INGREDIENT

innovation
by pHformula **FOCUS**

SPOT ON
moisture balance

#Daily essentials

SPOT ON moisture balance
The SPOT ON moisture balance offers ultra-lightweight hydration while providing a mattified finish. Ideal for the oily skin, this moisturiser leaves the skin feeling smoother and healthier looking.

Our daily essential line includes our everyday favourites. From choosing your favourite cleanser, nourishing your hands, and hydrating the skin, the daily essentials line provides result-driven products to suit every skin and phototype.

pHformula daily essentials offers a line of skincare products designed to restore and maintain your skin with soothing properties. More than just a cleanser or moisturiser, these products work in harmony with your advanced prescriptions for enhanced results. With must-have formulations that are simple, pHformula daily essentials provides a powerful option for all skin types and phototypes.

It's the ideal balance of soothing control delivering optimal results without compromising the skin.

#SPOT ON moisture balance

This fast-absorbing, ultra-lightweight moisturiser delivers all day hydration with a smooth, mattified finish – making it an essential daily care product specially designed for oily or acne-prone skin. The Sebum-smart mattifying complex, a microbiota-friendly blend, helps regulate sebum production to reduce shine and minimise the appearance of blemishes – promoting a clearer, soothed complexion that supports the unique needs of youthful skin. The Hydromatrix complex optimises the skin's water reserves, enhances water transport, reinforces the skin's barrier to lock in moisture, and visibly improves the skin's surface texture. Enhanced with Velva-matte technology, it leaves the skin feeling soft and dry to the touch, with a comfortable matte finish and reduced oiliness.

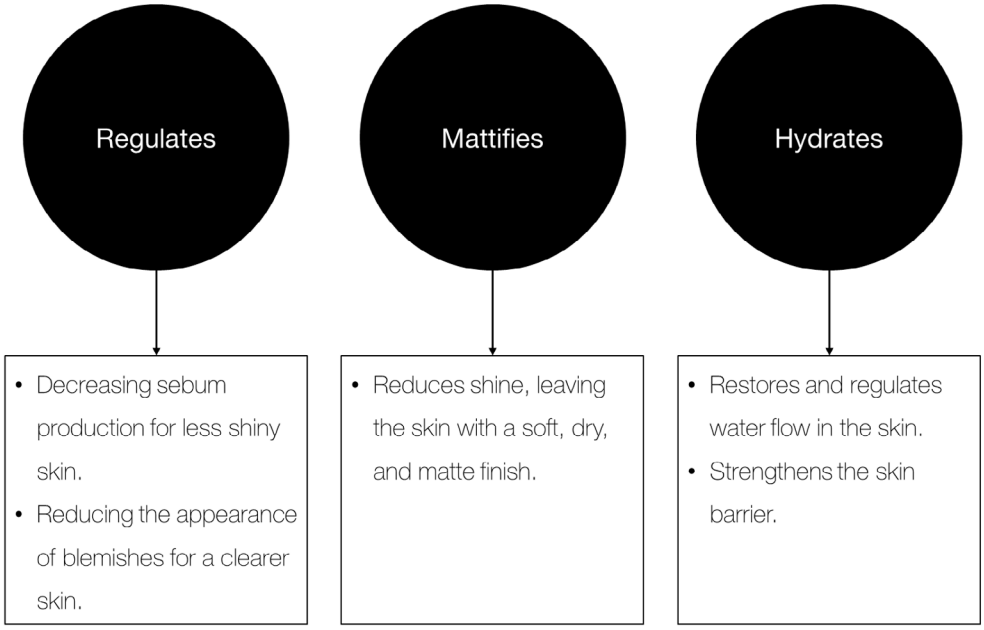
SPOT ON
Specifically formulated for oily skin that is prone to blemishes. It helps to regulate sebum-production, reducing oiliness and mattifying the skin

MOISTURE
Provides ultra-lightweight hydration and reinforces the skin barrier for more resilient skin

BALANCE
Helping to normalise keratinisation, the excessive skin cell buildup is reduced helping to maintain clear pores and blemishes. Leads to smoother, more supple skin

#SPOT ON moisture balance

Main skin benefits:

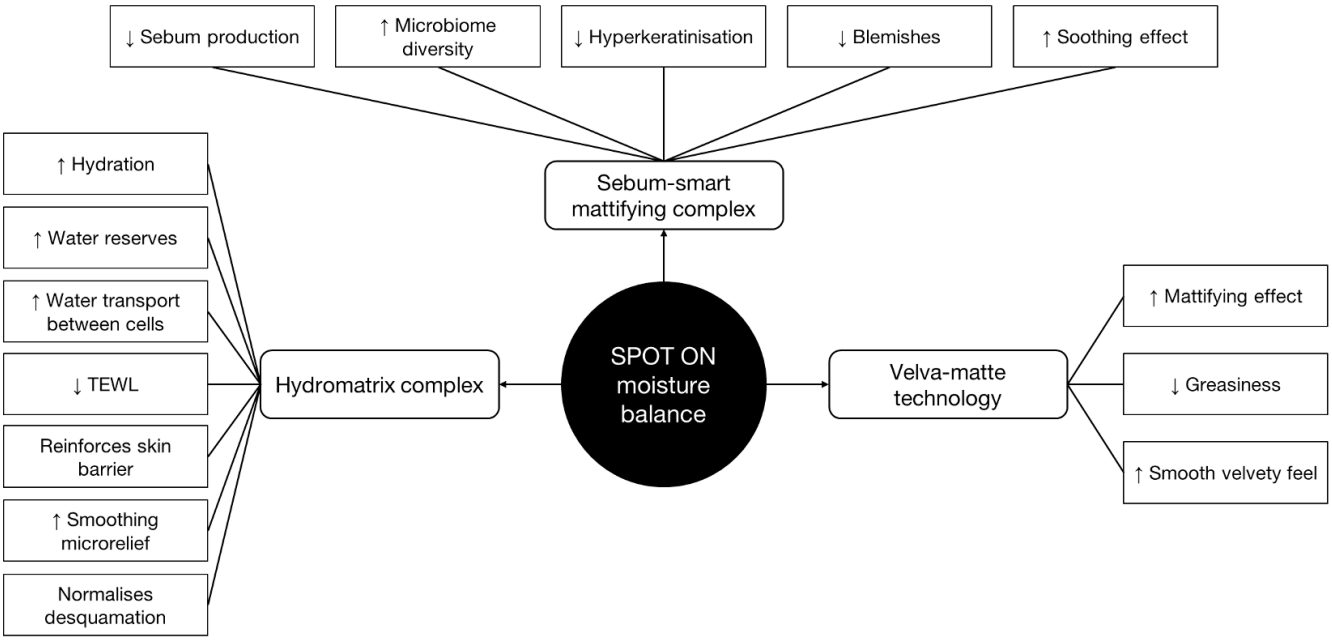


Extended skin benefits

- Regulates:
  - Helps to reduce sebum production reducing the appearance of blemishes and providing a mattified complexion
  - Helps to rebalance the acnebiome by selectively weakening acneic *C. acnes* strains in favour of growth of non-acneic strains
  - Has a soothing effect by regulating the immune-inflammatory response
  - Regulates keratinisation reducing keratin buildup and therefore clogged pores
  - Helps to clarify the skin reducing the appearance of blemishes
- Mattifies:
  - Absorbs excess sebum, reducing skin shine. Leaves the skin soft and velvety and provides a matte finish
- Promotes skin hydration in the dermis and epidermis
  - Facilitates transport of water and glycerol through its action on aquaporins and tight junctions
  - Optimises water reserves by increasing Hyaluronic acid, Chondroitin sulfate and NMFs
- Reinforces the skin barrier
  - Helps to stimulate the synthesis of lipid components such as ceramides 1 and 2 and intercellular cholesterol
  - Promotes the synthesis of key proteins such as keratin 17, kallikreins 5 and 7, and loricrin
  - Improves the formation of the horny envelope through the action of transglutaminases 1 and 5
  - Contributes to the reduction of TEWL
- Velvety soft touch

#SPOT ON moisture balance

Mechanism of action



	Sebum-smart mattifying complex	Hydromatrix complex	Velva-matte technology
Regulates sebum production, reducing blemishes	↓ Sebum production ↓ *C. acnes* and increases diversity in favour of a healthier profile ↓ Hyperkeratinisation ↓ Blemishes for clearer skin	↑ Visual improvement of the skin surface Normalisation of desquamation ↑ Smoothing of skin microrelief	
Provides a mattified complexion	With sebum regulation the skin achieves a mattifying effect		↓ Greasiness Leaves the skin feeling soft, dry, and matte
Promotes skin hydration		↑ Hydration ↑ Water reserves ↑ Transportation of water and glycerol between cells ↑ Circulation and distribution of water within the dermis and epidermis	
Reinforces the skin barrier		↑ Skin barrier function ↑ Cell adhesion ↓ TEWL	
Skin soothing properties	↓ inflammatory response ↓ TLR-2, IL-8, and IL-1α		
Velvety soft touch			Offers smooth, velvety feel properties

#SPOT ON moisture balance

Available from September 2025

INCI:
Aqua (Water), Glycerin, C15-19 Alkane, Caprylic/Capric Triglyceride, Aluminum Starch Octenylsuccinate, Arachidyl Alcohol, Behenyl Alcohol, Polyacrylate Crosspolymer-6, Arachidyl Glucoside, Xylitylglucoside, Anhydroxylitol, Phenylpropanol, Propanediol, Caprylyl Glycol, Xylitol, Glucose, T-Butyl Alcohol, Polylysine, Tocopherol.

Innovation: SPOT ON moisture balance

KEY INGREDIENTS

- Sebum-smart mattifying complex
- Hydromatrix complex
- Velva-matte technology

INDICATIONS

- Recommended for all skin types
- Suitable for oily skin / excess sebum
- Enlarged pores
- Uneven skin texture
- Skin distress from blemishes
- Dehydration
- Fitzpatrick I – VI

DIRECTIONS FOR USE

AM and / or PM.

Cleanse your skin with your pHformula cleanser, rinse well, and gently pat dry. Apply SPOT ON moisture balance to the entire area to be treated. For best results, use it together with SPOT ON blemish active as a targeted spot treatment. Always finish with sun protection to keep your skin healthy and protected throughout the day.

#Comparison

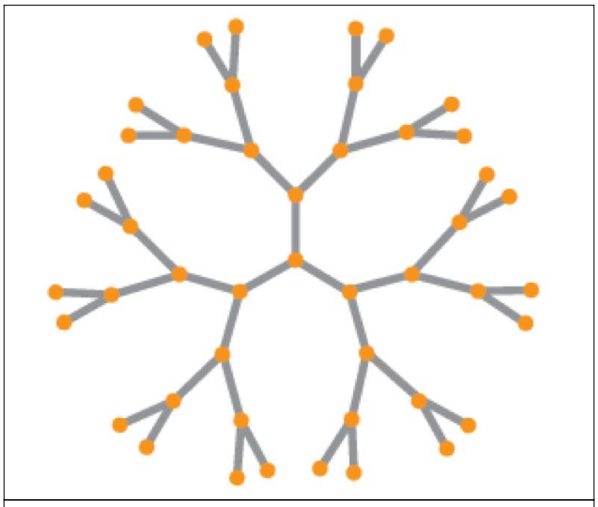
SPOT ON moisture balance	P.O.S.T. recovery cream	P.O.S.T. recovery plus
		
50ml	2ml | 50ml | 100ml | 200ml	50ml
Mattifying moisturiser formulated for oily or acne-prone skin. Regulates sebum production and reduces the appearance of blemishes leaving a soft, dry and matte finish on the skin.	Ideal daily moisturiser, formulated to soothe the skin, recover its natural moisture balance, and repair its protective barrier. Provides immediate and long-lasting hydration. Multifunctional and versatile daily choice formulation, adaptable to all skin types and phototypes.	The PLUS version is more emollient, nourishing and also has a probiotic activity. It is an alternative to be used in mature skin, menopause or very dry types.
• Sebum-smart mattifying complex • Hydromatrix complex • Velva-matte technology	• Sodium hyaluronate • Niacinamide • Lactobionic acid • Glycyrrhetinic acid • Panthenol • *Aloe barbadensis* leaf juice • Bisabolol • *Butyrospermum parkii* (shea) butter • *Prunus amygdalus dulcis* (sweet almond) oil • *Gossypium herbaceum* (cotton) seed oil	• Sodium hyaluronate • Niacinamide • Lactobionic acid • Glycyrrhetinic acid • Panthenol • *Aloe barbadensis* leaf juice • Bisabolol • *Prunus amygdalus dulcis* (sweet almond) oil • *Gossypium herbaceum* (cotton) seed oil • *Lactococcus* ferment lysate • *Helianthus annuus* seed oil • Squalene, Dodecane, Tetradecane • Lactic acid
Ultralight texture	Lightweight texture	Rich texture
Oily / acne-prone skin	All skin types	Very dry skin

#Sebum-smart mattifying complex

What is Sebum-smart mattifying complex?
Sebum-smart mattifying complex comprises a patented innovative Lysine dendrimer. Lysine is an essential amino acid able to integrate into bacteria cell membranes, due to its charge, and can destabilise them.

