



nano t-growth hair

Hair growth reactivation

Active ingredients: Extract of Licorice, Ginseng, Black Cumin, Black Pepper, Burdock, B-vitamins and Amino acids.

Nano T-Growth Hair is a blend of active ingredients encapsulated in biopolymer particles with particle diameter larger than 200 nm. The blend encapsulation through the technology developed by Nanovetores allows the stabilization of sensitive components, therefore, complex of being formulated in their free form. Due to its natural features and non-existent chemical aggression, Nano T-Growth Hair can be used daily, providing in continuous applications the balancing of oily hair and reactivating hair growth.



Features

Aspect: Transparent liquid from yellow to amber.

Usage Concentration: 1.0 to 10% pH

stability: 2.0 to 7.0

Dispersibility: Dispersion of actives encapsulated in water

Particle: Biopolymer

Release Trigger: Enzyme



Benefits

- Controls oily scalp
- Invigorates hair follicles
- Improves microcirculation
- Reactivates hair growth
- Strengthens and nourishes hair strands and roots



Usage

Shampoos, conditioners and aqueous serums.



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Description

Nano T-Growth Hair is a blend of active ingredients encapsulated in biopolymer nanoparticles, with an enzymatic release trigger, which ensures sustained release, releasing its contents throughout 12 hours after product application.

The main component of licorice extract is glycyrrhizic acid, a triterpenoid saponin glycoside, which acts by preventing scalp inflammation⁽¹⁾. Ginseng extract presents hair regeneration activity, widely used in the treatment of alopecia by acting on cells of the dermal papillae, which are the source to hair follicles⁽²⁾. Black cumin extract has thymoquinone, a derivative of thymol which is responsible for much of the beneficial effects of this active ingredient, known mainly for its antioxidant and antiseptic activity⁽³⁾.

Black pepper extract contains piperine, which acts as an inhibitor of 5- α -reductase. The 5- α -reductase enzyme catalyzes the conversion of testosterone to dihydrotestosterone, an active androgen, which binds to androgenic receptors and promotes several hormone actions. An excessive accumulation of dihydrotestosterone leads to male pattern baldness. The extract promotes a decrease in the concentration of dihydrotestosterone in many tissues, being effective in protection against alopecia⁽⁴⁾.

Burdock extract helps in treating hair loss and skin diseases⁽⁵⁾. It features antipruritic, antiseptic and epithelializing properties - restores the skin structure and function, facilitates circulation in the blood capillaries and improves nutrition, stimulating skin and scalp metabolism⁽⁶⁾.

Nano T-Growth helps to reduce hair loss and grow new hair, as well as strengthen strands and replace essential vitamins and amino acids for hair growth.

Regulatory Information

INCI NAME	CAS NUMBER
AQUA	7732-18-5
GLYCYRRHIZA GLABRA ROOT EXTRACT	84775-66-6
NIGELLA SATIVASEED EXTRACT	90064-32-7
PIPER NIGRUM SEED EXTRACT	84929-41-9
PANAX GINSENG BERRY EXTRACT	84650-12-4
ARCTIUM MAJUS ROOT EXTRACT	84649-87-6
HYDROLYZED SOY PROTEIN	68607-88-5
POLYSORBATE 80	9005-65-6
PHENOXYETHANOL	122-99-6
CALCIUM PANTOTHENATE	137-08-6
CITRULLINE	372-75-8
NIACINAMIDE	98-92-0
ZINC GLUCONATE	4468-02-4
BIOTIN	3184-13-2
ORNITHINE HCL	58-85-5
GLUCOSAMINE HCL	3184-13-2
HYDROXYPROPYL GUAR	6684-94-2
ARGININE	74-79-3
ACETYL TYROSINE	537-55-3
CAPRYLYL GLYCOL	1117-86-3

Physical-Chemical Information

PHYSICAL STATE	LIQUID
FORM	TRANSPARENT
COLOR	YELLOW TO AMBER
ODOR	CHARACTERISTIC
pH	2.0 TO 4.0
DISPERSIBILITY	DISPERSION OF ACTIVES ENCAPSULATED IN WATER
RELATIVE DENSITY	0.9 TO 1.1 g/ml
CHEMICAL IDENTITY	ORGANIC
CHARACTERIZATION	BLEND

*As it contains natural active ingredients, the product may change in color and odor.

