

# Redensyl®

Reactivates hair follicle stem cells for an astonishing hair growth

The scalp bears an average 110,000 hair follicles which are growing and falling on a daily basis. When the balance between the growing hair and the falling ones is altered, then hair loss starts and baldness appears.

To reverse this phenomenon referred to as alopecia, Redensyl® dramatically reactivates hair growth and decreases hair loss with clinically visible results in 3 months by:

- 1) Re-launching stem cells activity and proliferation
  - › The outer root sheath stem cells (ORSc) are vitalized, thus triggering a new hair cycle;
- 2) Increasing the dermal papilla's fibroblasts metabolism
  - › Hair follicles are nourished resulting in the stem cells switching on the anagen phase faster.

## Hair Growth Galvanizer

# Focus on the product

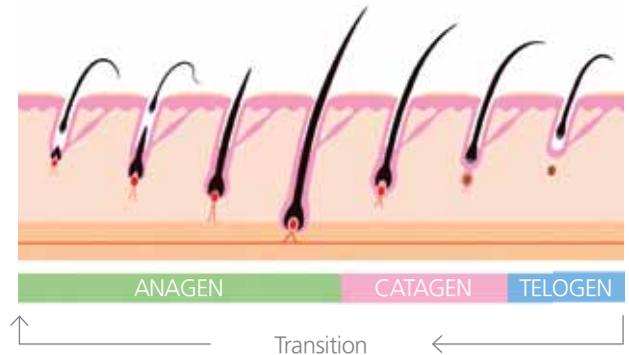
## Hair loss in numbers

It is a known fact that 40% of men will have noticeable hair loss (alopecia) by age 35. This number reaches 65% by 60 years of age. Women are also deeply impacted by such process: 50 to 75% suffer noticeable hair loss by age 65. Hair loss can be devastating to one's self image and emotional well being.

## The normal cycle for hair

The hair cycle is made of three phases:

- Anagen phase during which the hair is growing ( $\pm$  3 years),
- Catagen phase also called the transition phase ( $\pm$  3 weeks),
- Telogen phase during which the hair is dying and falling ( $\pm$  3 months), which is followed by the anagen phase again.



## Hair loss and stem cells

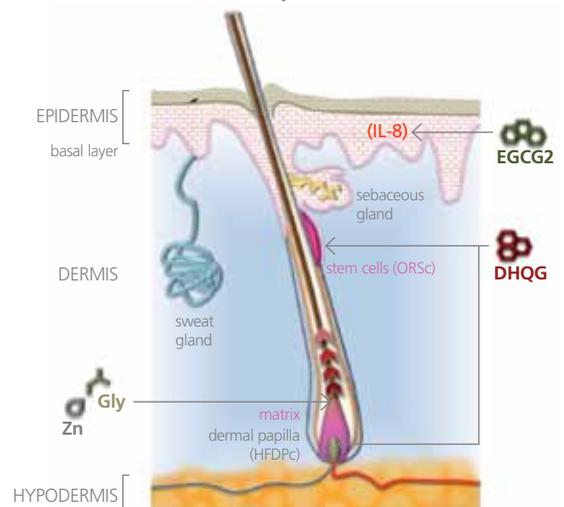
When suffering from hair loss, the telogen phase is prolonged, and the transition to the anagen phase becomes more difficult. Hair become thinner and the percentage of hair transitioning to the telogen phase continues to increase.

The problem comes from the fact that the hair follicle stem cells (also called ORSc) located in the bulge along the hair, are less productive, and less adapted to improve the quality of the matrix (made of keratinocytes) supporting the hair follicle growth. Furthermore, the fibroblasts located in the dermal papilla (also called HFDPc) are less efficient in communicating with the stem cells, meaning that the matrix will not be renewed as it used to. Initiating the anagen phase becomes more sluggish, and hair loss becomes a part of daily life.

## Redensyl<sup>®</sup>: acting on stem cells and HFDPc to re-activate hair growth

Redensyl<sup>®</sup> is made of patented molecules targeting the ORSc and the HFDPc at the same time for a better efficiency:

- Dihydroquercetin-glucoside (DHQG): a stabilized polyphenol which activates the division of hair follicle stem cells, while maintaining their differentiation properties. It protects stem cells from apoptosis (BCL2 activation), and drives them towards the anagen cycle ( $\beta$ -catenin activation), while boosting the metabolism of dermal papilla fibroblasts.
- EGCG-glucoside (EGCG2): a stabilized EGCG derivative used to reduce the typical inflammatory state of alopecic scalp (reduction of IL-8), and capture free radicals<sup>1</sup>.
- Glycine: a major constituent of hair proteins, mainly keratin associated proteins (KAP), which favors hair growth<sup>2</sup>.
- Zinc: a very important co-factor for numerous enzymes, favoring the incorporation of cystin in keratin for a stronger hair shaft<sup>3</sup>.