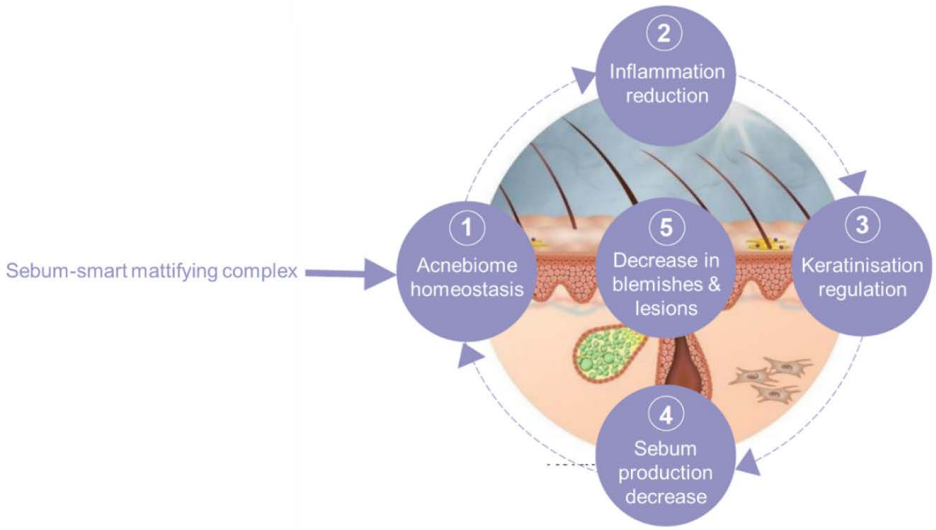
Dendrimers (dendritic polymers) are spherical three-dimensional branched molecules. The name comes from the Greek word 'dendron' which translates to "tree".

The 3D structure is more efficient than a linear chain due to a better charge distribution and accessibility to lysines. The lysine amino acid is naturally derived from corn fermentation through a green chemistry patented process.



The general structure of a dendrimer.

How does Sebum-smart mattifying complex work in the skin?
Multitargeted approach:



The term, acnebiome, describes the specific balance of microbial strains – particularly *Cutibacterium acnes (C. acnes)* – within the skin microbiome that influences acne development. Rather than aiming to eliminate *C. acnes* entirely, the focus is on rebalancing its subtypes to promote skin health.

#Sebum-smart mattifying complex

Mechanism of action

One of the main structural differences between acneic and non-acneic *C. acnes* strains is the charge of a bacteria's cell membrane surfaces. Acneic bacteria are more negatively charged than the non-acneic ones. As Sebum-smart mattifying complex is positively charged, it selectively interacts with acneic strains and can insert into their membranes. The resulting destabilisation of bacteria has an impact on their biofilm quality. The decrease in the biofilm density leads to a decrease in the bacteria adhesion and community growth, thus reducing the skin's bacterial aggression and induced-inflammation. On the contrary, the non-acneic strains are not affected by Sebum-smart mattifying complex and can grow normally. As a result, the distribution of the various strains is rebalanced towards a healthier acnebiome. Additional data showed that Sebum-smart mattifying complex didn't affect other skin microorganisms (no impact on their biofilm) attesting that the activity of Sebum-smart mattifying complex is only focused on acne causes while preserving skin microbiota.

Study summary: raw material supplier

In vitro studies:

1. Effect on acnebiome homeostasis
   - 1.1 Evaluation of *C. acnes* destabilisation (membrane fluidity)
   - 1.2 Evaluation of biofilm biomass (*C. acnes* vs. other microbiota bacteria)
   - 1.3 Evaluation of bacteria viability (vs. salicylic acid and benzoyl peroxide)
2. Evaluation of skin soothing activity

Ex vivo studies:

1. Effect on the immune-inflammatory response in acne-prone condition

1.1 Evaluation of bacterial aggression (TLR-2)

1.2 Evaluation of skin inflammation (IL-1α)

2. Evaluation of skin keratinisation

Clinical studies – *in vivo*:

1. Evaluation of sebum production
2. Evaluation of acnebiome
3. Evaluation of blemishes and lesions
4. Self-evaluation of the skin aspect

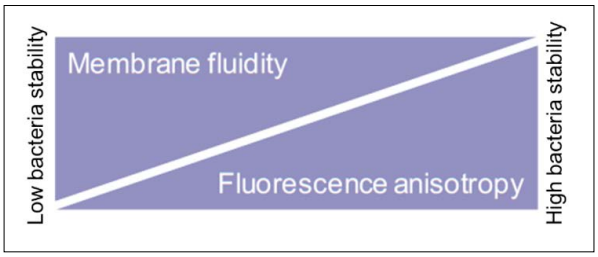
#Sebum-smart mattifying complex

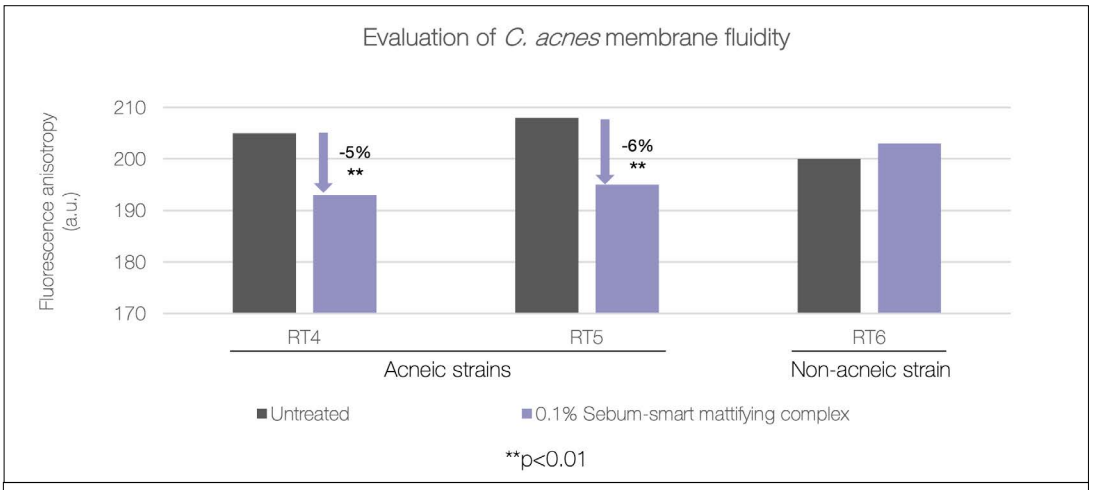
***In vitro* studies**

1. Effect on the acnebiome homeostasis

1.1 Evaluation of *C. acnes* destabilisation (membrane fluidity)

Separated cultures of acneic strains (RT4 and RT5) and non-acneic strain (RT6) of *C. acnes* was used in this *in vitro* study. 6.10^{-8} M of pure dendrimer (equivalent to 0.1% Sebum-smart mattifying complex) was added or not. After 72 hours, evaluation of the membrane fluidity (bacteria destabilisation) was obtained by measuring the fluorescence anisotropy (light mobility parameter).





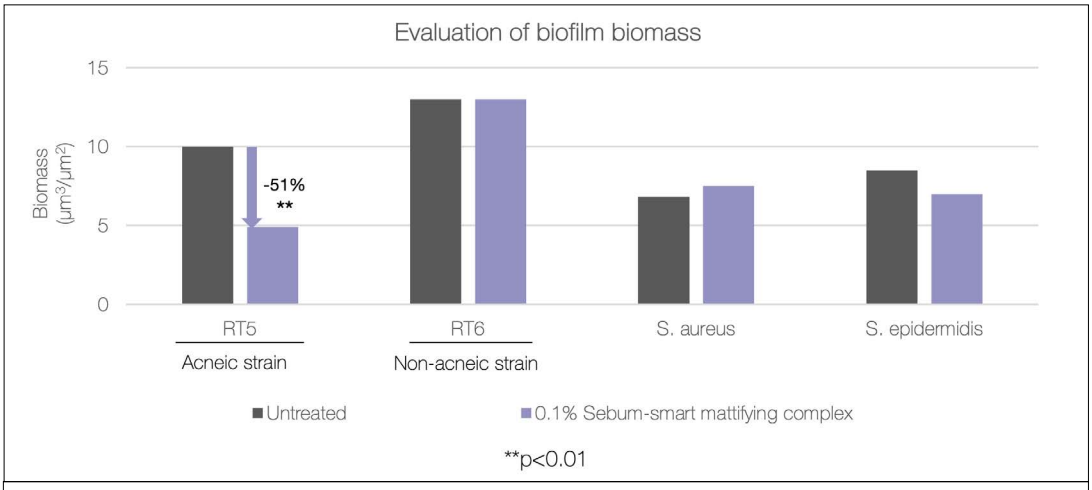
Technical information from supplier, data on file 2025.

Sebum-smart mattifying complex selectively increases acneic strains' membrane fluidity attesting to their destabilisation.

1.2 Evaluation of biofilm biomass (*C. acnes* vs. other microbiota bacteria)

Separated cultures of acneic strain (RT5) and non-acneic strain (RT6) of *C. acnes*, *S. aureus*, and *S. epidermidis* in this *in vitro* study. 6.10^{-8} M of pure dendrimer (equivalent to 0.1% Sebum-smart mattifying complex) was added or not. Quantification of the biofilm biomass once formed (72 hours for *C. acnes* strains; 24 hour for *S. aureus and S. epidermidis*).

#Sebum-smart mattifying complex



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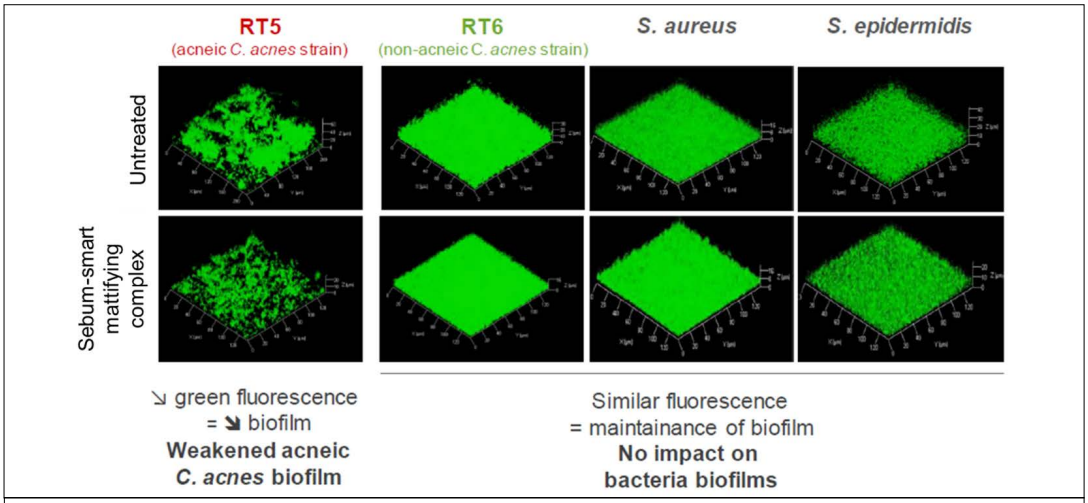


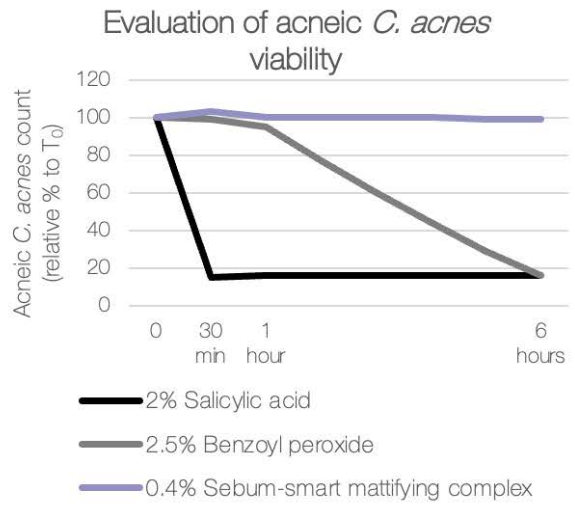
Technical information from supplier, data on file 2025.

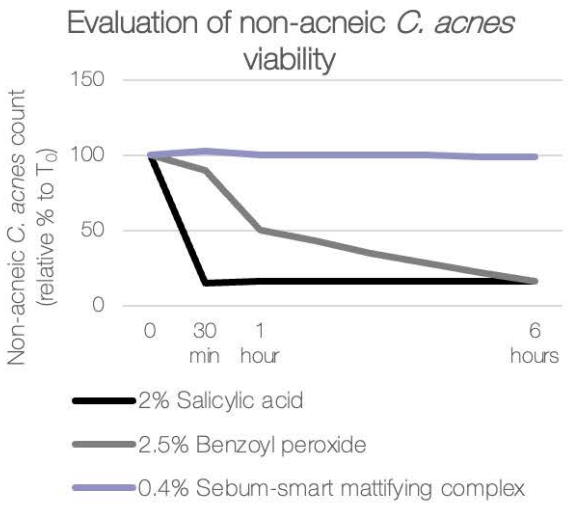
Sebum-smart mattifying complex selectively weakens acneic *C. acnes* strains, with no impact on other microbiota microorganisms.