** Agitate before using.



STORAGE:

MANTAIN IN TEMPERATURE BETWEEN 20°C- 25°C



COMPATIBILITY:

SHAMPOOS, CONDITIONERS AND SERUMS



INCOMPATIBILITY:

INCOMPATIBLE WITH ALCOHOL SYSTEMS, ETHANOL.



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References

1 - AFNAN, Q. et al. Glycyrrhizic acid (GA), a triterpenoid saponin glycoside alleviates ultraviolet-B irradiation-induced photoaging in human dermal fibroblasts. *Phytomedicine*, v. 19, n. 7, p. 658-664, 2012.

2 - PARK, S.; SHIN, W.S.; HO, J. Fructus panax ginseng extract promotes hair regeneration in C57BL/6 mice. *Journal of Ethnopharmacology*, v. 138, p. 340-44, 2011.

3 - GALI-MUHTASIB, H.; EL-NAJJAR, N.; SCHNEIDER-STOCK, R. The medicinal potential of black seed (Nigella sativa) and its components. *Advances in Phytomedicine*, v. 2, p. 133-153, 2006.

4 - HIRATA, N. et al. Testosterone 5 α -reductase inhibitory active constituents of piper nigrum leaf. *Biological and Pharmaceutical Bulletin*, 30(12), 2402-2405, 2007.

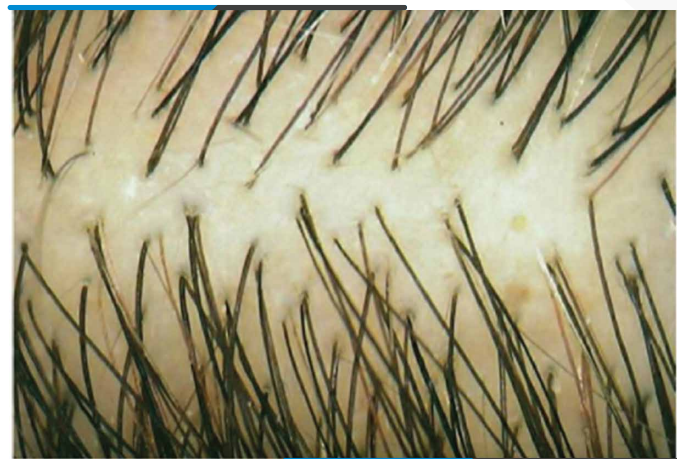
5 - MORGAN, R. Enciclopédia das ervas e plantas medicinais. 9.ed. São Paulo: Hemus, 2003. 555p.

6 - GALKIN, A.Y.; SOLOVJOVA, V.F.; DUGAN, A.M. Anti-inflammatory and immunomodulating properties of the herbal preparation indicated for prevention and treatment of alopecia. *Botanics: Targets and Therapy*. 3, 49-55, 2013.

