

Patent Registered



#### FUNCTION and CHARACTERISTICS:

Fights follicle ageing process to prevent hair loss. **NUTRIGROW** targets the main causes of alopecia: poor scalp micro-circulation, follicle atrophy caused by dihydrotestosterone and follicle ageing.

Re-starts the interrupted hair cycle to combat Alopecia, stimulates cell proliferation to re-activate production of anagen hair, increases period of **shortened** anagen phase to prevent miniaturization and hair fall. **NUTRIGROW** improves micro circulation and inhibits the production of DHT.

#### DEFINITION:

**BIOTINYL GHK**, It shows “mitotic activity” by stimulating cell metabolism. Activates numerous genes involved in tissue repair mechanism.

**OLEANOLIC ACID**, inhibits the activity of 5-a reductase I - II limiting their transformation of testosterone into DHT.

**APIGENIN**, improves micro circulation and increases vascular density around the hair follicle in order to facilitate the supply of oxygen and nutrients required for strong hair development.

**Anti-Aging HEXAPEPTIDE-11**, targets aging at the cellular level to ensure healthier, more youthful looking hair, increases dermal scalp levels of collagen & elastin.

**COPPER, MAGNESIUM IRON AND ZINC FERMENT**, improves health of hair follicle, stimulates cell differentiation, stimulates hair growth. Zinc is an important antioxidant nutrition necessary for healing and development of new cells. Copper is important in the formation of disulfide cross-linkages in keratinization, promoting hair growth.

**BIOTIN**, Biotin is an essential vitamin which regulates formation of the late cytokeratins of differentiation. (FRITSCHÉ et al., 1991) There are various scientific studies which show that Biotin deficiency gives rise to Alopecia.

**NIACINAMIDE**, a necessary component for the cell metabolism. Participates in the synthesis of hormones and proteins. Stimulates blood circulation and activates the oxygen transport to hair follicles.

**GREEN TEA**, shows anti-aging activity, helps to recover tissue damages.

**SACCHARUM OFFICINARUM EXTRACT, CITRUS MEDICA LEMONUM EXTRACT, PYRUS MALUS FRUIT EXTRACT, CAMELLIA SINENSIS LEAF EXTRACT**, improves health of hair follicle, removes dead skin cells, promotes cell renewal. Anti inflammatory/anti oxidant activity.

**AESULUS HIPPOCASTANUM, HORSE CHEST NUT SEED EXTRACT**, prevents excessive seborrhea and itching.

**HEXAMIDINE DISETHIONATE**, anti- dandruff, anti - inflammatory.



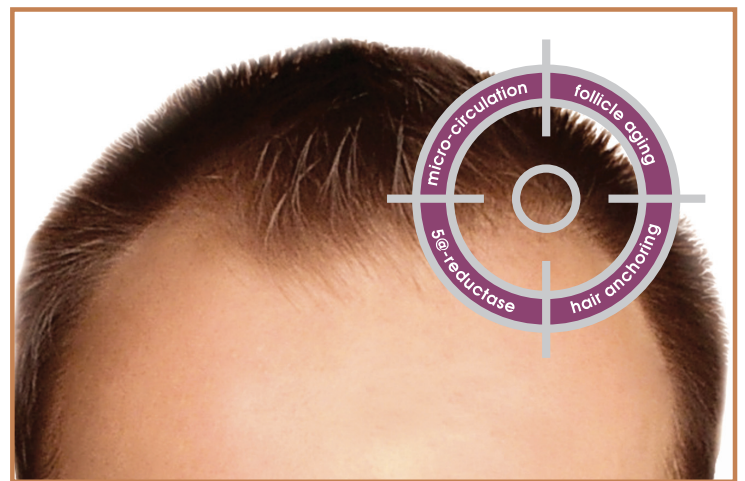
Natural Formula

# NUTRIGROW®

Hair Nourishment System

## Peptide-Vitamin-Mineral Rich Complex:

- ✓ Prevents Hair Loss
- ✓ Stimulates new Hair Growth
- ✓ Speeds up Hair Growth



Patented peptide Biotiny GHK within **NUTRIGROW** is clinically tested and proven for efficacy with comparable studies to **Finasteride and Minoxidil**.

Stimulation of cell metabolism

Mitosis Rate

Study of root sheath keratinocytes after a 14-day culture of hair follicle. Biotinyl-GHK (2ppm) stimulates KI-67 expression, indicating enhanced cell proliferation.

