

A circular illustration on the left side of the page shows a cross-section of the scalp. Several brown hair follicles of varying lengths are shown. At the base of these follicles, there are various colored spheres and elongated shapes representing the scalp microbiota, including green and blue spheres and blue, rod-like structures. The background is a light pinkish-orange gradient.

IFF

LUCASMEYER
COSMETICS

ACTIVE
INGREDIENTS

DEFENSCALP™

SCALP MICROBIOTA- FRIENDLY INGREDIENT

Rosebay extract titrated
in Oenothain B

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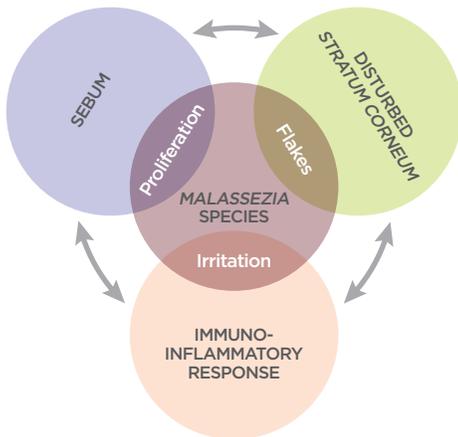
Rebalances scalp ecosystem
homeostasis

-

Reduces sebum and the appearance
of flakes after the first use only!



A PATENTED SMART MULTIFUNCTIONAL INGREDIENT DESIGNED TO NATURALLY REGULATE THE *MALASSEZIA* SPECIES PROLIFERATION WHILE PRESERVING THE SCALP MICROBIOTA TO MAINTAIN A HEALTHY FLAKE FREE NON-OILY LOOKING SCALP AND HAIR.



The last advanced scientific researches in microbiology and immunology have completely changed the understanding of the role of microorganisms on skin and scalp.

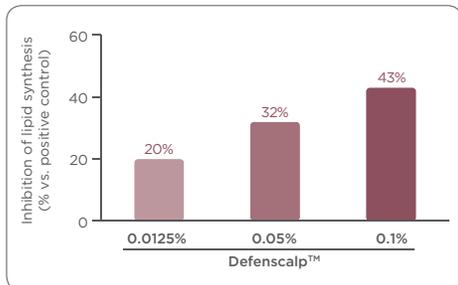
Titrated in Oenothain B, Defenscalp™ is a powerful rosebay extract designed to gently affect the scalp ecosystem and improve the appearance of hair, where there is less flaking of scalp and reduced sebum production. It respects the microbiota of the scalp, and recovers homeostasis state without irritating effect.

ECO-REGULATION OF *MALASSEZIA* POPULATION

Besides the individual predisposition, dandruff appears to result from a fungi hyperproliferation (*Malassezia* species) due to an imbalance between the sebum production on scalp and the immune defense system.

An efficient and common solution to fight them is the use of anti-fungal ingredients in hair care products, such as climbazole, piroctone olamine, zinc pyrithione, etc. Though they are effective at combating dandruff, their high anti-fungal properties tend to eliminate the totality of *Malassezia*, imbalancing microbiota equilibrium. This new dysbiosis may have several potentially negative side effects: irritation, itching, allergy...

EVALUATION OF SEBUM ACCUMULATION IN SEBOCYTES



Scalp hyperseborrhea normalization

Malassezia species are lipid-dependent yeasts using sebum as a nutrient to proliferate. The scalp is then a favorable ground for their growth! As long as the sebum rate is normal, the *Malassezia* population remains stable. However, excess sebum production of oily scalp may induce a *Malassezia* overproliferation, responsible for the appearance of dandruff.

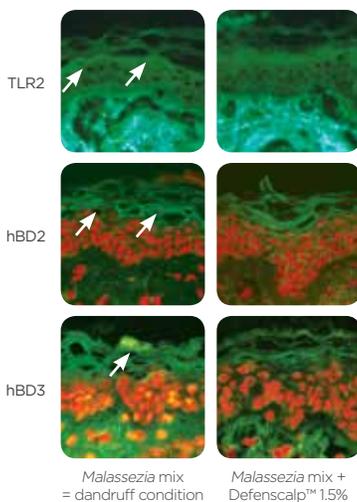
The inhibition of 5- α reductase normalizes excess sebum production in order to decrease the nutrient necessary for *Malassezia* growth, limiting its excessive proliferation.

Defense system regulation

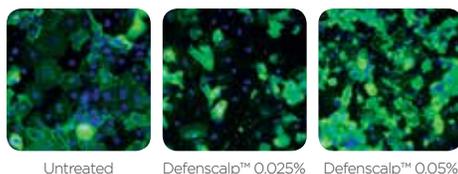
The immune system is part of the interaction between microbiota and scalp in order to reach a sustainable homeostasis as a state of health. The presence of *Malassezia* is recognized by specific Toll-Like Receptor (TLR2), which induces the production of antimicrobial β -defensins (hBD) and IL-8 cytokines as an immuno-inflammation response.

The decrease in TLR2, hBD2, hBD3 and IL-8 attests the downregulation of the immuno-inflammatory defense system.

IMMUNOMODULATION EVALUATION



INVOLUCRIN SYNTHESIS IMPROVEMENT BY IMMUNOFLUORESCENCE (GREEN)



SCALP BARRIER REINFORCEMENT

Dandruff scale is a cluster of corneocytes detached as such from the surface of the *stratum corneum* due to an hyperproliferation associated with an imbalanced differentiation, leading to a disturbed *stratum corneum* organization.

The stimulation of involucrin synthesis, an essential marker of late keratinocyte differentiation, ensures the formation of a proper *stratum corneum*.