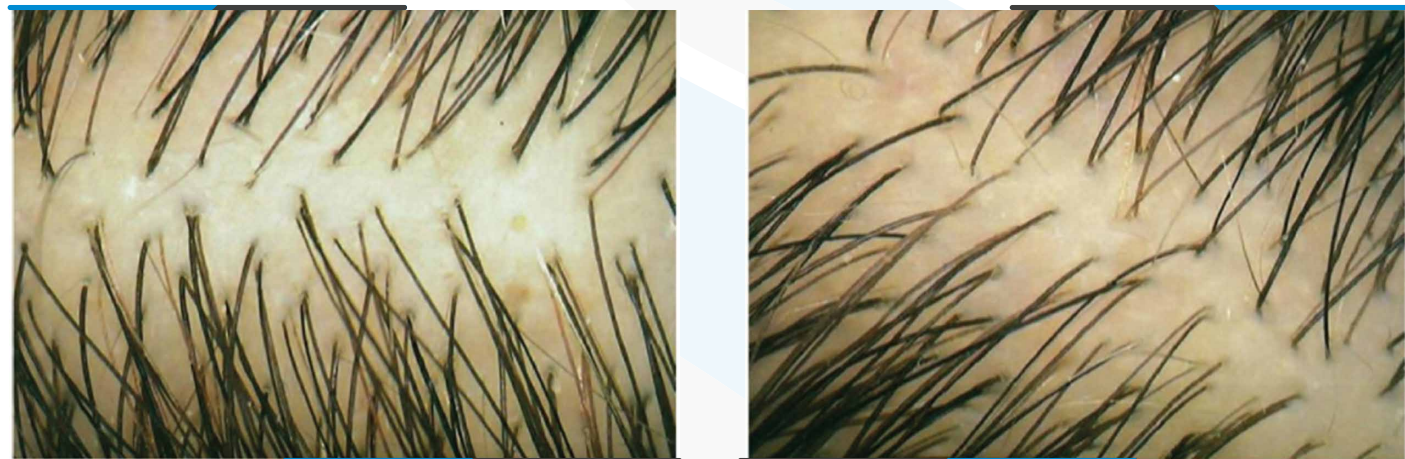
Effectiveness Test

Study: Effectiveness evaluation of hair growth by scalp microphotograph.
Length of study: 56 days of home use, once a day at bedtime.

Before



After



Conclusion: The product provided significant increase of 8.7% from the average density of new strands of hair in relation to the initial condition. 50% of study participants showed some increase in the average density of strands of hair.

Suggested Formula

Sérum with Nano T-Growth Hair 10%

PHASE I %

Preservative.....	qs
Fragrance.....	0,3
Water qsp.....	100,00

Technique: Solubilize and reserve

PHASE II %

Nano T-Growth Hair.....	10
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Technique: Reserve

1. Add phase I over phase II and homogenize

Usage Protocol

- 1 Apply on the desired area twice a day, once in the morning and evening.

Nanovetores Encapsulation Technology



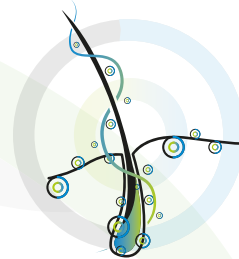
Multifunctional biopolymeric particles that increase the capillary adhesion and form a shielding film.



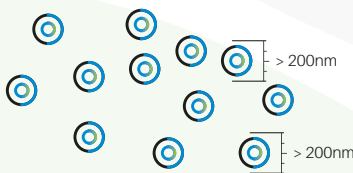
Enzymatic Specific Release Trigger, where enzymes present on the skin disintegrate particles, releasing the active ingredient specifically where it needs to act.



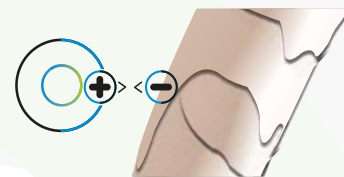
Active Ingredient Protection against oxidation resulted from interaction with external environment and other components of the cosmetic formulation.



Greater permeation on the contact surface due to the small size of the capsule.



Monodispersity, that ensures control of the particle size, providing adequate permeation to its proposed action.



Surface Charge Control of the particle, promoting greater affinity with the contact surface.



Secure particles larger than 200nm, biocompatible and biodegradable.



Water Base. Active ingredients are manufactured without the use of organic solvents, ensuring safety for users and the environment.

Use Encapsulated Active Ingredients and Ensure:

Stability Improvement

Increased compability in the formulation

Occlusion of odors

Increased skin permeation

Reduced dose

Use of sensitive active ingredients (without refrigeration)

Increased Solubility

Prolonged release

Increased effectiveness