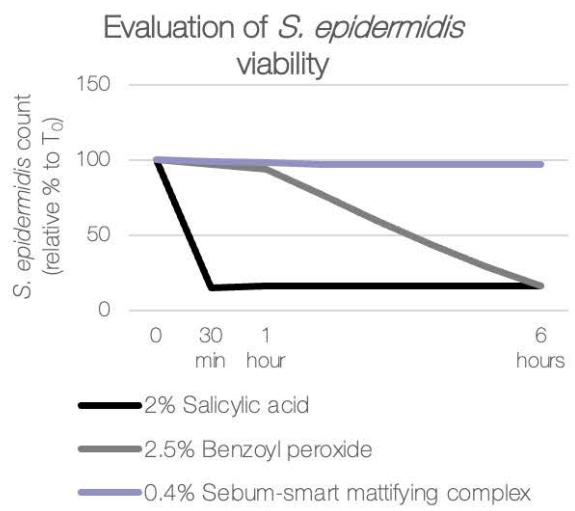
1.3 Evaluation of bacteria viability (vs. salicylic acid and benzoyl peroxide)

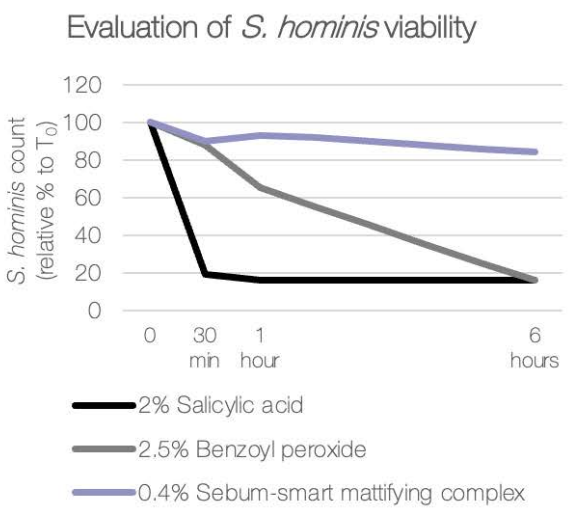
Separated cultures of acneic *C. acnes* (RT5), non-acneic *C. acnes* (RT6), *S. epidermidis*, *S. hominis*, and *C. minutissimum strains*. $2.8x10^{-7}$ M of pure dendrimer (equivalent to 0.4% Sebum-smart mattifying complex), salicylic acid (2%) or benzoyl peroxide (2.5%) were added at their recommended dosage. Evaluation of bacteria viability by counting after 30 minutes, 1hour, and 6 hours.

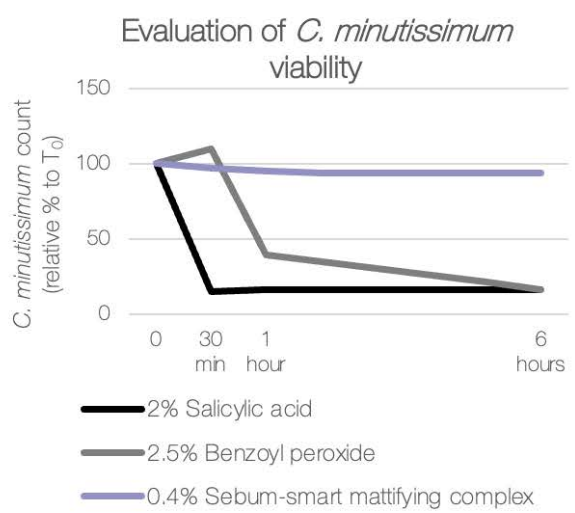
#Sebum-smart mattifying complex











Sebum-smart mattifying complex has no aggressive action compared to benchmarks.

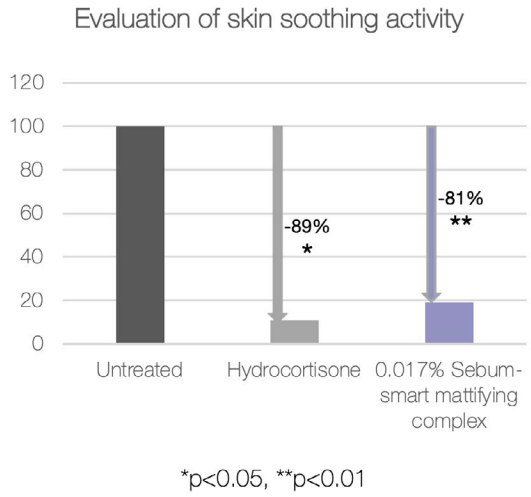
Technical information from supplier, data on file 2025.

#Sebum-smart mattifying complex

2. Evaluation of skin soothing activity

Human fibroblasts were incubated with IL-1α to induce inflammation. 10^{-8} M of pure dendrimer was added or not (equivalent 0.017% Sebum-smart mattifying complex) and hydrocortisone (5.10^{-6} %) was used as a positive control. Quantification of IL-8 production by ELISA.

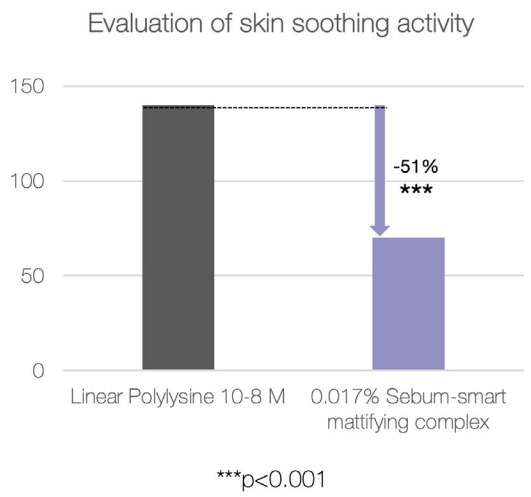
Sebum-smart mattifying complex has strong skin soothing properties.



Technical information from supplier, data on file 2025.

Human fibroblasts were incubated with IL-1α to induce inflammation. 10^{-8} M of pure dendrimer (equivalent to 0.017% Sebum-smart mattifying complex) or 10^{-8} M of 48 units of linear Polylysine were added. Quantification of IL-8 production by ELISA.

Sebum-smart mattifying complex, thanks to its 3D conformation, has stronger skin soothing properties than linear Polylysine.



Technical information from supplier, data on file 2025.

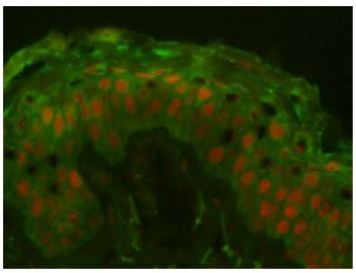
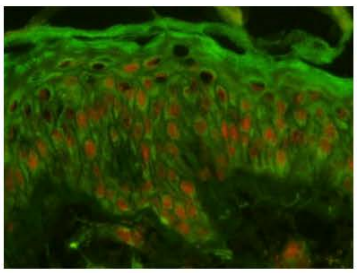
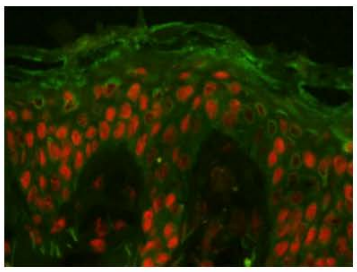
#Sebum-smart mattifying complex

***Ex vivo* studies**

1. Effect on the immuno-inflammatory response in acne-prone condition

1.1 Evaluation of bacterial aggression (TLR-2)

Human skin explants from a 26-year-old female subject was used in this *ex vivo* study. 2 ppm of pure dendrimer (equivalent to 0.4% Sebum-smart mattifying complex) and a small filter paper containing an acneic *C. acnes* strain (phylotype IA1) were applied on the skin surface. Observation of toll-like receptors (TLR-2) expression by immunolabelling at D_8.

Green = TLR-2 Red = cell nuclei			
	Untreated	Acne condition ↑ green fluorescence = ↑ TLR-2	Sebum-smart mattifying complex + Acne condition Lower fluorescence = lower aggression

Technical information from supplier, data on file 2025.

After 8 days, the increase in green fluorescence showed that *C. acnes* bacteria induced an overexpression of TLR-2 on keratinocyte surface of both stratum corneum and underlying layers of the skin explants compared to the untreated condition. This effect was downregulated when Sebum-smart mattifying complex was simultaneously applied on skin explants.

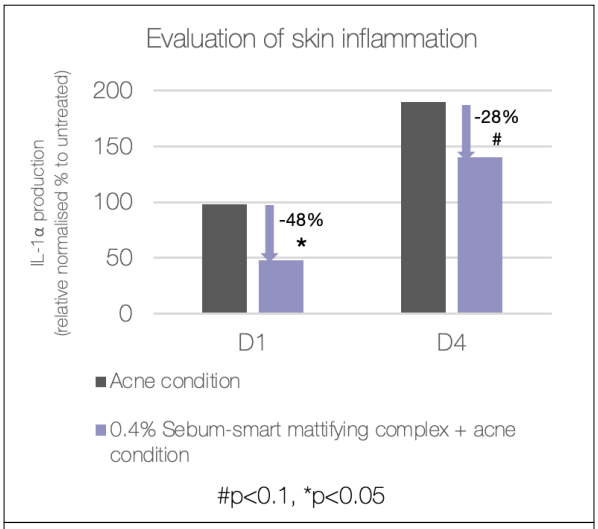
Sebum-smart mattifying complex reduces skin bacterial aggression.

#Sebum-smart mattifying complex

1.2 Evaluation of skin inflammation (IL-1α)

Human skin explants from a 26-year-old female subject was used in this *ex vivo* study. 2 ppm of pure dendrimer (equivalent to 0.4% Sebum-smart mattifying complex) and a small filter paper containing an *C. acnes*. acnes strain (phylotype IA1) were applied on the skin surface. Quantification of IL-1α production at D_1 and D_4.

At Day 1, the amount of produced IL-1α decreased significantly by 48% (*p<0.05) with Sebum-smart mattifying complex. This efficacy was maintained over time, since under the condition of hyper-inflammation due to the inoculation of explants with *C. acnes* (+87% compared to untreated condition), Sebum-smart mattifying complex was always able to decrease IL-1α production by 28%.

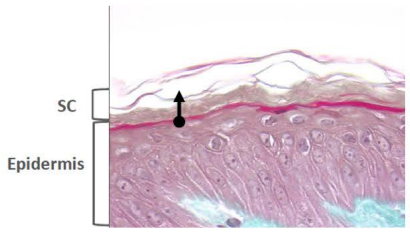


Technical information from supplier, data on file 2025.

Sebum-smart mattifying complex reduces the inflammatory response and soothes the skin.

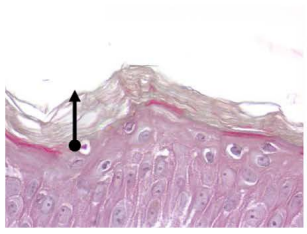
2. Evaluation of skin keratinisation

Human skin explants from a 26-year-old female subject was used in this *ex vivo* study. 2 ppm of pure dendrimer (equivalent to 0.4% Sebum-smart mattifying complex) and a small filter paper containing an acneic *C. acnes* strain (phylotype IA1) were applied on the skin surface. Observation of stratum corneum by microscopy after staining at D_8.



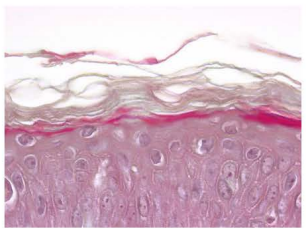
Untreated

A healthy SC is laminated with a desquamating upper layer



Acne condition

Induces hyperkeratinisation due to a decrease in the desquamation process and an over-proliferation of keratinocytes (= hyperkeratosis)



Sebum-smart mattifying complex + Acne condition

A healthy SC is maintained due to the protection against bacterial aggression

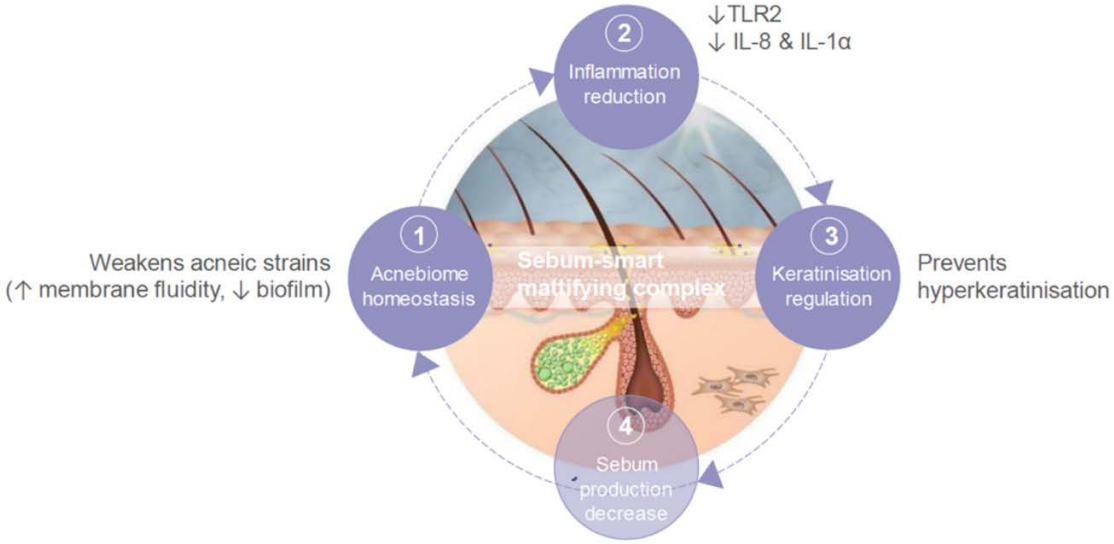
Technical information from supplier, data on file 2025.