APPEARANCE OF FLAKES AND SEBUM REDUCTION

Test protocol

- 24 volunteers (male and female) with dandruff and greasy hair.
- Tested products:
 - Neutral shampoo (wash out product)
 - Active shampoo containing 1.5% Defenscalp™

EXPERIMENTAL PLAN

	D-15	D0	D3	D9	D15	D30
Wash out period (application of the neutral shampoo every 3 days)	X					
Hair washing with the active shampoo		x (every 3 days)				
Scoring of adherent and non-adherent dandruff		X	X	X	X	X
Measurements of the sebum by sebumeter		X			X	X
Illustrative macrophotographies		X	X			X
Illustrative VISIA photographs		X				X
Self-assessment			X		X	X

Sebo regulating effect

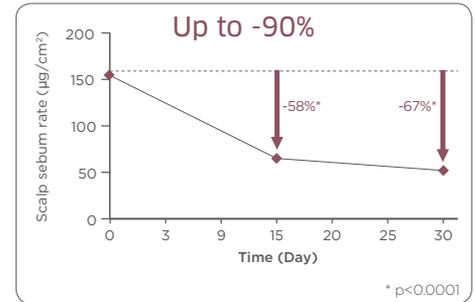
The regulation of sebum production leads to a significant decrease in sebum rate on the scalp at D15 (-58%) and D30 (-67%). 96% volunteers had an improvement.

Scalp is purified and provides a non-oily looking hair.

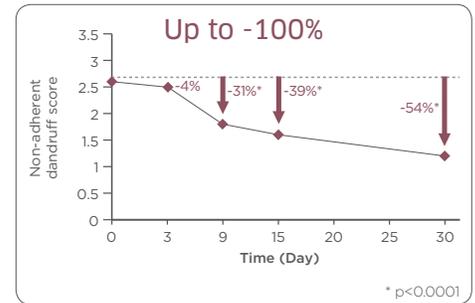
Anti-dandruff effect

Three days after the first shampoo, a decrease in flakes is already observed, reaching -54% and -52% after 30 days for respectively non-adherent and adherent dandruff. 100% volunteers had an improvement.

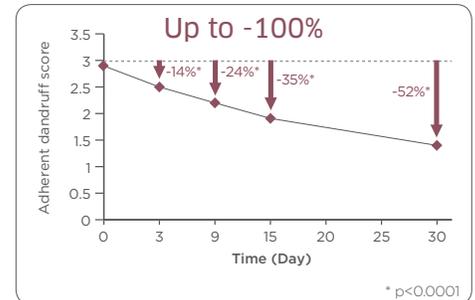
EVOLUTION OF SCALP SEBORRHEA



EVOLUTION OF NON-ADHERENT DANDRUFF



EVOLUTION OF ADHERENT DANDRUFF



MACROPHOTOGRAPHIES



D0



D3



D30

VISIA PHOTOGRAPHIES



D0

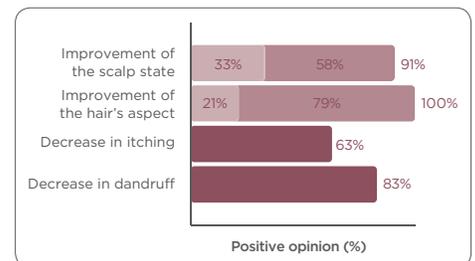


D3



D30

SELF ASSESSMENT



A complementary clinical study demonstrated a skin soothing action.

● D3 ● D15 ● D30

WITH OUTSTANDING FAST IMPROVEMENT OF SCALP AND HAIR LOOK, DEFENSCALP™ IS AN ALTERNATIVE NEW STRATEGY TO REDUCE THE UNWANTED EFFECTS OF CLASSICAL ANTI-DANDRUFF INGREDIENTS.

PRODUCT DESCRIPTION

INCI NAME

Water (1) (and) Epilobium Angustifolium Flower/Leaf/Stem Extract (2)

CAS

7732-18-5 (1), 90028-31-2 (2)

EINECS

231-791-2 (1), 289-821-5 (2)

APPEARANCE

Amber-brown transparent to slightly cloudy solution

FORMULATION

Defenscalp™ should be incorporated at the end of the formulation process at a temperature below 40°C

DOSAGE

0.5-1.5%

OPTIMUM pH

4.3-5.5

APPLICATIONS

- Oily scalp and hair
- Anti-dandruff
- Anti-irritant hair care
- Sensitive scalp
- Healthy scalp

FEATURES AND BENEFITS

FEATURES	BENEFITS
Rosebay extract	Titrated in Oenothain B, highly bioactive polyphenol
Ecologically regulates the <i>Malassezia</i> species colony size	Rebalances the microbiota for a healthy scalp
Proven effective fast outstanding results	Decreases the sebum production on scalp and reduces the appearance of dandruff flakes after the first use only!
Alternative to classic anti-dandruff ingredients	No irritating unwanted effects

HEALTHY SCALP SERUM 15.217.01 C173

INGREDIENTS	INCI NAME	%
A Deionized Water	Water	93.60
Dissolvine® Na	Tetrasodium EDTA	0.10
Chlorphenesin	Chlorphenesin	0.30
Phenoxyethanol	Phenoxyethanol	0.80
B Lecigel™	Sodium Acrylates Copolymer (and) Lecithin	1.50
C Vitapherole® E-1000	Tocopherol (and) Helianthus Annuus (Sunflower) Seed Oil	0.20
D Defenscalp™	Water (and) Epilobium Angustifolium Flower/Leaf/Stem Extract	1.50
Capixyl™	Butylene Glycol (and) Water (and) Dextran (and) Acetyl Tetrapeptide-3 (and) Trifolium Pratense (Clover) Flower Extract	2.00

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