Gene Expression

NUTRIGROW active complex activates numerous genes involved in tissue repair mechanisms. ( DNA-array on 3D SkinEthic<sup>®</sup> epidermis.)

Hair Anchoring

Hair follicles are incubated for 14 days with Biotinyl-GHK (2ppm).

✓ Morphological observation of dermis/root sheath junction.

The persisting dermis/root sheath junction is thick and recovers its normal sinusoidal shape.

✓ Laminin V and Collagen IV are revealed by immunofluorescence.

NUTRIGROW provides a protecting and repairing effect for the different structures of the hair follicle, slowing down the ageing process.

Stimulating Of Hair Growth

Hair follicles are incubated for 14 days with Biotinyl-GHK or minoxidil (2ppm).

Using the same concentration, BIOTINYL - GHK is as efficient as minoxidil.

In Vitro

Examples Of Activated Genes By PROCAPIL<sup>™</sup>

Gene	Activity	Activation
Laminin Binding Protein	Adhesion	+146%
Acetyl Coa transferase	Cell metabolism	+137%
Cytokeratins 10	Differentiation	+154%

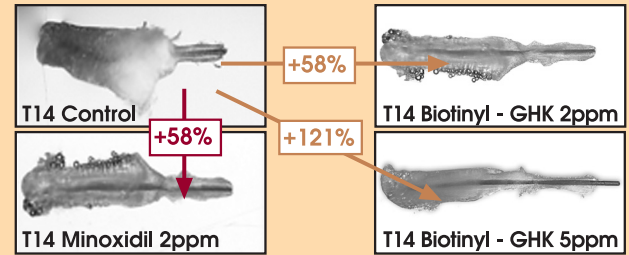
Morphological Observation



Presence Of Adhesion Molecules

Adhesion Molecules	T14 Control	T14 Procipil
Laminin V	+	+++
Collagen IV	+	++++

Hair Growth Stimulation



Clinical Study

Four-month placebo-controlled clinical trial (Laboratoires DERMSCAN).

Principles:

A study duration of 4 months was selected in order to totally cover the telogen.

Thirty-five subjects, aged between 18 and 50 years and presenting with more than 20% of their hair in the telogen phase were included.

Product application

The product or placebo was applied twice daily to the scalp using gentle massage.

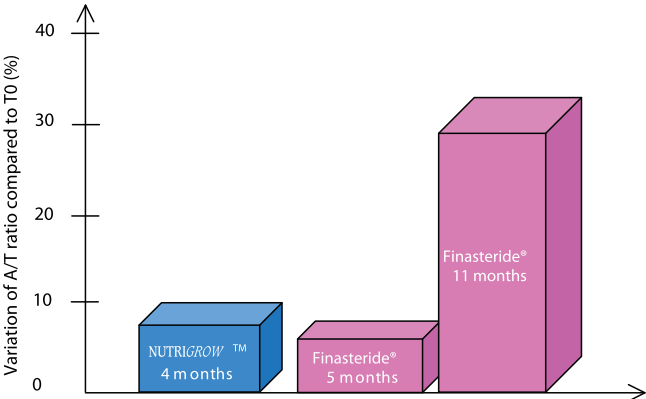
Compliance / Safety

Compliance and safety visits were conducted after 4, 8 and 12 weeks of treatment. NUTRIGROW active complex was very well tolerated by all volunteers over the 4 months of use.

Videotrichograme

A/T(mean Value)	PROCAPIL <sup>™</sup>	Placebo
T0 Day	2,84	2,61
T4 Months	3,13	2,54

The A/T ratio increases significantly by up to 46% compared to T0 and the placebo. 67% volunteers had their anagen hair number increased with NUTRIGROW active complex.



The comparison with the data published for the Finasteride by oral administration shows that NUTRIGROW has a remarkable activity.

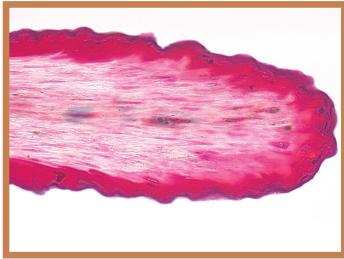
In the NUTRIGROW group, 67% of the subjects presented with an improvement in A/T ratio and, for 3 subjects out of the 12 improved, the A/T increase was 31.2, 33.5 and 46.3%, respectively. In contrast, in the placebo group, there was a trend toward a decrease in anagen hairs.

In fact, a moderate 8% variation of A/T ratio (compared to T0) is reported for Finasteride after 5 months, variation increasing strongly to reach 33% after 11 months.