#Sebum-smart mattifying complex

Under untreated conditions, a healthy laminated stratum corneum is observed with normal detachment of the uppermost layer, correlated to a normal progressive desquamation process. After 8 days, *C. acnes* bacteria induced skin hyperkeratinisation observed by a low desquamation process and a thicker and more cohesive stratum corneum. However, when Sebum-smart mattifying complex was applied simultaneously, researchers observed a maintenance of normal state expressed by a desquamation of the stratum corneum and more laminated layers.

Sebum-smart mattifying complex maintains healthy skin structure and helps prevent hyperkeratinisation.

***In vitro / ex vivo* summary**



#Sebum-smart mattifying complex

Clinical studies – *in vivo* (raw material supplier)

1. Evaluation of sebum production

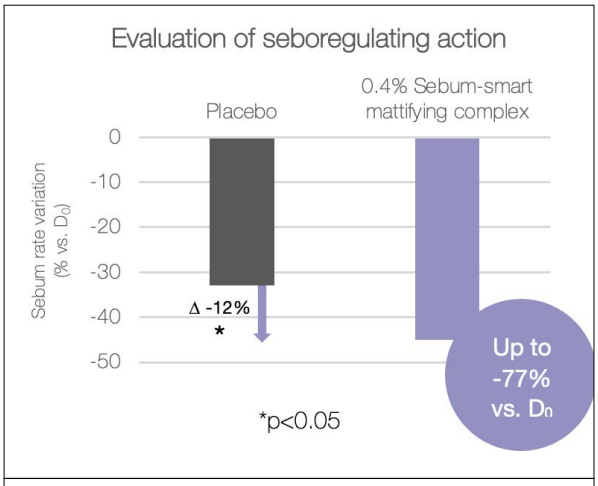
15 Caucasian male and female subjects (50% 14-25-years-old and 50% 26-40-years-old) with acne-prone skin (mean sebum rate 175 µg/cm^2) applied 0.4% Sebum-smart mattifying complex vs. a placebo, twice daily for 28 days in a split face study. Evaluation of sebum rate on the forehead by Sebumeter® at D_0 and D_{28}.

After 28 days of application, Sebum-smart mattifying complex significantly decreased sebum production by 42% (up to 77%) compared to D_0 and by 12% compared to placebo.

Sebum-smart mattifying complex helps to reduce sebum production offering less shiny skin.

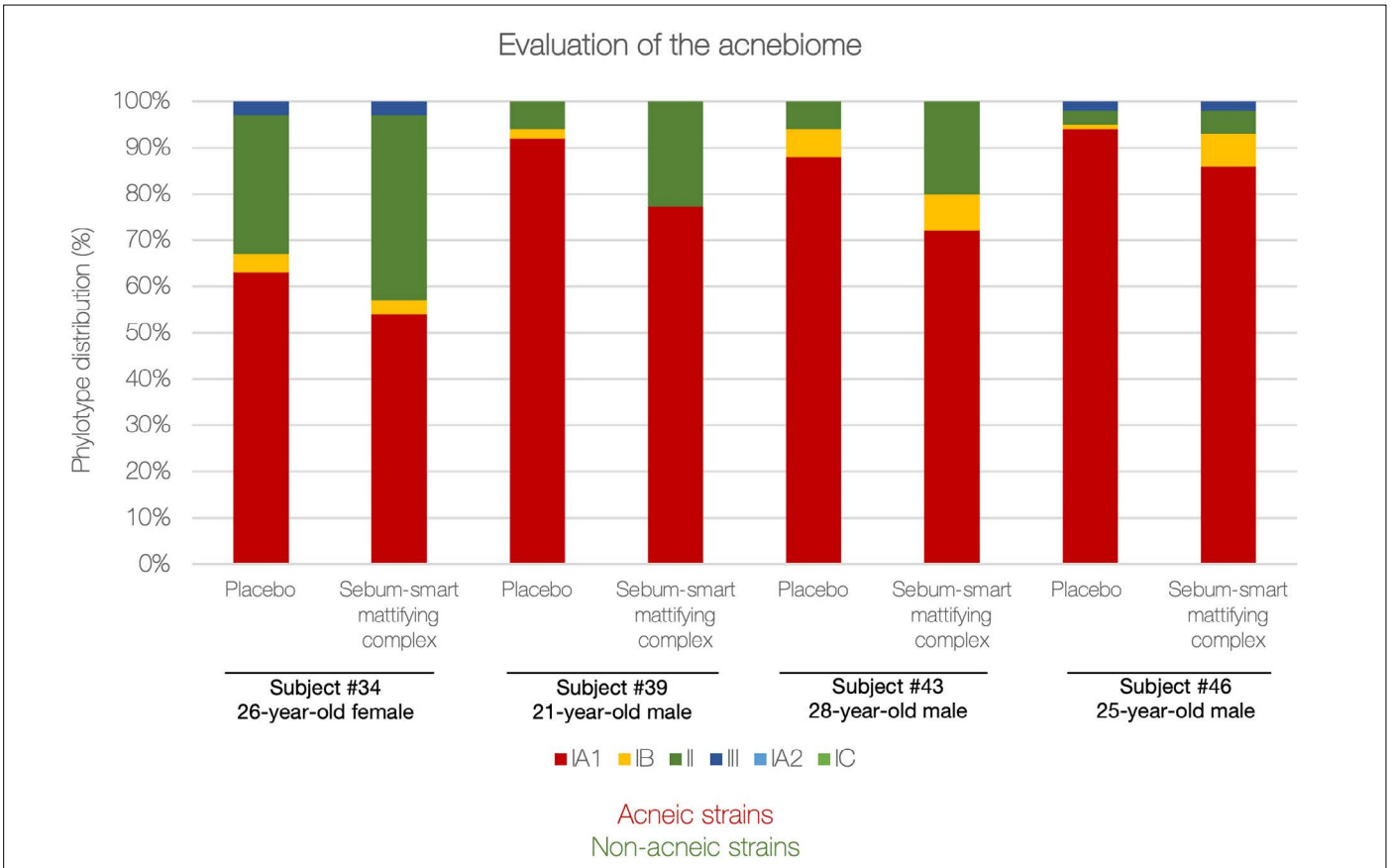
2. Evaluation of acnebiome

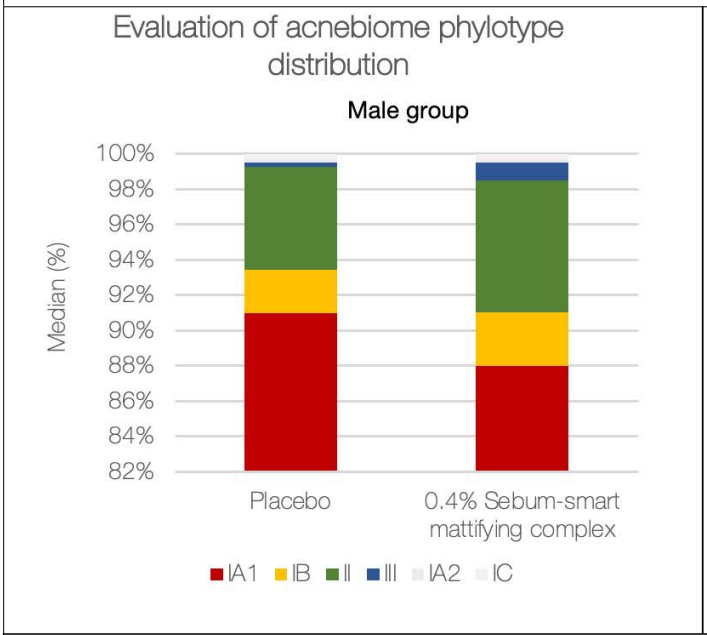
19 Caucasian male (10) and female (9) subjects (50% from 14-25-years-old and 50% from 26-40-years-old) with acne-prone skin applied a cream (0.4% Sebum-smart mattifying complex) and a placebo in a split face study, twice daily for 28 days. Evaluation of the acnebiome was obtained by sequencing skin surface microbiota samplings at D_{28}.

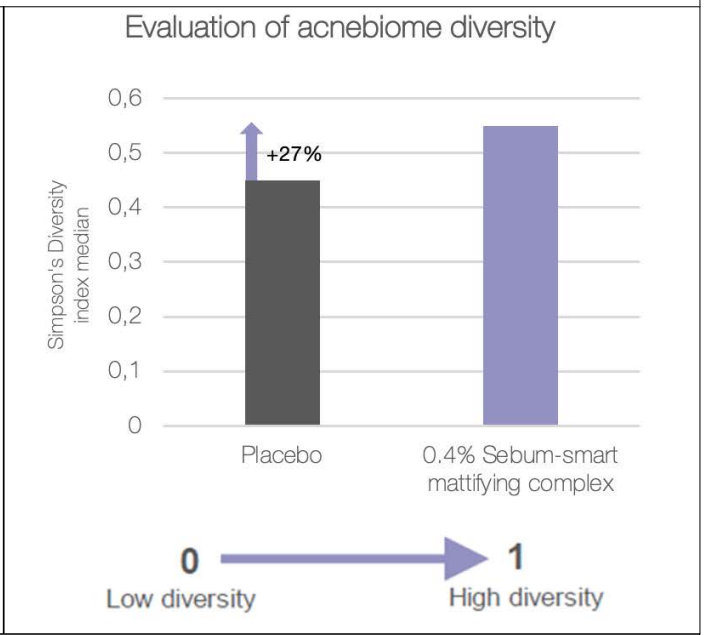


Technical information from supplier, data on file 2025.

#Sebum-smart mattifying complex







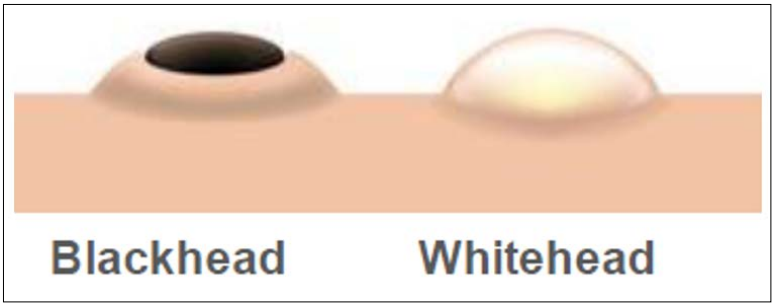
Technical information from supplier, data on file 2025.

Sebum-smart mattifying complex rebalances the acnebiome and increases its diversity in favour of a healthier profile.

#Sebum-smart mattifying complex

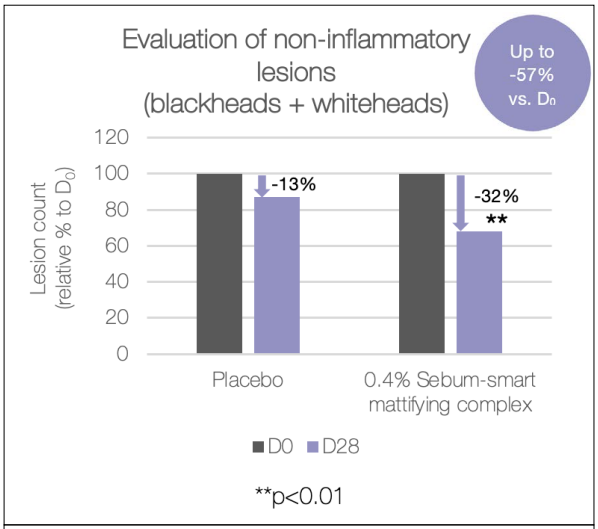
3. Evaluation of blemishes and lesions

14 Caucasian male and female subjects with blackheads and / or whiteheads applied 0.4% Sebum-smart mattifying complex vs. a placebo, twice daily for 28 days in a split face study. Evaluation of lesions by counting performed by a dermatologist at D_0 and D_{28}.



After 28 days, Sebum-smart mattifying complex significantly decreased global non-inflammatory lesions (whiteheads + blackheads) by 32% compared to D_0, up to -57%, whereas the placebo induced a non-significant decrease by 13% only.

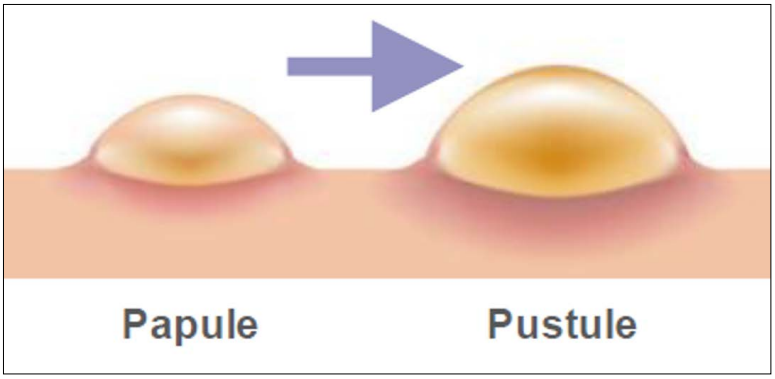
Sebum-smart mattifying complex helps to reduce the appearance of whiteheads and blackheads.

