

ScalpLab

INNOVATIS
Exceptional

origin

∨∧ *We work from the root.*

purity

∨∧ *High concentrations of active ingredients.*


effectiveness

∨∧ *Tests of proven effectiveness.*

innovation

∨∧ *Services and own products. Innovatis DNA.*



A solid orange vertical bar is positioned on the left side of the slide, extending from the top to the bottom.

A new vision in hair
and scalp care

ScalpLab is an alternative and innovative biotechnology treatment for all types of dermo-capillary condition working from its **origin**, the skin.

✂ The starting point is the study of the involvement of exogenous and endogenous toxins, main cause of a physiological process called aging.

✂ It proposes the **fall prevention, hair growth, densification**, and greater thickness and density of the scalp, by a reconstruction of hair follicle through tissue engineering.

It attacks the 3 main causes:

- *Deficient microcirculation.*
- *Atrophy of the hair follicle.*
- *Aging.*

✂ Guarantees **scalp comfort. Avoid itching, redness and peeling** while **regulates excess of sebum**.

ScalpLab uses high efficiency pure bio-technology actives, it even allows to prepare customized treatments for each customer, under the supervision of the professional.

How does it work?

It's an **innovative system** whereby, thanks to **high concentration of actives** and **the possibility of combining them together**, we get more effective results and customized treatments for each client, always working from the **origin**, the skin.

The ritual ScalpLab is a sensory experience, where relaxation is a paramount to achieve the desired state of wellness and enjoy a gentle massage with the selected active ingredients.

/ STEP 1 - PEELING

Apply **Micellar Shampoo Spray** on wet hair.
Massaging hair and scalp for 2/3 minutes.
Rinse.

/ STEP 2 - ACTIVE

Apply 15ml of **Solvent** in a test tube (actives dilution factor)
+ 1 ml of the selected **active** + 0.5 of **Thickener** (emulsifier factor for actives).
Insert the stopper in the test tube and shake.
Remove the nipple and apply on the scalp an activation massage.

/ STEP 3 - TRACKING

Wash your hair and scalp using **STEM CELLS SHAMPOO**,
apply on the scalp **DEFENSE & MAINTENANCE** 1 or 2 times a week to ensure the best treatment.

The ScalpLab therapies

The **ScalpLab** therapies have been methodically researched and created in our laboratories to ensure the care and welfare of both, skin and hair.

R&D

High concentrations in actives to treat any dermal-capillary typology.

Innovation and creativity as a tool to customize each therapy or treatment according to the needs of scalp and hair.

The concentration of bio-technological actives plus the personalization through the combination there of as innovative system for any capillary anomaly.

A sensory experience, working from source to achieve hair health and beauty.

/ DETOX ACTIVE

Detox therapy, preventive, regenerative, revitalizing and invigorating the scalp.

Aging is a physiological process mainly caused by exogenous and endogenous toxins that accumulate in our skin and have a big impact on **cell regeneration**.

Proteasomes (enzyme system) are responsible for helping to eliminate toxins. Its main components are **SUPEROXIDE, DISMUTASE** and **PEROXIDASE**.

Active ingredients:

✎ **EXTRACT OF TREMELLA FUCIFORMIS** (mushroom): SOD Activity (superoxide dismutase). SOD helps to reduce DNA damage, lipid peroxidation (protecting cell membranes) minimizes the denaturation of proteins.

✎ **HEXAPEPTIDE FE-III**: Peroxidase activity. Peroxisade reduced levels are associated to DNA damage, malfunction of cells, protein degradation and lipid peroxidation.



Efficacy Test [DETOX ACTIVE]

"The most dangerous toxins are originated in your skin."

How toxins affect the aging process?

Aging is a physiological process mainly caused by the toxins.

Our skin is affected by exogenous and endogenous toxins that accumulate in our skin and have a major impact on cell regeneration.

7,000 million toxins accumulate in our skin every day, block cell regeneration and lead to premature aging.

How cell toxins are removed?

A normal cell growth implies a controlled balance between synthesis and degradation processes. Cytoplasmic proteins and functional material act as cellular toxins if they accumulate. Proteasomes (enzyme system) help to eliminate them.