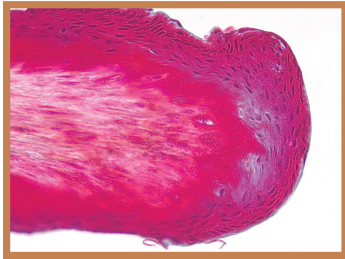
Finasteride 1 mg oral tablets 5 Months* Source : Van Neste d et al. 2000 British Dermatol. p.804 - 10	
T0 Day	1.74
T5 Months	1.88



● Hair follicle morphological study:

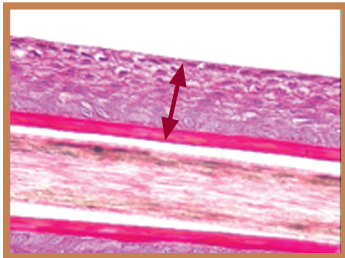
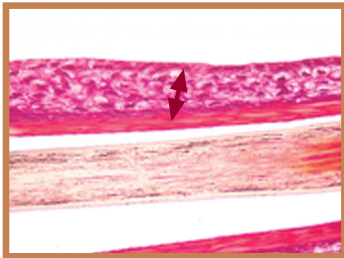


T0

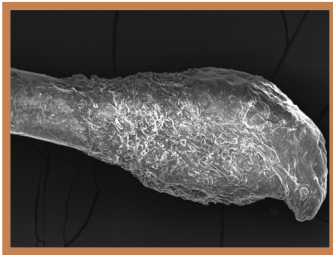
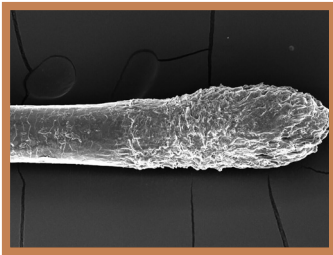


T4 month, NUTRIGROW active complex

After treatment, hair bulb cells are highly structured and differentiated. The root sheath is thicker and ensures optimum anchoring.

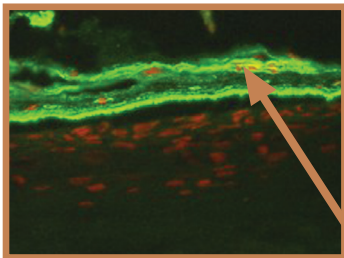


● Morphological changes in the hair after 5 days.

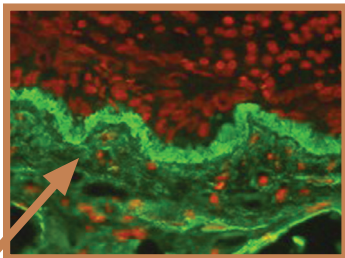


Noticeable difference in hair bulb appearance with the NUTRIGROW active complex treatment.

● Study of adhesion protein in the dermis/epithelium sheath junction: LAMININ V COLLAGEN IV



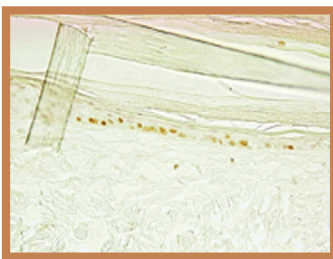
Control T14



T14 BIOTINYL GHK 2ppm

Activates adhesion proteins by up to %146 (Laminin V and Collagen IV ) responsible for anchorage in the dermis

● Anti-aging activity on the root sheath



Ki67 mitosis control D14



Ki67 mitosis BIOTINYL GHK D14

For the control bulb, the results showed a decrease in mitotic keratinocytes on day 14 of culture, reflecting cell aging. Minoxidil maintained proliferative activity (as reported by BOYERA et al., 1997), as did 0.3  $\mu$ M biotinyl-GHK (2 ppm) and approximately 1  $\mu$ M (5 ppm) biotinyl-GHK. The effect obtained with biotinyl-GHK was superior in that it was obtained at concentrations 10- to 30-fold lower than the Minoxidil concentration, 10  $\mu$ M (2 ppm).

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## ABOUT NUTRIGROW

The **NUTRIGROW** Serum Kit contains 6 x 30 ml vials of serum numbered from 1 to 3. Each bottle contains a sufficient amount of serum for a seven-day application.

One box is enough for 45 days application. **NUTRIGROW** Serum should be applied daily, once in the morning and once in the evening. **NUTRIGROW** shampoo contains one bottle of 300 ml for Greasy hair and Dry/Normal Hair. Hair should be washed with **NUTRIGROW** Shampoo as usual.