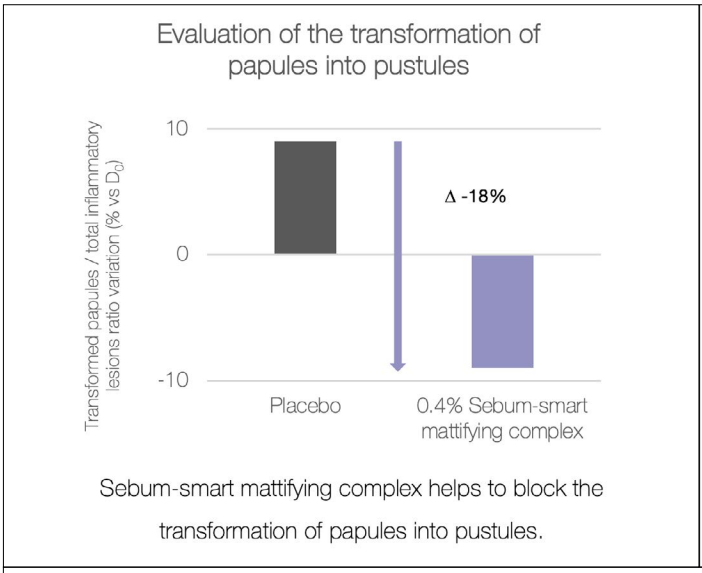


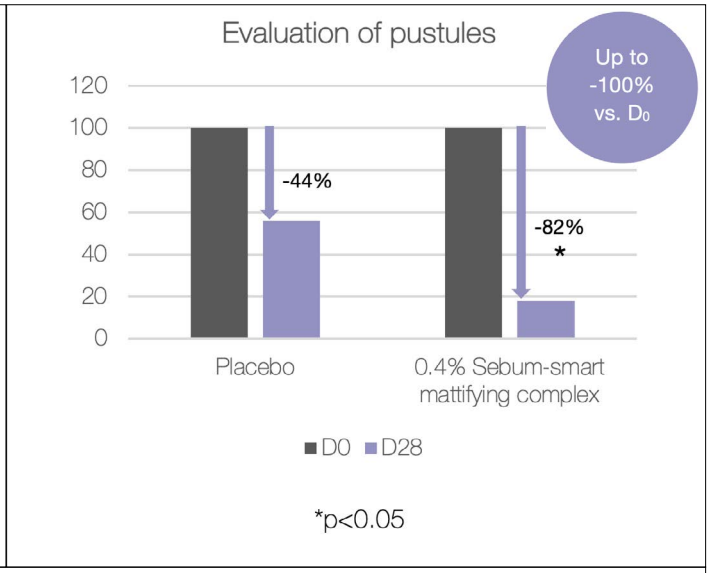
Technical information from supplier, data on file 2025.

#Sebum-smart mattifying complex

14 Caucasian male and female subjects with papules (14 subjects) and / or pustules (8 subjects) applied 0.4% Sebum-smart mattifying complex vs. placebo twice daily for 28 days in a split face study. Evaluation of lesions by counting performed by a dermatologist at D_0 and D_{28}.







Technical information from supplier, data on file 2025.

The transformation of papules into pustules was blocked (-18% compared to placebo) by Sebum-smart mattifying complex, and the decrease in pustules was two times higher for the Sebum-smart mattifying complex side (-82% significant, up to -100%) compared to the placebo side (-44% non-significant).

Sebum-smart mattifying complex helps to reduce the appearance of pustules.

#Sebum-smart mattifying complex

Subject #26

Subject #36

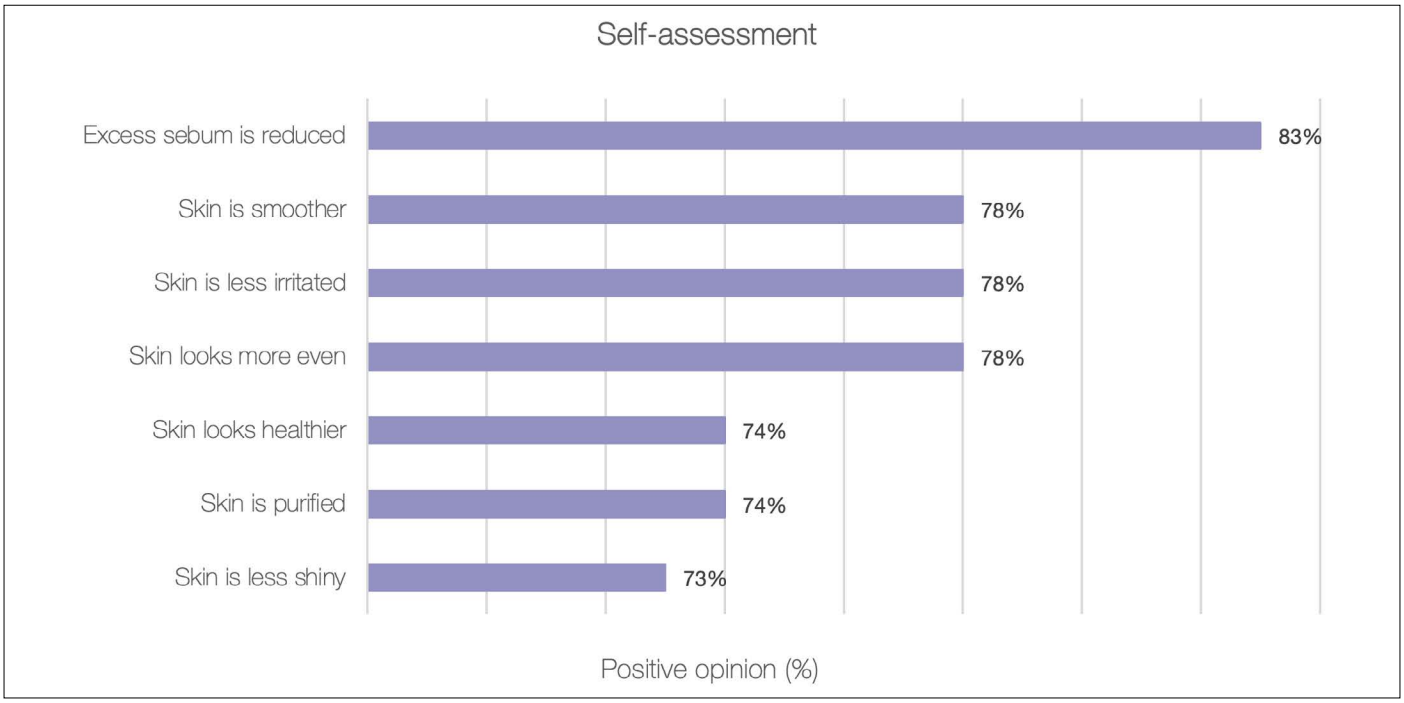
Subject #37

Technical information from supplier, data on file 2025.

#Sebum-smart mattifying complex

4. Self-evaluation of the skin aspect.

19 Caucasian male and female subjects (50% from 14-25-years-old and 50% from 26-40-years-old) with acne-prone skin applied 0.4% Sebum-smart mattifying complex vs. placebo twice daily for 28 days in a split face study. Self-assessment by filling in a questionnaire at D_{28}.



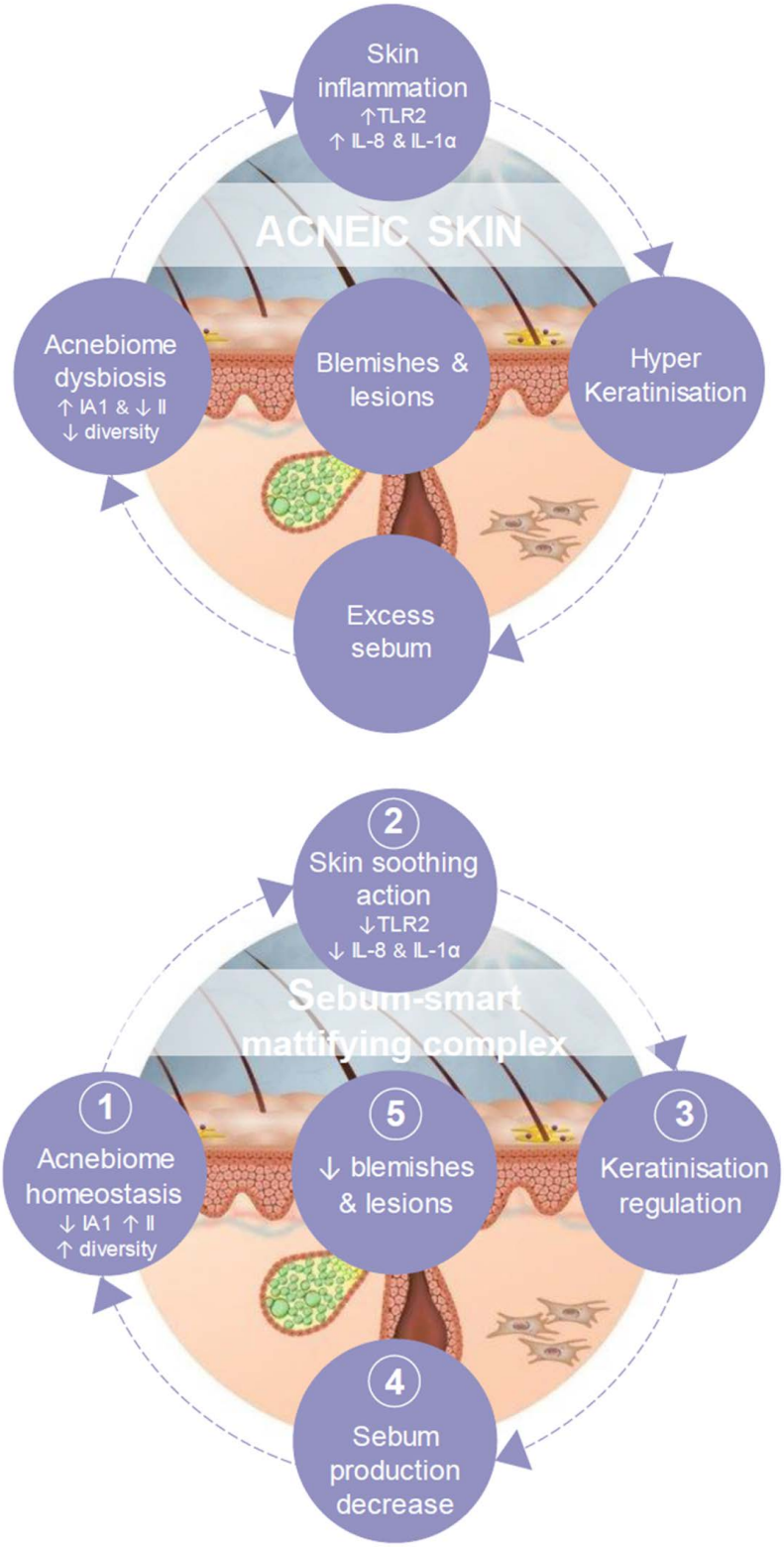
Consumers approved the efficacy of Sebum-smart mattifying complex.

Sebum-smart mattifying complex improved the skin aspect of volunteers suffering from mild to moderate acne by decreasing sebum production and the appearance of both non-inflammatory (blackheads and whiteheads) and inflammatory blemishes (papules and pustules) on their faces.

Sebum-smart mattifying complex, reduces sebum production and the appearance of blemishes for clear and flawless skin.

#Sebum-smart mattifying complex

Summary



#Sebum-smart mattifying complex

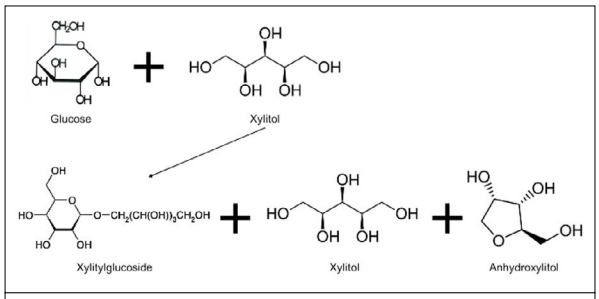
Sebum-smart mattifying complex skin benefits

- Regulates sebum production providing a mattified complexion thus offering less shiny skin
- Rebalances the acnebiome and increases its diversity in favour of a healthier profile
  - Selectively weakens acneic *C. acnes* strains, with no impact on other microbiota microorganisms
- Potent skin soothing properties
  - Downregulates TLR-2, IL-8, and IL-1α expression, contributing to soothe the skin
  - Helps to reduce the inflammatory response
- Maintains healthy skin structure and helps prevent hyperkeratinisation
- Helps to reduce the appearance of blemishes and lesions for clear and flawless skin

#Hydromatrix complex

What is Hydromatrix complex?

The multifunctional Hydromatrix complex is composed of Xylitylglucoside, Anhydroxylitol, and Xylitol harnessing the power of sugar to hydrate the skin. Glucose (non-GMO wheat; from natural plant origin) and Xylitol (non-GMO; natural plant origin, such as wood) are both humectant and hygroscopic molecules capable of retaining and trapping free water – when they are combined, they form a new structure → Xylitylglucoside (natural, plant origin and primary glycoside formed). Xylitylglucoside can hydrolyse or be further processed to release xylitol and anhydroxylitol. So, the reaction between glucose and xylitol can yield xylitylglucoside, xylitol, and anhydroxylitol as final components.

