BIOTILYS®

PATENT

SKIN MICROBIOTA BALANCE



PROTECTION

BIOTILYS®

PHYTOBIOACTIVE

BIOTECHNOLOGY

ACTIONS

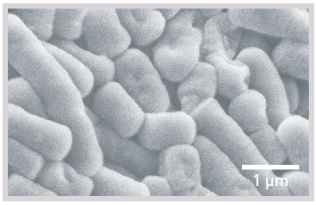
- Maintains skin microbiota balance
- Promotes the diversity of the commensal microbiota
- Reinforces the epidermal barrier
- Protects skin against external aggressions
- Improves moisturization
- Soothes, calms and reduces redness

NEW RESULTS

ORIGIN

OBTAINED BY OPTIMIZED FERMENTATION OF *Lactobacillus pentosus*

BIOTILYS®, an innovative active substance that draws its benefits from probiotics; a new solution obtained from an original micro-organism, a lactic acid bacteria: *Lactobacillus pentosus*



MECHANISM OF ACTION

Skin carries out its protection against the hostile environment. Probiotics, by keeping the epidermal barrier intact, can preserve the skin homeostasis. Acting as a short and long term global protector, BIOTILYS® increases the diversity of commensal cutaneous microbiota and maintains the balance of a healthy skin, allowing it to withstand aggressions, and to keep a beautiful appearance.

COSMETIC BENEFITS

- Skin is moisturized and smoother,
- The complexion is mattified, bright and uniform.
- Skin is soothed, constantly protected against environmental aggressions,
- Redness is clearly reduced.

COSMETIC USES

- **Protective and repair care products**
- **Sensitive, reactive and with atopic tendency skin care products**
- **Moisturizing care products**

BIOTECHNOLOGIES
GREENTECH

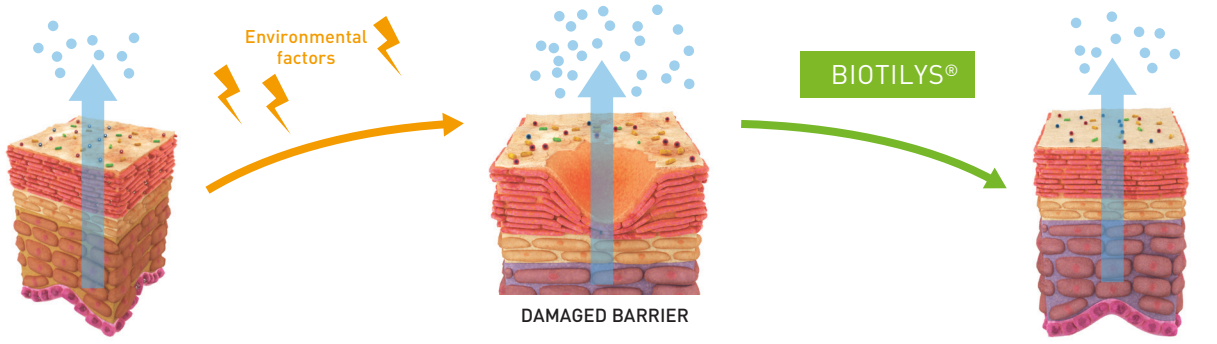
SCIENTIFIC PROCESS

• Skin barrier homeostasis

An intact epidermal barrier means normal homeostasis, balanced and healthy skin capable of defending itself. Conversely, a damaged barrier leads to a loss of homeostasis, an unbalanced and impaired, irritated and inflamed skin with premature wrinkles.

• Probiotics

Probiotics offer numerous benefits for health: they participate in the management of the immune system, inhibit growth of certain pathogens, balance homeostasis, reinforce barrier function and prevent dysfunctions. Thanks to their regulatory and re-balancing action, they may promote skin health and beauty. This latter is better able to withstand aggressions and regenerates better and more rapidly. GREENTECH used this potential to create BIOTILYS® from these bacterial strains, which are developed and produced by BIOVITIS (Greentech's Company, dedicated to microorganisms).