The biggest degradative process that removes and recycles cell damage is called AUTOPHAGY.

	CELLULAR PHYSIOLOGY	PATHOLOGY
AUTOPHAGIC ACTIVITY	EXCESSIVE LEVELS	Accumulation of cellular damage. Premature aging.
	PHYSIOLOGICAL LEVELS	Efficient removal of cellular damage. Renewal of cellular material. Retarded aging, longevity.
	LOSS OF AUTOPHAGY	Induction to cell death. Reduced survival.

A detox mechanism

The action of reactive oxygen species (ROS) causes intracellular accumulation of oxidative damage and leads to premature aging. Oxidative process corrupts molecules and compromises cell homeostasis.

DETOX ACTIVE neutralizes reactive oxygen species maintaining physiological levels autophagy and proteasome activity. Prevents cell regeneration and prevents premature aging.

What has the DETOX ACTIVE?

1. TREMELLA FUCIFORMIS EXTRACT (Mushroom)

- Natural extract
- SOD Induced Activity (superoxide dismutase)

EFFICIENCY [TREMELLA FUCIFORMIS EXTRACT (Mushroom)]

The presence of antioxidants metalloenzymes SOD helps to reduce DNA damage, lipid peroxidation (protecting cell membranes) and minimizes the denaturation of proteins.

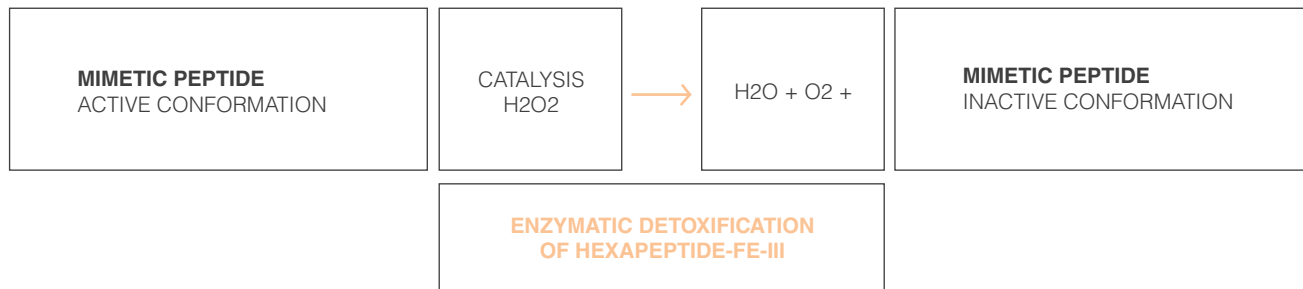
Heteropolysaccharides of Tremella fuciformis (MANNOSE, AND GLUCURONIC ACID XYLOSAS) promotes the formation and activity of SOD.

2. HEXAPEPTIDES FE-III

- Synthetic peptide
- PEROXIDASE activity

EFFICIENCY HEXAPEPTIDES FE-III]

In our skin, peroxidases are found in small quantities. Peroxidase reduced levels involves DNA damage, malfunction of cells, protein degradation and lipid peroxidation. DETOX ACTIVE Peroxidase plays a new role.



Detox activity-test

This study reveals the high enzymatic activity of DETOX ACTIVE against exogenous detox of H2O2.

Activity [U/pmolL]	100,20
Km [mmol/L].....	2,50
Vmax [mmol/1min].....	1,50
Kcat[S].....	15,74

The activity of our product was measured by degradation of H2O2 using a specific assay of ascorbate peroxidase.

Detox activity-test

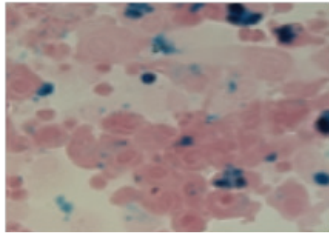
(Exogenous activity). Prolonged.

The rate of exogenous H2O2 detox by DETOX ACTIVE was significantly higher than vitamin E in a prolonged study.

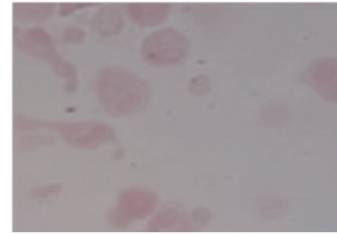
In addition, a single molecule of mimetic peptide can recycle several H2O2 molecules while vitamin E can only block one.