Redensyl<sup>®</sup> shows outstanding results after 3 months at the clinical level.

1. Source: Chem Phys Lipids. 2000 Jun ; 106(1):53-63.

2. Source: J Invest Dermatol. 1994 Sep;103(3):310-7.

3. Source: J Nutr. 1971 Apr;101(4):445-52.

# Efficacy

## Redensyl®: Visible results after 3 months (clinical evaluation)

85% of volunteers show clinical improvements. More anagen hair, a higher density, more visible hair.

Examples of the clinical results of three volunteers (29 to 52 years old) treated with Redensyl® during 3 months.

Criteria	Volunteer	#3 (52 years old)	#6 (42 years old)	#26 (29 years old)
% of new anagen hair		+ 10.8%	+ 19.2%	+ 9.2%
% of density of hair increase		+ 17%	+ 17%	+ 17%
Number of new hair / cm <sup>2</sup>		+ 47 hair/cm <sup>2</sup>	+ 43 hair/cm <sup>2</sup>	+ 29 hair/cm <sup>2</sup>
Total number of new hair on their scalp (600 cm <sup>2</sup> )		+ 28,200 hair	+ 25,800 hair	+ 17,400 hair
Number of new hair per month on their scalp		+ 9,400 hair	+ 8,600 hair	+ 5,800 hair

### Macro pictures (Phototrichograms)

**Results:** Hair look thicker, with a visible improvement of the density.

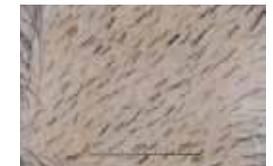
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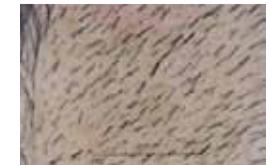
3 months



3 months



3 months



### Scalp pictures

**Results:** Hair loss stopped, a visible increase of hair density is noticeable.

Before



Before



Before



After



After



After

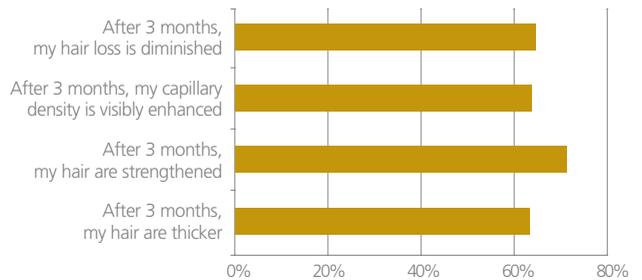


# Summary

## Self-evaluation of Redensyl® (clinical)

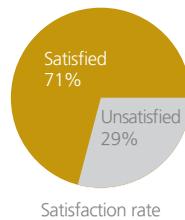
A self-evaluation after 3 months was run by the volunteers.

**Results:** Testers claim Redensyl® at 3% reduced their hair loss, improved the capillary density by strengthening and thickening their hair after three months of treatment.

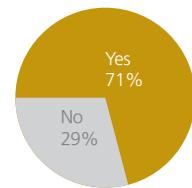


71% of the testers are satisfied by the product, and 71% of them would like to buy the product.

**+10,200 hair in average in 3 months: better results than one hair transplantation procedure<sup>1</sup>.**



Satisfaction rate



Purchase intension

## Technical information

INCI:	Water, Glycerin, Sodium Metabisulfite, Glycine, Larix Europaea Wood Extract, Zinc Chloride, Camellia Sinensis Leaf Extract
Origin:	Plant extracts and Biotechnology
Preservation:	Sodium Metabisulfite
Appearance:	Clear, yellow liquid
Solubility:	Water soluble
Dosage:	1-3%
Processing:	Can be added at the end of the formulation process under stirring or homogenizing or can be heated for a short time with the water phase of formulation. Formulate at temperature below 50°C.

## Claims

**Claims:** Anti-hair loss, stimulation of hair growth, re-densification of hair on scalp, stimulation of eyelash growth, activation of eyebrow growth.

**Applications:** Anti-hair loss treatment, hair lotion, hair serum, anti-aging hair serum, eyelash growth serum, active mascara, eyebrow enhancers.

1. Source: International Society of Hair Restoration Surgery - 2013 Practice Census Statistics – 2,016 of grafts per session, 4 hair by graft, apprx. 8,100 hair in one session

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