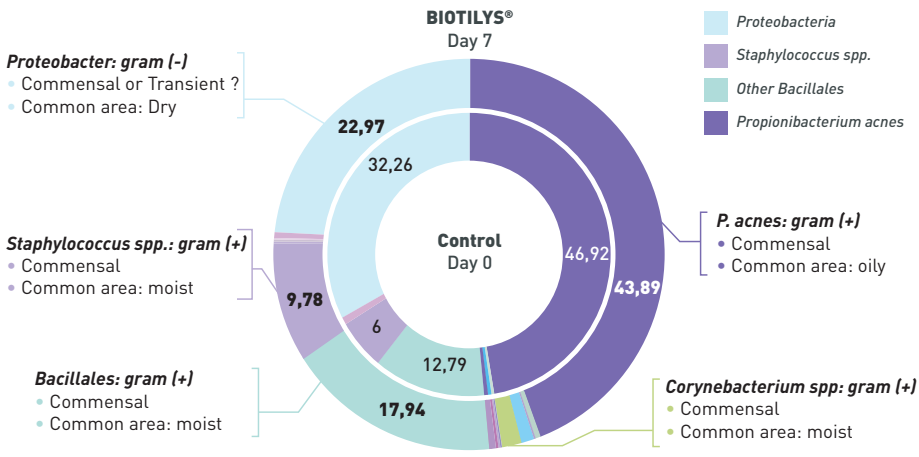
BIOTILYS® IMPROVES RESTORATION OF THE BARRIER AND MAINTAINS BARRIER FUNCTION DESPITE REPEATED AGGRESSIONS.

PROVEN EFFICACY

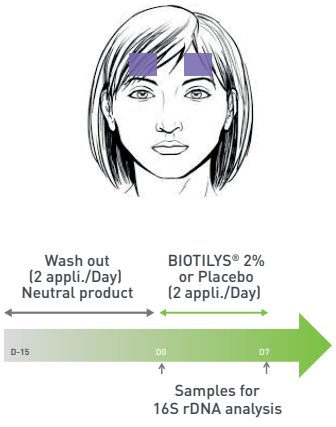
ACTION ON MICROBIOME

IN VIVO TESTS

• BIOTILYS® diversifies commensal microbiota without disturbing original balance



Relative abundance based on 16SrRNA gene sequencing (in %)



Study realised on 15 Healthy volunteers using a classical formula

• BIOTILYS® preserves the balance of the two representatives *S.aureus* and *S.epidermidis*, it maintains the duality between the 2 species

IN VITRO TESTS

	Population *S.epidermidis*	
	After 5h	After 8h
WITHOUT BIOTILYS®	-98%	-100%
WITH BIOTILYS®	-34%	+36%

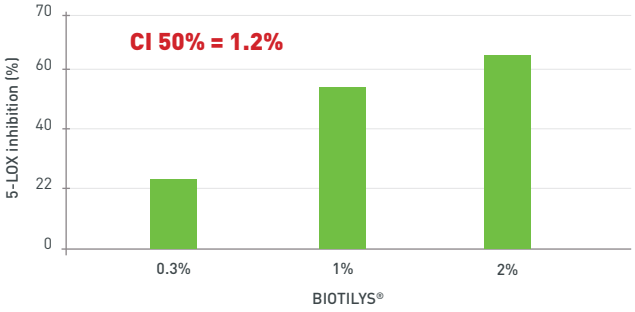
Co-culture of 2 cutaneous strains, *S. epidermidis* and *S. aureus* with an initial inoculum of 10^5 CFU/mL in proportion 80%/20%

BIOTILYS® MAINTAINS THE BALANCE OF COMMENSAL MICROBIOTA AND PROMOTES ITS DIVERSITY.