Detox-Intracellular Activity (Staining Prussian Blue)

The mimetic peptide of DETOX ACTIVE doesn't act only on extracellular level but eliminates free radicals generated in the intracellular space. This technique can detect Fe.

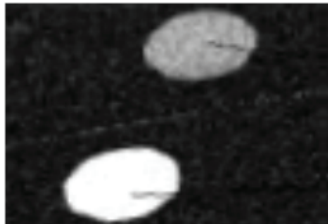


Cells incubated (4 hours)
WITHOUT DETOX ACTIVE



Cells incubated (4 hours)
WITH DETOX ACTIVE

The enzymatic activity of the peptide depends largely on the presence of Fe in the molecule. ACTIVE DETOX also serves as a vehicle for iron on our skin because of its magnetic properties. The existence of Fe in the peptide and those properties are measured using an MRI (Magnetic Resonance Imaging).



DETOX ACTIVE mimetic peptide

CONTROL peptide

Contrast image to determine the signal Fe.
Lower intensity, greater concentration of Fe.

/ CONFORT ACTIVE

Purifying therapy, soothing and normalizing for irritated or sensitive hairs, with dandruff or flaking, and excess of sebum or hyperhidrosis.

- ∨ Relieves itching and soothes irritated scalp.
- ∨ Reduces visibly dandruff, moisturizing the scalp and decreasing production of sebum.
- ∨ Controls bacterial microflora of the scalp and helps to restore the integrity of the epidermis of the scalp.

Active ingredients:

- ∨ **APIUM GRAVEOLENS:** derived from an extract of celery seed (*Apium graveolens*) obtained through sustainable CO2 extraction process super citric.



Efficacy Test [CONFORT ACTIVE]

CONFORT ACTIVE is derived from an extract of celery seed (*Apium graveolens*) obtained through sustainable extraction process using super citric CO₂.

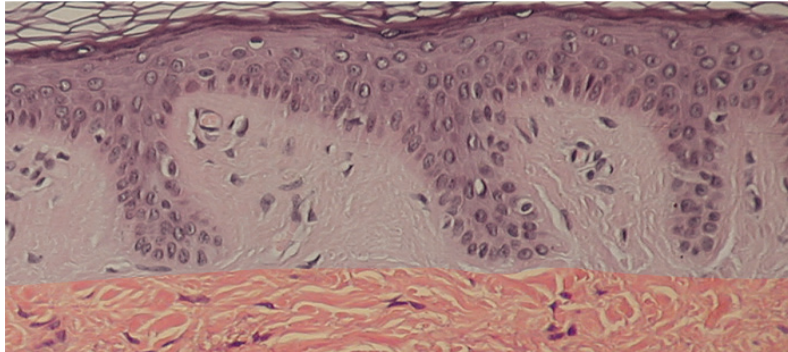
Properties

CONFORT ACTIVE relieves itching and soothes irritated scalp. Reduces visibly dandruff, moisturizing the scalp and decreasing production of sebum.

Controls bacterial microflora of the scalp (reduced bacterial growth and irritation) and helps to restore the integrity of the epidermis of the scalp (regulation of differentiation of the cells of the epidermis and peeling).

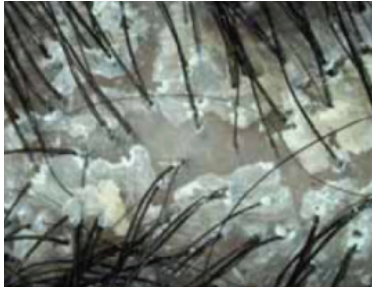
Characteristics

CONFORT ACTIVE provides comfort and beauty to the scalp, by controlling the micro-flora, while restoring the epidermal integrity.



Visual observation of dandruff reduction

CONFORT ACTIVE is derived from an extract of celery seed (*Apium graveolens*) obtained through sustainable CO₂ extraction process super citric.



Before



After 21 days

Reduction or disappearance of dandruff
up to 93% of volunteers

Liberation of irritation gauges.