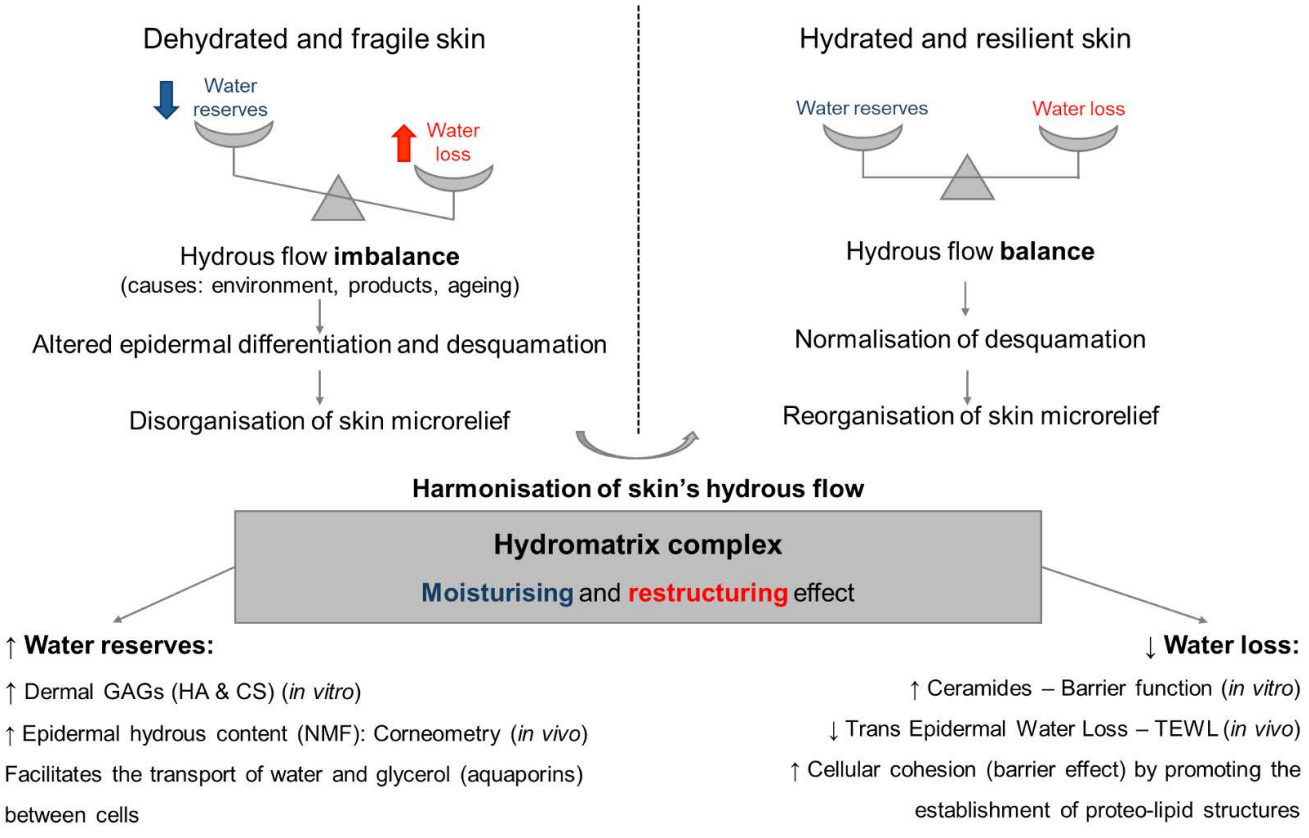


Hydromatrix complex.

How does Hydromatrix complex work in the skin?

Thanks to a new harmonisation of cutaneous hydrous flow, Hydromatrix complex moisturises and restructures the skin. The skin is more resistant and better equipped to combat external aggressions.

A fragile biological balance:



#Hydromatrix complex

Regulation and restoration of skin water flow: measurable effectiveness at 8 hours and 24 hours.

① Increased water reserves and circulation

(*In vivo* Corneometry)

Facilitates the transport of water & glycerol

→ Action on aquaporins

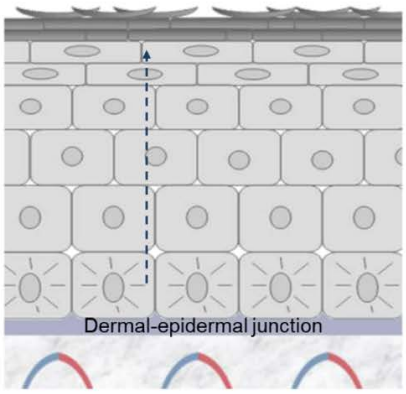
→ Action on tight junctions

Optimises water reserves in the epidermis and dermis

→ Increases hyaluronic acid

→ Increases chondroitin sulfate

→ Increases NMF through the breakdown of filaggrin



Water supply / Vascularisation

② Skin barrier reinforcement

(*In vivo* TEWL)

Lipid synthesis

(Intercellular cement)

→ Ceramides 1 & 2

→ Intercellular cholesterol

Protein organisation

(Protein synthesis)

→ Keratin 17

→ Kallikreins 5 & 7

→ Loricrin

Protein assembly

→ Transglutaminases 1 & 5

#Hydromatrix complex

Summary of studies by raw material supplier:

1. Optimising water reserves

1.1 Optimising water reserves (Corneometry) – measurable results

1.2 Water circulation: aquaporins and tight junctions

1.2.1 Water circulation: focus on Aquaporin-3 gene expression

1.2.2 Water circulation: focus on Aquaporin-3 protein expression

1.2.3 Water circulation: focus on tight junction gene expression

1.3 Optimising water reserves: focus on GAGs and NMF

1.3.1 Optimising water reserves: epidermal hyaluronic acid

1.3.2 Optimising water reserves: increases in NMF

1.3.3 Optimising water reserves: dermal hyaluronic acid

1.3.4 Optimising water reserves: dermal chondroitin sulphate

2. Reinforcement of the skin barrier

2.1 Protein organisation: synthesis of key skin barrier proteins

2.2 Reinforcement of the skin barrier: kallikreins, keratins, and transglutaminases

2.3 Action on key lipids: synthesis of ceramides 1 & 2

2.4 Action on key lipids: plays a role in cholesterol synthesis

2.5 Reinforcement of the skin barrier: reduction in TEWL

3. Visual effect: visual improvement of the skin surface

3.1 Visible efficacy: helps to normalise desquamation

3.2 Visible efficacy: contributes to smoothing the skin microrelief

#Hydromatrix complex

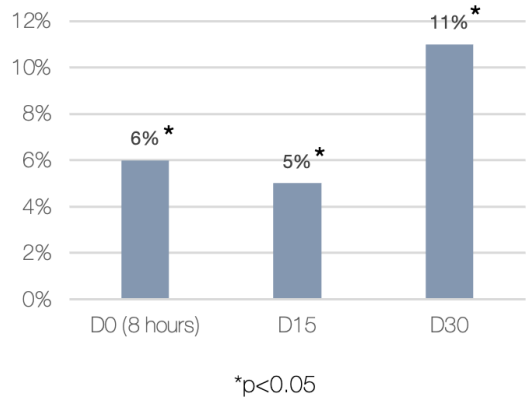
1. Optimising water reserves

1.1 Optimising water reserves (Corneometry) – measurable results

25 Subjects with dry skin (<55UC) applied Hydromatrix complex versus placebo on the leg, twice daily for a month.

Evaluation by Corneometry measurement at D_0 (at 8 hours) as well as D_{15} and D_{30} of electrical conductance.

Hydromatrix complex boosts hydration in the skin.



Technical information from supplier, data on file 2025.

1.2 Water circulation – aquaporins and tight junctions

During differentiation, keratinocytes acquire channels that modulate intercellular transport of water and glycerol.

Tight junctions:

- Located between cells of the granular layer.

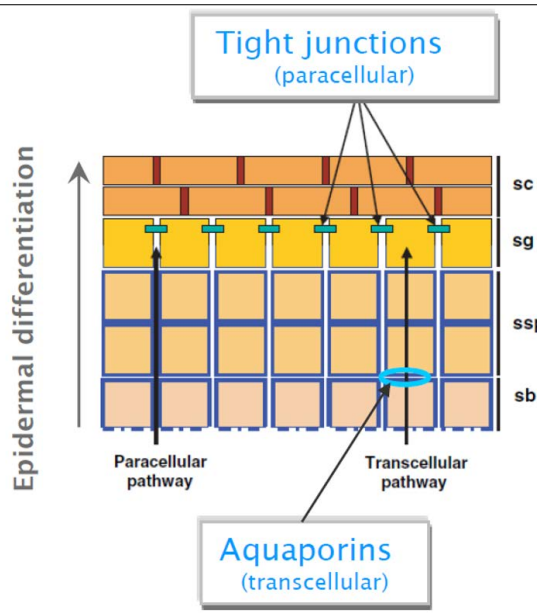
Hydromatrix complex works on the paracellular transport of water and other solutes.

Aquaporins:

- Located in the membranes of cells in the basal and spinal layers.

Hydromatrix complex is able to have an impact on the transport of glycerol and water.

Thanks to proper differentiation, water can be distributed throughout all the layers of the skin. Its passage is channelled through two main pathways to regulate and prevent water loss.



Technical information from supplier, data on file 2025.

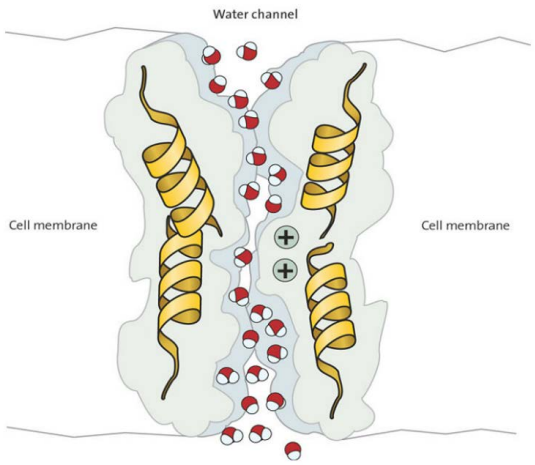
#Hydromatrix complex

1.2.1 Water circulation – focus on Aquaporin-3 gene expression

Aquaporin-3 (AQP-3) is a membrane protein that forms 'channels' that enable transcellular exchanges and promote the circulation of water and glycerol.

This study utilised reconstructed epidermis (3D model) with topical application of Hydromatrix complex versus a placebo. 24-Hour analysis of gene expression in cells treated with Hydromatrix complex or not.

Hydromatrix complex helps to increase the gene expression of Aquaporin-3. Hydromatrix complex allows for better water distribution in cells and promotes hydration by providing glycerol.



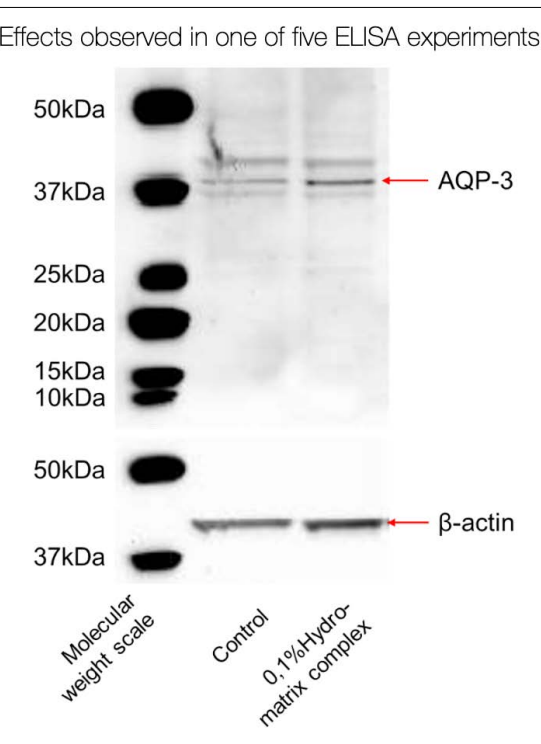
Technical information from supplier, data on file 2025.

1.2.2 Water circulation – focus on Aquaporin-3 protein expression

Study was performed on normal human keratinocytes (NHK). On D_4, the cells were treated with 0.1% Hydromatrix complex. D_8: Anti-Aquaporin-3 (AQP-3) Ab + Western blot analysis + normalisation → β-actin.

+36% Positive regulation of Aquaporin-3 protein expression

Hydromatrix complex helps to increase the protein expression of Aquaporin-3.
Hydromatrix complex allows for better distribution of water in cells and improves hydration by providing glycerol.



Technical information from supplier, data on file 2025.

#Hydromatrix complex

1.2.3 Water circulation – focus on tight junction gene expression

Upregulation of gene expression of proteins constituting tight junctions. Claudins (CLDN) are membrane components of tight junctions.

+123% CLDN-4
+240% CLDN-5
+75% CLDN-7

Hydromatrix complex helps to increase the genetic expression of claudins, proteins that make up tight junctions.
Hydromatrix complex therefore helps regulate the circulation and distribution of water within the epidermis.