ACTION ON INFLAMMATION

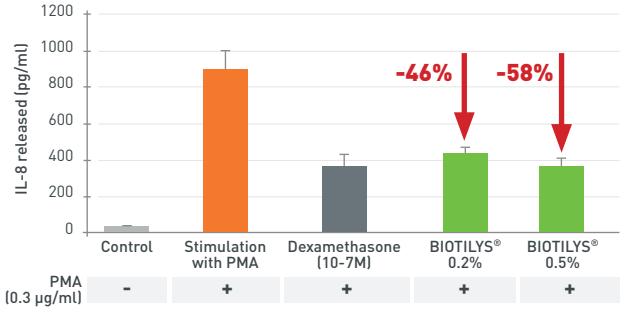
IN VITRO TESTS

- **BIOTILYS® strongly inhibits 5-LOX activity,** an enzyme involved in the inflammatory response



Anti-inflammatory activity: inhibition of 5-LipOXygenase (5-LOX)

- **BIOTILYS® markedly reduces the release of IL-8,** a key cytokine involved in the inflammation process



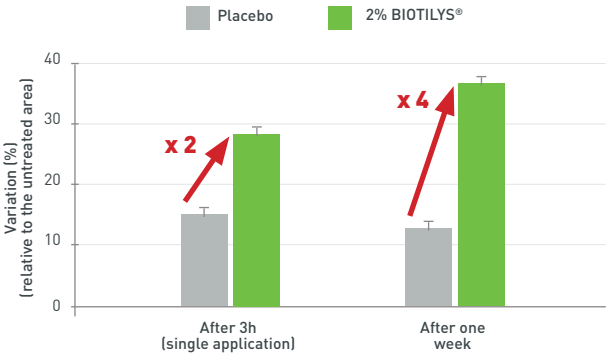
Anti-inflammatory activity: inhibition of InterLeukin-8 (IL-8) release

BIOTILYS® REDUCES THE INFLAMMATORY MECHANISM.

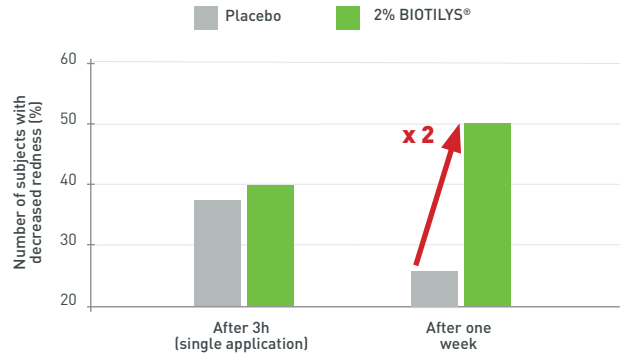
ACTION ON MOISTURIZATION AND COMPLEXION

IN VIVO TESTS

- Increases moisturization (Corneometer® measurements)



- Strong reduction in facial redness



BIOTILYS® IMPROVES SKIN MOISTURIZATION.

ACTION ON EPIDERMAL BARRIER

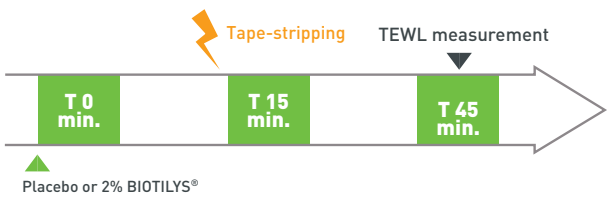
IN VIVO TESTS

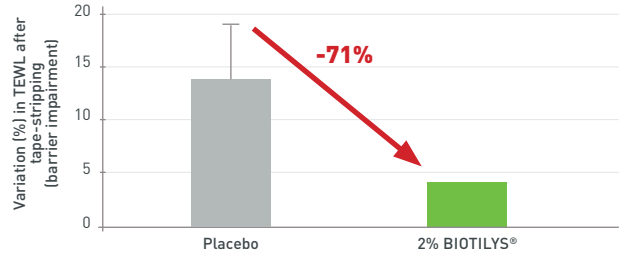
Trans-epidermal water loss (TEWL) is a known indicator of homeostasis. An increase in TEWL suggests that skin barrier has been damaged, while a decrease in TEWL indicates that barrier is protected or has been restored