Measuring from adhesive tape attached to the scalp
(ex vivo study, n=43)

· Amount of histamine-46%, p<0,01 compared to T0

Sebum and moisturizing properties

On oily scalp (n=30)

- Sebum production: After 7 days...-27.2%, $p < 0.01$ compared with T0 up to -46%
After 21 days...-34.3%, $p < 0.01$ compared to T0 up to -61%

In all types of scalp (n=42) after 21 days.

- Hydration of the scalp (DemarLab®)
+12%, $p < 0.05$ compared to T0 up to +148%
- Water loss (VapoMeter™)
-6.9%, $p < 0.07$ compared to T0 up to +36%

Reduction of induced irritation

Malassezia receivers, CONFORT ACTIVE 3% in leave-on applied on skin explants stressed by Malassezia furfur and globose.

- Toll-like receptor 9 (TLR-9)-16%, $p < 0,01$ compared to placebo

Mediators of irritation, CONFORT ACTIVE eq. to a 3% in human keratinocytes stressed by Malassezia (combination of irritant fatty acid analogues to metabolites produced by Malassezia).

- IL-8..... -65%, $p < 0,01$
- PGE2 -83%, $p < 0,01$

Restoration of integrity

Cornified cell envelope, CONFORT ACTIVE eq. to 3% in human keratinocytes (* p <0.01).

- Involucrin x135* • Loricrin x29,8* • Filaggrin.....+91%*

Intercellular cement, CONFORT ACTIVE eq. 3% in human keratinocytes (* p <0.01).

- Neutral lipids .. x10,5* • cholesterol: upregulation (DNA Array)
- Ceramide 2+107%* y +40% compared to placebo (in skin explants).

Restoration of integrity

Restriction of lipids, CONFORT ACTIVE eq. 3% in human sebocytes.

- Lipid production-40%, p<0,01

Synthesis of antimicrobial peptides, CONFORT ACTIVE eq. 2,5% in human keratinocytes.

- Beta-Defensin 2.....+118%, p<0,01

/ REBORN ACTIVE

Anti-aging, **stimulating, energizing and hair loss** therapy..

Fights the aging of hair follicle by rebuilding it through tissue engineering.

Active ingredients:

- ∨ **VITAMIN-ENRICHED MAQUITRINA** (stimulates cell metabolism and hair growth).
- ∨ **APIGENIN** (improves microcirculation).
- ∨ **OLEANOLIC ACID** (inhibits 5alpha-reductase).

The active attacks the 3 main causes of alopecia:

- ∨ Deficient microcirculation in the scalp.
- ∨ Follicle atrophy caused by dihydrotestosterone (DHT).
- ∨ Aging of the follicle.



Efficacy Test [PRO ACTIVE]

The main function of the product is fight against the aging of the follicle hair to prevent hair loss. ACTIVE PRO is a combination of three complementary active ingredients:

1. A vitamin-enriched Matriquina (Bionyl-GHK) that stimulates cell metabolism and hair growth.
2. Apigenin (a flavoide extracted from citrus) that improves microcirculation.
3. Oleanolic acid (extracted from Lovely Hemsleya) that inhibits 5 alfa-reductase.

PRO ACTIVE attacks the 3 main causes of alopecia:

1. Deficient microcirculation in the scalp.
2. Follicle atrophy caused by dihydrotestosterone (DHT).
3. Aging follicle.

Evidence of efficacy

Stimulation of cell metabolism

Mitotic rate

Sheath keratinocytes are studied after culture of hair follicles after 14 days. The Biotinyl-GHK (2ppm) stimulates expression Ki-67, indicating cell proliferation.

Gene expression

Activates numerous genes involved in tissue repair mechanisms (DNA array on a 3D epidermis Skin-EthgicR).

Anchoring the hair

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

- Morphological observation of the dermis/ epithelium sheath junction.

Union dermis/epithelial sheath clean and thick has regained its usual sinusoidal form.

- The Laminina5 and collagen IV are revealed by immunofluorescence.

PRO ACTIVE provides a protective and reparative effect to different hair follicle structures, slowing the aging process.