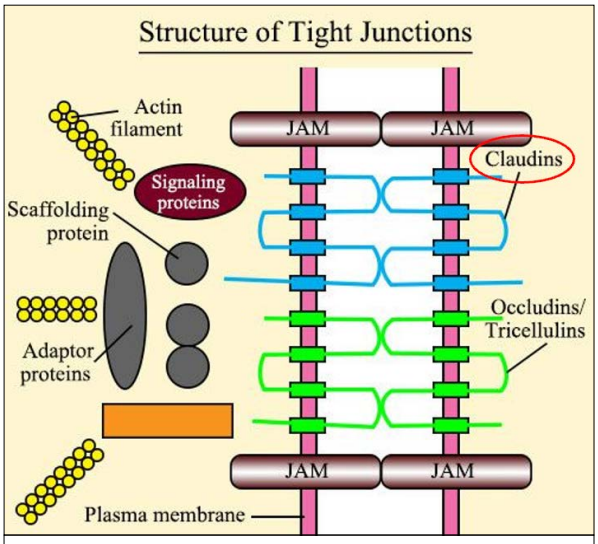


Diagram demonstrating the structure of tight junctions.

1.3 Optimising water reserves – focus on GAGs and NMF

Stimulation of Glycosaminoglycans (GAGs) such as HA and CS and Natural Moisturising Factor (NMF) levels.

Hyaluronic acid (HA):

- Located in the intercellular space of the dermis and epidermis.
- Polysaccharide with high hygroscopicity (capable of retaining up to 1000 times its weight in water).
- Regulates various keratinocyte functions (cholesterol synthesis, formation of lamellar bodies, etc.).
- It contributes to increasing the skin volume and gives the skin a plump effect.

Chondroitin sulfate (CS):

- Plays a role in water retention in the dermis and contributes to the skin's biomechanical properties.
- It contributes to increasing skin volume and giving the skin a plump effect.

Natural Moisturising Factor (NMF):

- Hygroscopic molecules of the stratum corneum whose synthesis results from the degradation of filaggrin by caspase-14 into its constituent amino acids.

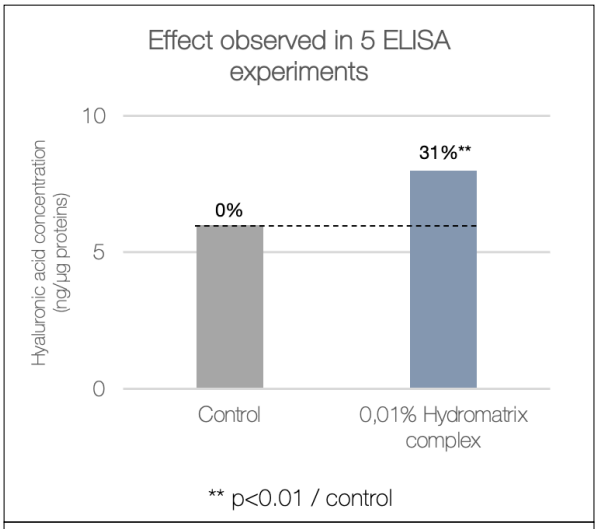
#Hydromatrix complex

1.3.1 Optimising water reserves – epidermal hyaluronic acid

Normal human keratinocytes (NHK) were used in this study. D_4: treatment with +/- retinoic acid or Hydromatrix complex. D_8: Anti-hyaluronic acid antibody; ELISA (x5 experiments) + protein normalisation → BCA (The bicinchoninic acid (BCA) assay is one of many ways to measure the total protein concentration of an unknown sample).

Retinoic acid was tested as a positive control at 0.2µM (+115%).

Hydromatrix complex helps to increase the epidermal water reserves for immediate hydration.



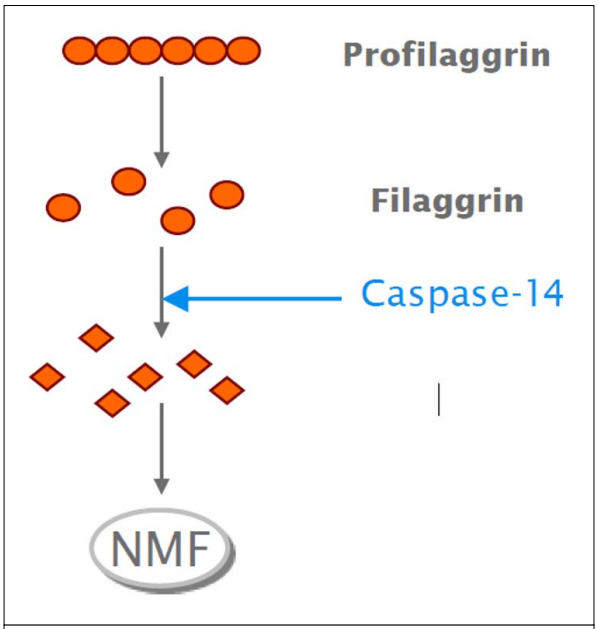
Technical information from supplier, data on file 2025.

1.3.2 Optimising water reserves – increase in NMF

The enzyme Caspase-14 is involved in the final breakdown of filaggrin into amino acids. These amino acids contribute to the formation of NMF, a hygroscopic molecule. Natural moisturising factor is the main molecule in the stratum corneum. It helps maintain ideal hydration, at around 15%.

+66% Free amino acids + other components

Hydromatrix complex helps increase the genetic expression of caspase-14. Hydromatrix complex thus contributes to the proper hydration of the stratum corneum.



Technical information from supplier, data on file 2025.

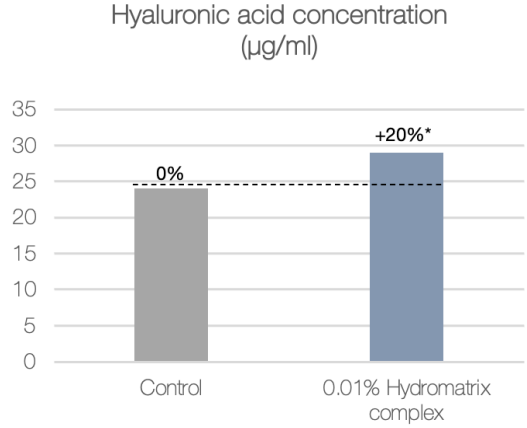
#Hydromatrix complex

1.3.3 Optimising water reserves – dermal hyaluronic acid

Normal human fibroblasts (NHDF) were used in this study. D_{13}: treatment +/- EGF or Hydromatrix complex. D_{17}: stains All + spectrophotometry staining (630 nm).

EGF (Epidermal Growth Factor) was tested as a positive reference (+47%).

Hydromatrix complex helps to increase hyaluronic acid levels in the dermis. It acts on water reserves at all levels.



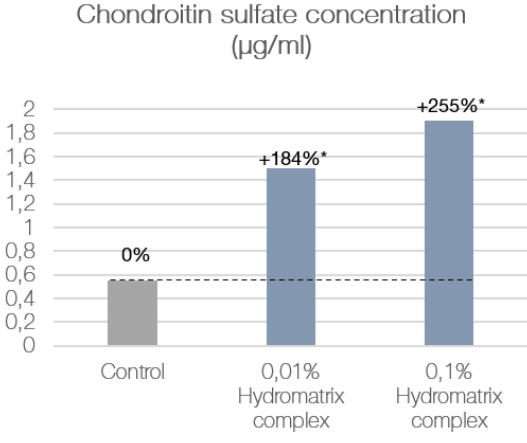
*p<0.05 / control

Technical information from supplier, data on file 2025.

1.3.4 Optimising water reserves – dermal chondroitin sulphate

Normal human fibroblasts (NHDF) were used in this study. D_{13}: treatment +/- EGF or Hydromatrix complex. D_{17}: stains All + spectrophotometry staining (630 nm).

Hydromatrix complex helps to increase chondroitin sulfate levels in the dermis and helps maintain skin reserves and mechanical properties. This effect is dose-dependent.

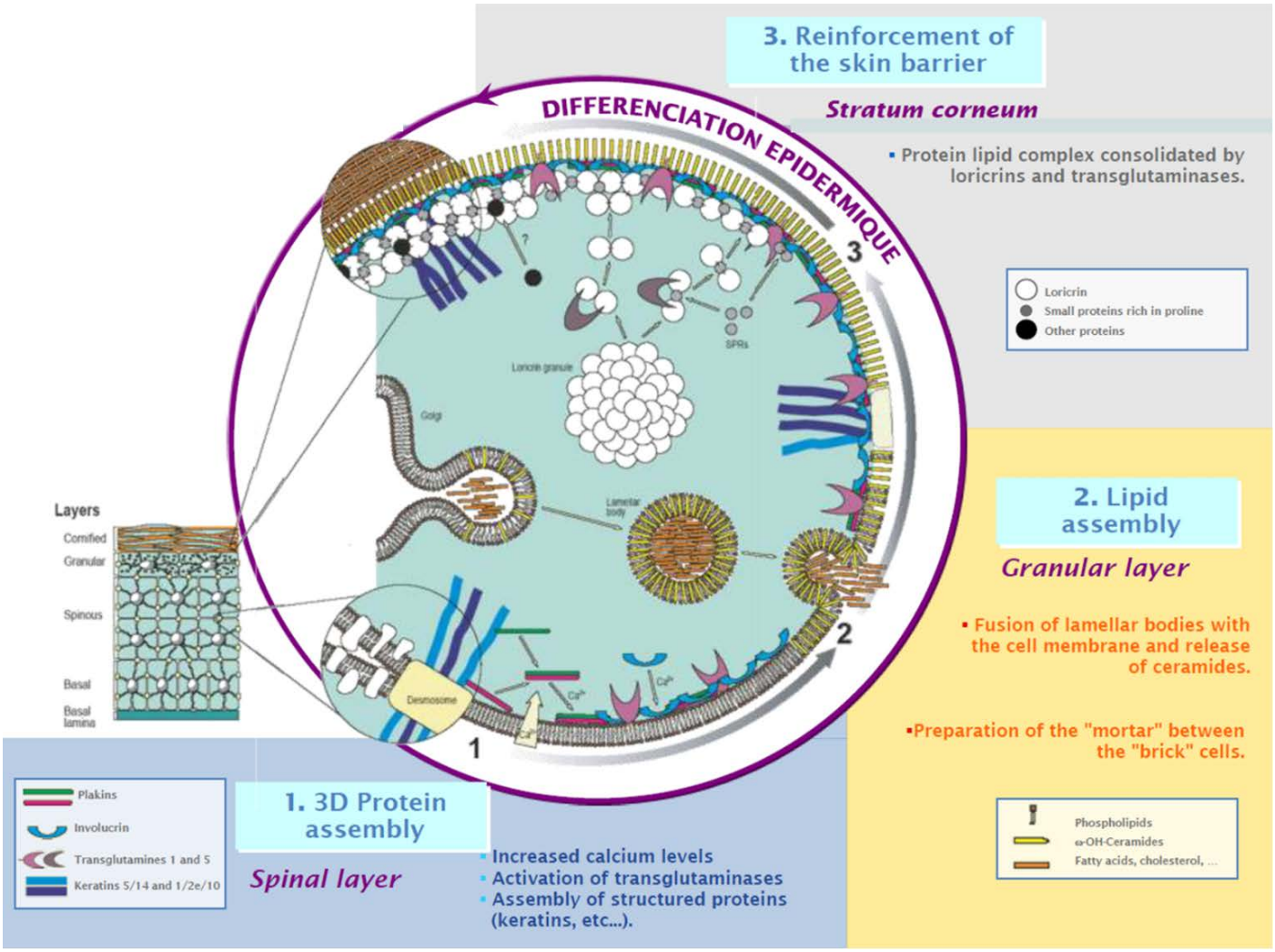


*p<0.05 / control

Technical information from supplier, data on file 2025.

#Hydromatrix complex

2. Formation of the stratum corneum: explanation



#Hydromatrix complex

2.1 Protein organisation – synthesis of key skin barrier proteins

Loricrin gives structure to the corneocyte membrane, making the stratum corneum impermeable and resistant. It represents approximately 60% of the total proteins in the stratum corneum.

Topical application of Hydromatrix complex versus placebo. At 24 hours, analysis of gene expression in cells treated (or not) were obtained.

Loricrin (LOR):
Without it, no shielding effect is possible. Under the action of transglutaminases, loricrin will create covalent bonds with other proteins. These structures will then serve as anchor points for intercorneocyte lipids, strengthening the entire protein-lipid scaffold.

By increasing the expression of loricrin, Hydromatrix complex participates in the creation of the protective shell (cornified envelope) that gives all its properties to the stratum corneum.

2.2 Reinforcement of the skin barrier – kallikreins, keratins, and transglutaminases

Assembled (cross-linked) by transglutaminases, structural proteins such as kallikreins and keratins in the epidermis ensure increasing cohesion between keratinocytes as they differentiate.

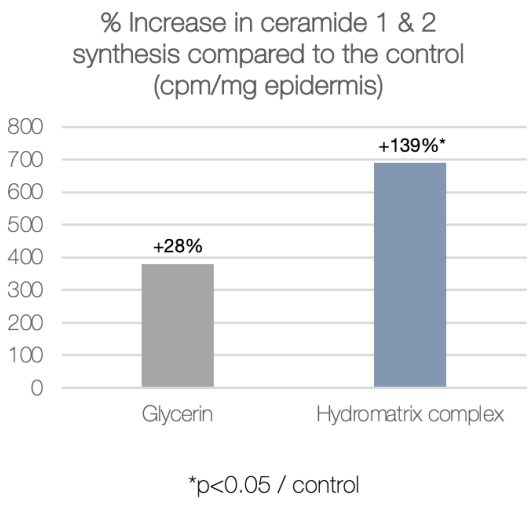
+111%	KLK-5	Kallikreins (KLK): Enzymes that build the stratum corneum. They play a role in its renewal and its desquamation.
+63%	KLK-7	
+122%	KRT 17	Keratin (KRT): Structural proteins involved in the cohesion between cells.
+40%	TGM-1	Transglutaminases (TGM): Calcium-dependent enzymes that induce protein crosslinking to ensure the formation of the cornified envelope.
+126%	TGM-5	

Hydromatrix complex contributes to a well-structured and hydrated skin barrier, providing an optimal shield effect.