A) IMMEDIATE EFFICACY

SHORT-TERM changes

- BIOTILYS® reduces TEWL by a factor of **3.5** *vs* placebo





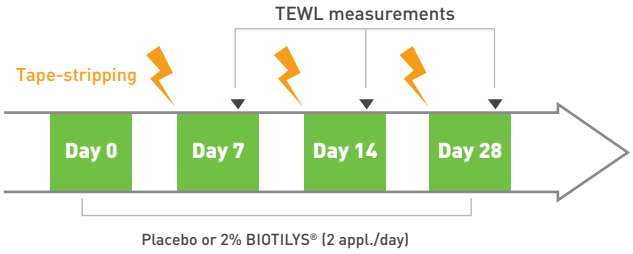
FROM THE 1ST APPLICATION, BIOTILYS® EFFICIENTLY PROTECTS SKIN BARRIER.

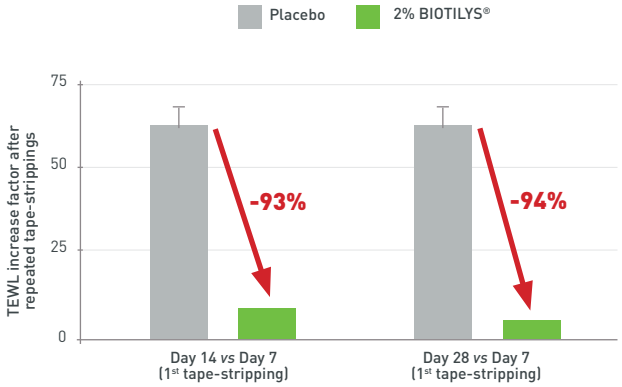
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B) FOLLOWING REPEATED AGGRESSION: DURABLE PROTECTION

LONG-TERM changes

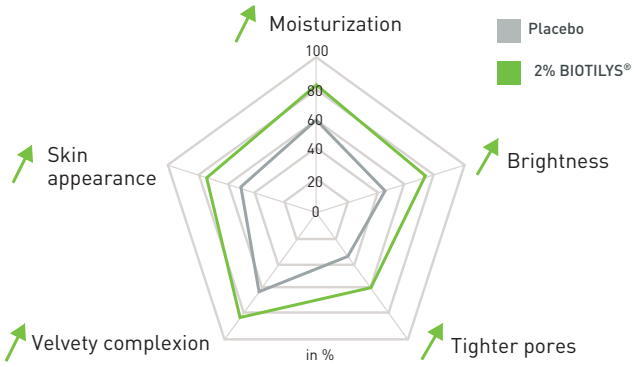
• BIOTILYS® limits TEWL increase **16 times** more effectively than the placebo





LIMITATION MAINTAINED OVER TIME, DESPITE RENEWED EXTERNAL AGGRESSIONS.

SELF-EVALUATION BY THE VOLUNTEERS





BIOTILYS® WAS WELL-LIKED BY THE VOLUNTEERS, WHO EXPERIENCED A GENUINE IMPROVEMENTIN THEIR COMPLEXION AND MOISTURIZATION.

FORMULATION

Concentration for use: 2 %
pH for use: 4.0 – 10.0

Caution for use:
Add to emulsions, at the end of the preparation process, either cold or at 35-40 °C, during cooling.

TECHNICAL DATA

Characteristics	
Organoleptic	Appearance: opalescent liquid Colour: yellow to beige
Solubility	Water: partially soluble (10%)

Storage
Keep in a dark place, in the original packaging, at an ambient temperature between 15 and 25 °C.

Tolerance tests
- Eye irritation: non-irritant
- Skin irritation: non-irritant
- Sensitization: very good skin compatibility
- Mutagenicity: non-mutagenic

INCI name: Aqua/Water, Lactobacillus Ferment Lysate
Preservative: Sodium benzoate, Potassium Sorbate
Authorized:

Warning: The information in this document are the result of studies and interpretations based in part on published or generally accepted scientific data. They are provided for information purposes in terms of possible end applications and cannot be considered as instructions for use. We accept no responsibility concerning marketed formulas containing one or more of our products. Compounders must take all necessary precautions and ensure that all legal and administrative formalities have been fulfilled.

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