Stimulation of hair growth

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

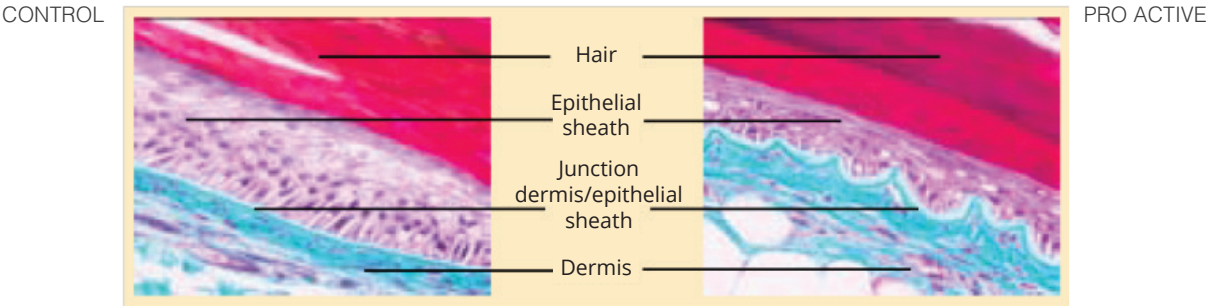
Using the same concentration, Biotinyl-GHK shows the same efficacy as minoxidil.

In vitro study

Example genes activated by PRO ACTIVE:

GEN	ACTIVITY	ACTIVATION
Laminin-fixing protein	Adhesion	+146 %
Acetyl CoA transferase	Cellular metabolism	+137 %
Cytokeratins 10	Differentiation	+154 %

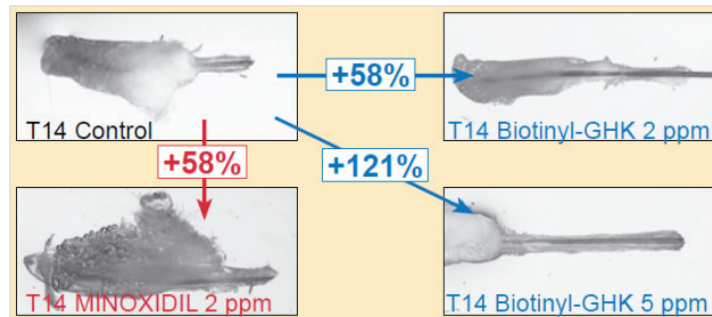
Morphological observation



Presence of adhesion molecules

Adhesion molecules	T14 Control	ACTIVATION
Laminin 5	+	+++
Collagen IV	+	++++

Presence of Adhesion Molecules



Clinical studies

35 volunteers with alopecia (T medium = 28%) were applied twice daily a hair lotion with 3% of PRO ACTIVE (18 volunteers) or placebo (17 volunteers) for 4 months. We assessed the proportion of anagen phase hair (A) and telogen (T) and calculated the A/T. We analyzed hair samples.

Trichogram video

	A/T (average value)	PRO ACTIVE	PLACEBO
T0	2,84	2,84	2,61
T4 months	3,13	3,13	2,54

Morphological observations.

The A/T increases significantly, up to 46% versus placebo and T0.

With PRO ACTIVE the number of anagen hairs increases in 67% of the volunteers.

Morphological study of the hair follicle.

After treatment the cells of the hair follicles are perfectly structured and differentiated.

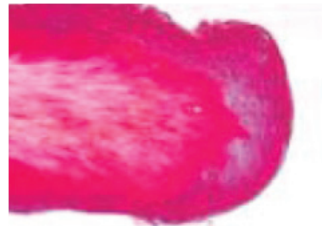
The epithelial sheath is thicker and provides better anchorage.

Morphological observations

Telogen
hair follicle



T0

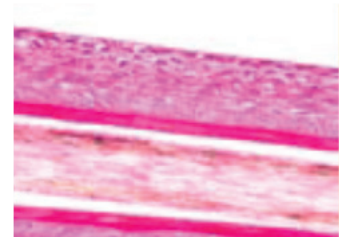


T 4 months with PRO ACTIVE

Epithelial sheath
of an anagen hair



T0



T 4 months with PRO ACTIVE

Thanks to its stimulation of cell metabolism, PRO ACTIVE, slows the effects of aging hair preventing hair loss.