#Hydromatrix complex

2.3 Action on key lipids – synthesis of key lipids: ceramides 1 & 2
Human skin explant (*ex vivo*). H_0: +/- EGF (medium) or Hydromatrix complex or Glycerin applied topically. H_{18}: Dermal / epidermal separation + incorporation of C14-labelled into epidermal lipids + thin layer chromatography.

Hydromatrix complex significantly stimulates ceramide synthesis as well as strengthens and restructures the skin barrier.
Water loss is slowed within 24 hours (greater effectiveness than the formulation with Glycerin).



Technical information from supplier, data on file 2025.

2.4 Action on key lipids – plays a role in cholesterol synthesis
Cholesterol is an essential component of cell membranes and intercorneocyte cement. It is completely independent of blood cholesterol.

Topical application of Hydromatrix complex versus placebo. At 24 hours, analysis of gene expression was conducted in cells treated with Hydromatrix complex or not.

HMGCR: 3-hydroxy-3-methylglutaryl-CoA reductase – the enzyme that build the corneocyte (cornified cell) envelope involved in cholesterol synthesis.

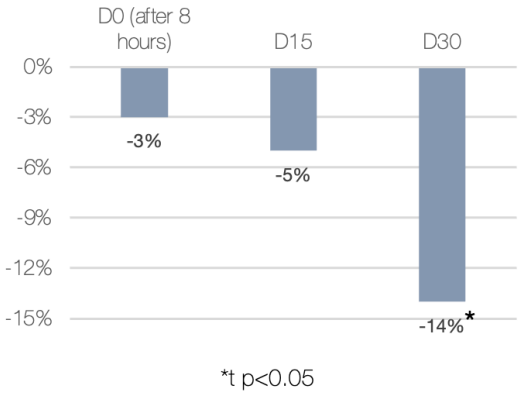
By indirectly participating in cholesterol synthesis, Hydromatrix complex promotes cell cohesion and barrier function. This helps to reduce water loss.

#Hydromatrix complex

2.5 Reinforcement of the skin barrier – TEWL

Reduction of transepidermal water loss – evaporimeter measurement at D_0 (after 8 hours) as well as D_{15} and D_{30}.

The skin preserves its lipid capital, thanks to Hydromatrix complex. Transepidermal water loss is reduced. Hydromatrix complex helps to prevent dehydration.



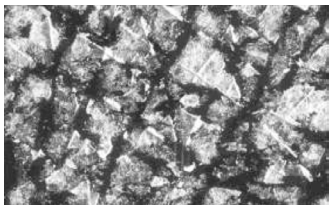
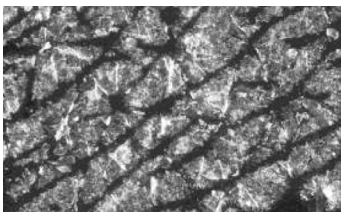
Technical information from supplier, data on file 2025.

3. Visual effect: visual improvement of the skin surface.

3.1 Visible efficacy: helps to normalise desquamation

25 Subjects with dry skin (<55UC) applied Hydromatrix complex versus placebo on the leg, twice daily for a month. Collection of corneocytes (D-squames) on D_{30} (after 1 month of treatment).

Areas treated by:

Placebo	Placebo + Hydromatrix complex
	

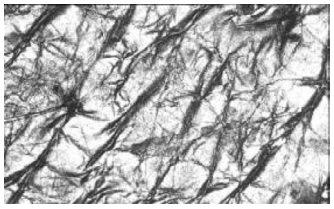
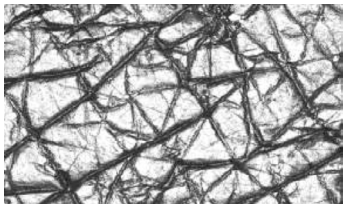
From the first month of treatment, Hydromatrix complex helps to balance desquamation. This results in less flaky skin – the skin is visibly hydrated.

#Hydromatrix complex

3.2 Visible efficacy: contributes to smoothing the skin's microrelief

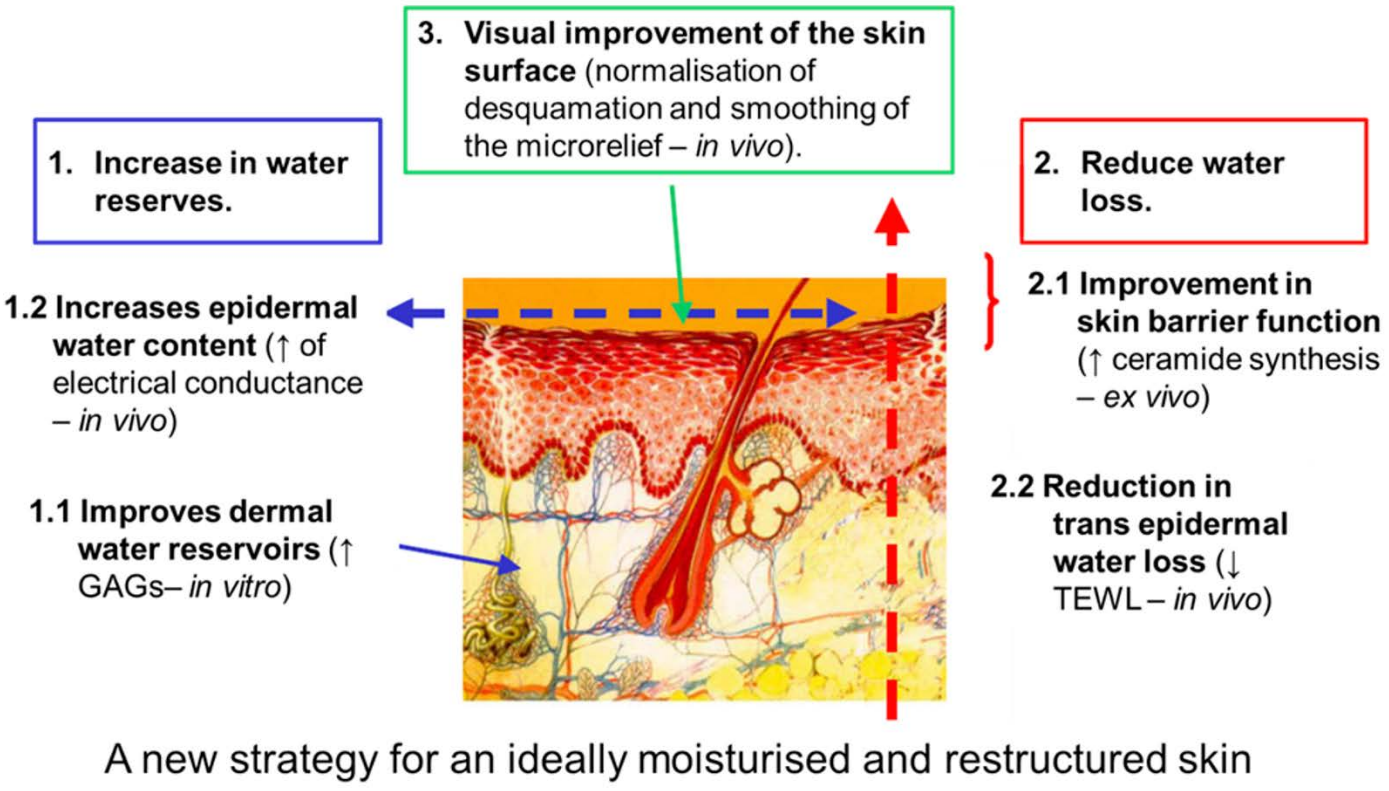
25 Subjects with dry skin (<55UC) applied Hydromatrix complex versus placebo on the leg, twice daily for a month. Direct skin print at D_{30} after 1 month of treatment).

Areas treated by:

Placebo	Placebo + Hydromatrix complex
	

From the first month of treatment, Hydromatrix complex reorganises the skin microrelief. Fine lines caused by dehydration and fatigue are erased, and the skin is visibly smoother. The skin is visibly restructured.

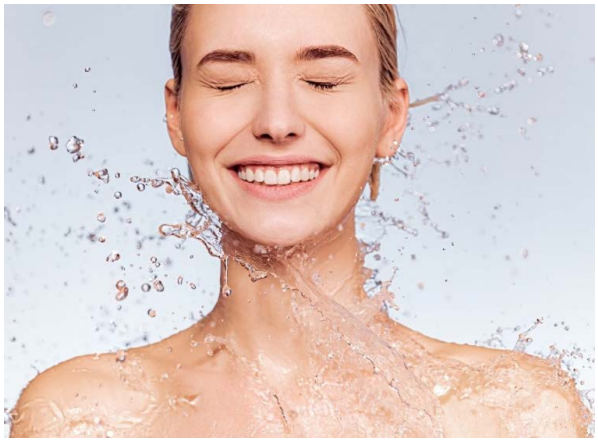
Hydromatrix complex summary:



#Hydromatrix complex

Hydromatrix complex skin benefits

- Moisturising effect: increases water reserves
  - Boosts skin hydration
  - Facilitates the transport of water and glycerol through its action on aquaporins and tight junctions
  - Helps to regulate the circulation and distribution of water within the epidermis by increasing the genetic expression of claudins – proteins that make up tight junctions
  - Improves epidermal water reservoirs by degrading filaggrin which increases the NMF's. Helps to increase the epidermal hyaluronic acid for immediate hydration
  - Optimises dermal water reservoirs by increasing the synthesis of GAGs (hyaluronic acid, chondroitin sulphate)
- Reinforces the skin barrier:
  - By increasing the expression of key skin barrier proteins (LOR, KRT, KLK, TGM), contributes to a well-structured and hydrated skin barrier, providing an optimal shield effect
  - Plays a role in the synthesis of key lipids (ceramides, cholesterol) for the intercellular cement. Improvement in skin barrier function by strengthening and restructuring the skin barrier and promoting cell adhesion
  - Helps to preserve lipid capital, reducing trans epidermal water loss (TEWL)
- Promotes a visual improvement of the skin surface
  - Normalisation of desquamation providing less flaky skin
  - Fine lines caused by dehydration and fatigue are erased, and the skin microrelief is visibly smoother



#Velva-matte technology

What is Velva-matte technology?

Velva-matte technology (INCI: Aluminum starch octenylsuccinate) is a unique, hydrophobically modified natural polymer offering smooth, velvety feel properties. Velva-matte technology is irradiated and possess a cleaner microbiological profile. It is non-whitening and have the ability to mitigate greasiness, leaving a soft, dry and matte finish on the skin.

Aluminum starch octenylsuccinate.

How does Velva-matte technology work in the skin?

Because of its smooth, velvety feel properties, Velva-matte technology can be used in various applications. Perhaps the most distinctive property of these remarkable products is its unique ability to mitigate the greasiness produced by occlusive agents used in skincare. In both aqueous and anhydrous products for skincare, Velva-matte technology reduce the perceived oiliness of formulations, leaving a soft, dry and matte finish on the skin. Velva-matte technology can improve aesthetics and mitigate greasiness in the formulation without whitening on the skin.

<u>Greasiness mitigation</u>

In a blind panel test involving 20 subjects, the formulation containing Velva-matte technology was overwhelmingly selected as being far less greasy than the same formula control without Velva-matte technology.

Petrolatum	35
Cocoa butter	5
Velva-matte technology	60

Technical information from supplier, data on file 2025.

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Non-whitening

Using the same formulation, panellists found that it produced a clear, translucent coating on the skin. Whitening was not perceived in spite of the relative high loading of the Velva-matte technology in the formulation.

In addition, actual reflectance measurements were performed on swatches of natural worsted wool which had been uniformly coated with lotions containing Velva-matte technology or micronised titanium dioxide. Higher reflectance values relate to greater perceived whiteness on skin.

Reflectance was measured directly using a model Micro S-5 Brightmeter manufactured by Technidyne Corp, New Albany, IN.

Formula	% active pigment	% reflectance	- vs control
Control (fabric only)	0	45.7	-
Lotion only	0	54.6	+ 8.9
Lotion + Velva-matte technology	10	51.7	+ 6.0
Lotion + micronised TiO_2	5	66.5	+ 20.8
Lotion + micronised TiO_2	10	73.2	+ 27.5

Substantially less reflectance was measured with 10% Velva-matte technology than with formulas tested which contained micronised titanium dioxide.

Velva-matte technology skin benefits

- Mattifying properties
  - – Reduces greasiness
  - – Offers smooth, velvety feel properties
  - – Non-whitening
  - – Leaves skin feeling soft, dry, and matte

#SPOT ON moisture balance

Oily skin prone to blemishes

Excess oiliness	Hyperkeratinisation	Blemishes	Skin distress	Dehydration
Mattifying	Smoothing effect	↓ blemishes	Soothing effect	↑ Hydration ↓ TEWL
Sebum regulating	Normalises desquamation	Rebalances *C. acnes* population	↓ TLR-2, IL-8, IL-1α	Reinforces skin barrier

SPOT ON moisture balance