycle goes through 3 stages. To begin with, the anagen phase is the active growth phase of hair follicles. The cells in the root of the hair are dividing rapidly, adding to the hair shaft. The actual hair grows out from the hair follicle as a result of this process.

At the end of the anagen phase, the hair follicle enters a 2-3 weeks long period called the catagen phase. During this phase a “club hair” is formed when the part of the hair follicle in contact with the

lower portion of the hair becomes attached to the hair shaft. This process cuts the hair off from the blood supply and from the cells that produce new hair. During this phase the hair growth of the hair will slow down.

After these 2-3 weeks the hair follicle enters the telogen phase – or resting phase. During this phase the hair stops growing. This period normally lasts for approx. 15 weeks for the hairs on the scalp, and much longer for eyebrows, eyelashes, arms and legs. At any given time 10 – 15 % of the hairs are in the telogen phase. About 25 – 100 telogen hairs are shed every day in a normal individual. (2)

All people will therefore experience some hair loss, which is part of the normal process of renewal of the hair. When excessive hair loss occurs, or hair re-growth is inhibited, this can have various reasons. Some families are genetically prone to lose their hair early – in the same way that early greying of hair occur in other families. Various diseases and the use of medication can also lead to excessive hair loss, or the inhibition of the formation of new hair. Also, malnutrition plays an important role in the hair re-growth cycle.

### **Mool Hair Grow -- scientific rationale**

The main component of Mool Hair Grow is a **natural marine protein complex** which contains a group of proteoglycans that has been shown to regulate the proliferation of cells in dermis (the skin) and which is especially important for the function of the hair follicle and re-growth of the hair.

Specifically, it has been demonstrated that proteoglycans can interact with growth factors as well as fibronectin and interstitial collagens and can associate in a transmembrane relationship with the cellular cytoskeleton. In particular, chondroitin 6-sulphat is much present during the anagen phase of the hair growth cycle. (3)

Proteoglycans, as can be found in Mool Hair Grow, play an important part in regulating the epithelial-mesenchymal signalling exchange that regulates the hair follicle activity, and therefore are necessary to maintain normal hair growth (4)

A clinical study has been performed on the actual product, Mool Hair Grow, demonstrating a significant increase in the number of hair straws in a given area on the scalp. (1)

This has been further documented by a clinical study on the marine polysaccharides used in Mool Hair Grow demonstrating a significant effect in reducing baldness in people with developing hair loss. (5)

Bioavailability of these large molecules has been documented by measuring plasma levels after oral ingestion. (6)

Mool Hair Grow also contains **the two amino acids l’cysteine and l’methionine**. No in vivo studies have been published on the effect of supplementation of these amino acids on human hair growth. In vitro studies do, however, indicate that both amino acids may protect and improve hair growth. In an in vitro study l’cysteine improved the metabolic capacity of keratinocytes in a dose dependent way. Keratinocyte activity is an important prerequisite for hair growth. Both l’cysteine and l’methionine are precursors of taurine that in vitro tests have shown have a protective effect on human hair follicle growth (7, 8).

Furthermore, Mool Hair Grow contains zinc gluconate. The supplementation of zinc gluconate in people with alopecia areata has demonstrated clinical improvements as well as a general increase in zinc status. (9). Zinc plays a central role in a number of physiological processes and thereby contributes to growth, wound healing, immune functions, skin metabolism (especially the collagen synthesis) as well as maintaining the central nervous system. Alopecia is one of the clinical manifestations of zinc deficiency. The theory is that zinc inhibits hair follicle regression and accelerates recovery of the hair follicle where hair growth takes place.

As zinc inhibits the absorption of copper and iron, Mool Hair Grow therefore contains copper chlorophyll. (10)

Grape Seed Extracts contain resveratrol that have strong antioxidant capacity. Grape seed extract in Mool Hair Grow therefore has a cell protective effect (antioxidant). In addition it has been demonstrated that resveratrol works as a promoter of blood flow to the skin and hair follicle. (11) Nutrition is carried to the body cells through the blood stream. As healthy blood flow is therefore of great importance for the health and function of the body cells, including the cells implicated in hair growth. In addition Hairgain™ contains vitamins C and E. Both these vitamins are important antioxidants and are added to supplement the effect of grape seed extract in order to protect the body cells and promote the blood flow to the follicles.

Mool Hair Grow also contains a vitamin B-complex. A vitamin B-complex has traditionally been used to improve skin, nail and hair health, and vitamin B deficiencies have often been diagnosed on basis of lustreless hair and hair loss. Although little formalized research is available regarding the benefits of vitamin B-complex on hair growth and hair health, it is generally recognized that the supplementation of vitamin B- complex will have a general positive effect on the health and lustre of the hair.

## References

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