Efficacy Test [REBORN ACTIVE]

Tissue engineering for regeneration of the hair follicle.

REBORN ACTIVE is an active based on tissue engineering. Repair or replace damaged or lost organ combining cells and biomolecular signals.

How does it work?

Three-dimensional conditions mimicking the structure of living tissue are provided.

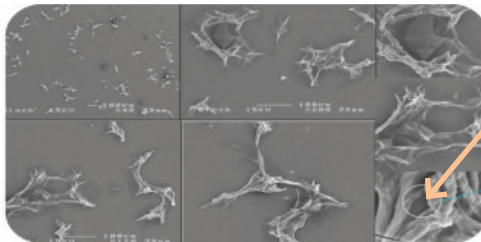
The peptide combination forms a three dimensional network in the extracellular matrix proteins and collagen forming tubular structures, getting regenerate the extracellular matrix.

The dissolution of collagen and elastin matrix causes laxity and loss of strength in the area, with this active we reconstitute and stop the degeneration of the tissue that forms the hair follicle.

Efficacy studies

Scanning electron microscopy (SEM). Construction of 3D Matrix

SEM images show the self-assembly and structure of REBORN ACTIVE, providing assistance and biological signals to cells, creating an interactive communication and extracellular network.

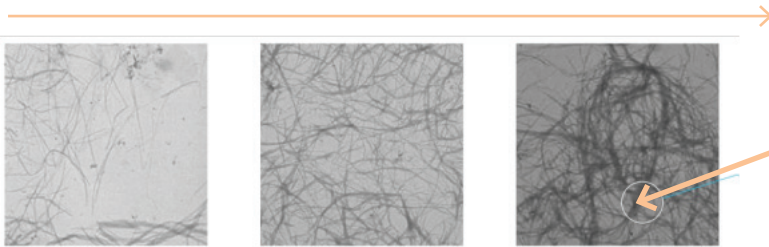


Peptide assembled after 8 days

The ACTIVE REBORN peptide solution is incubated at 37°C.
The self-assembled peptides form the fibers which build the 3D matrix.
The SEM image shows fiber formation after 8 days.
These fibers promote ECM structure.

Transmission Electron Microscopy (TEM). Construction of a 3D matrix

he TEM images show the auto assembly and structure of REBORN ACTIVE, provide assistance and allowing biological signals.



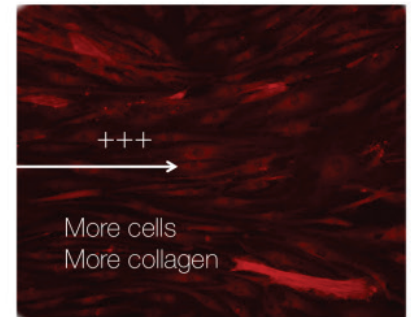
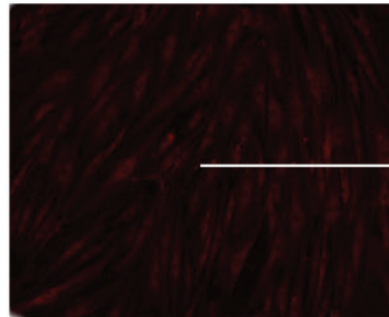
Peptide assembled after 4 days

The ACTIVE REBORN peptide solution is incubated at 37°C. The self-assembled peptides form fibers that build 3D Matrix. The TEM image shows the fiberizing after 4 days. These fibers promote ECM structure

Type I collagen biosynthesis

Human skin fibroblast 24 hours after cell seeding.

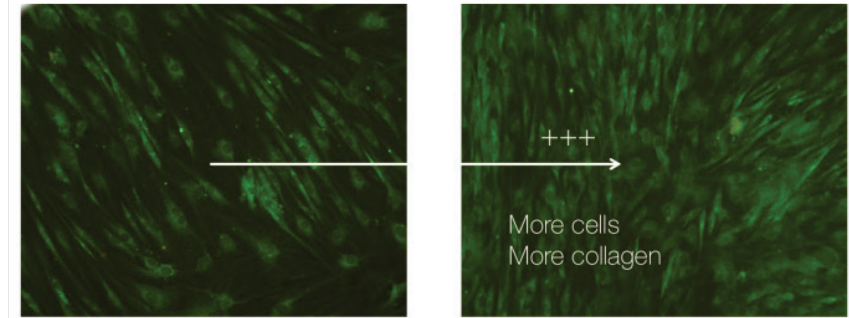
ACTIVE REBORN solution 1.0% 100ppm.



Biosynthesis of collagen type IV

Human skin fibroblast 24 hours after cell seeding.

Renaissance solution 1.0% 100ppm.



Test in vitro

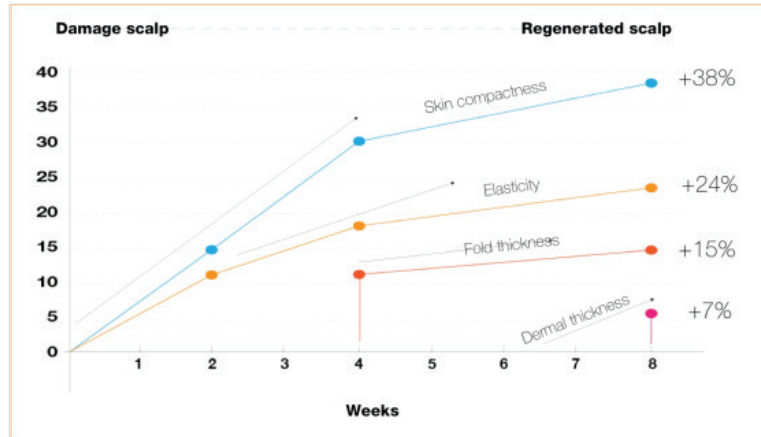
- 20 volunteers
- 40-60 skin regenerations
- Skin effect re-densifying 4 and 8 weeks
- 2 applications/day
- Dosage: 2.5 g powder 2% / L

Evolution of skin regeneration.

Evolution of skin in 56 days.

REBORN ACTIVE regenerated the surrounding matrix to the dermal papilla in the hair root, which is essential in the formation of the follicle.

Graphic

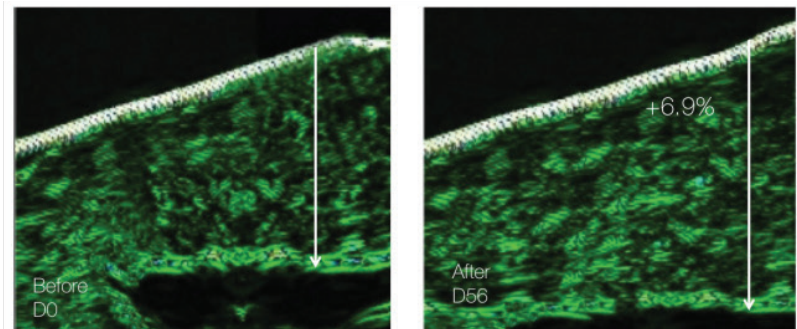


Dermal thickness

D56 dermal global profiles are more regular indicating the re-densifying power of the tested product.

Data extracted from volunteers shows an increase in dermal thickness (up to 7% in the best case).

Data taken with DUB 22 Taberna Pro Medicum. Visualization using ultrasound scanner probe of high frequency.



/ STEM CELLS SHAMPOO

Fall preventive shampoo that favors **regulation of excess of fat** and the **flaking of the scalp**.
Enriched with **Polyplant** and **apple stem cells**.

/ DEFENCE&MAINTENANCE

Preventive treatment of **fall and capillary densification** that ensures **comfort** avoiding **scalp itching, redness and peeling**, while **regulates excess sebum secretion**.
Enriched with **PRO ACTIVE, COMFORT ACTIVE** and **SHIELD PEPTIDE**.



A wide-angle photograph of a beach at sunset. The sky is filled with soft, orange and yellow clouds, with the sun low on the horizon. The beach is composed of golden sand dunes in the foreground, with some small pools of water. In the distance, there are dark rocks and the ocean. The overall mood is serene and hopeful.

**A new vision
that now
becomes reality**



ScalpLab

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INNOVATIS
Exceptional