

KALIBIOME

ECOGENETIC

SKIN MICROBIOTA CARE & WELLNESS



KALIBIOME POSTBIOTICS: A NEW CONCEPT



- Concentrated and reproducible postbiotics complex
- Obtained by controlled bio-fermentation, finalized to select a specific active output
- No bacterial fragments/toxins, only ferment actives
- Total absence of side effects and maximum tolerability
- No culture broth or living bacteria, preservatives free
- No interference with cosmetics preservatives
- Powder form
- Low concentration of use required (0.1 ÷ 0.5 %)

POST-biotics Concentrated biotech active specialties.

Fermentation carried in minimal media & controlled conditions. No living bacteria, residual food or bacterial fragments. Direct beneficial effects on skin and microbiota. Highly reproducible composition.



White, soluble, colorless, odorless powder with concentrated actives.

*Patented fermentation process

THE KALIBIOME PLATFORM



Humanitas
Research Center



Patented
fermentation
process



Postbiotics for
cosmetics &
personal care

STRAIN SELECTION FOR POSTBIOTICS PRODUCTION



Postbiotics were obtained from **Lactobacillus Paracasei** a commensal microorganism that showed beneficial effects on host modulating the skin barrier efficiency, commensal microbiota ecosystem balance and epidermis wellness

KALIBIOME ECOGENETIC TARGETS

- 1) Microbiota balance control and biofilm formation prevention aimed to promote the skin microbiome ecogenetic equilibrium
- 2) Strengthening of skin barrier function against pathogens, pollutants, free radicals
- 3) Cytokine modulation in skin cells, to counteract environmental aggressive factors (pathogens, UV-B rays) and skin immune system disease, aimed to keep skin microbiota balance
- 4) Skin wellness stimulation (skin redensification as mechanism of defense against photo-ageing, hydration increase, soothing action, extensibility reduction and redness decrease)

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Microbiota balance control and biofilm formation prevention is aimed to promote the skin microbiome ecogenetic equilibrium. The following tests show Kalibiome ecogenetic activity over two of the most representative skin pathogens and the effect that its action exerts on the skin barrier integrity

TESTS

Bacterial biofilm inhibition of the pathogens:

- ✓ *Staphylococcus aureus*
(atopic dermatitis pathogen)
- ✓ *Pseudomonas aeruginosa*
(skin infections pathogen, cosmetics contaminant)

Skin barrier integrity assessment after infection with pathogens

MICROBIOTA BALANCE: IMMUNE SYSTEM ACTIVITY MODULATION



Kalibiome ecogenetic cytokine release modulation is a key feature that allows to keep under control the harmful effects related to microbiota unbalance, infections, exposure to UV-B rays inflammation and immune diseases (e.g. psoriasis)

Tests carried out on skin cells comparing the activity of Kalibiome ecogenetic vs control

TESTS

Anti-inflammatory index calculation, obtained through the ratio of the induced expression of:

- ✓ Interleukin 10
(anti-inflammatory cytokine expressed by skin immune system cells)
- ✓ Interleukin 12p70
(pro-inflammatory cytokine, actively involved in inflammation and skin immune system diseases)

Immune system modulation on TNF- α

(pro-inflammatory cytokine triggered after the skin exposure to pathogens and UV-B rays)

KALIBIOME ECOGENETIC TARGETS



ISPE

Institute of Skin and Product Evaluation

Tests carried out on 20 Caucasian women

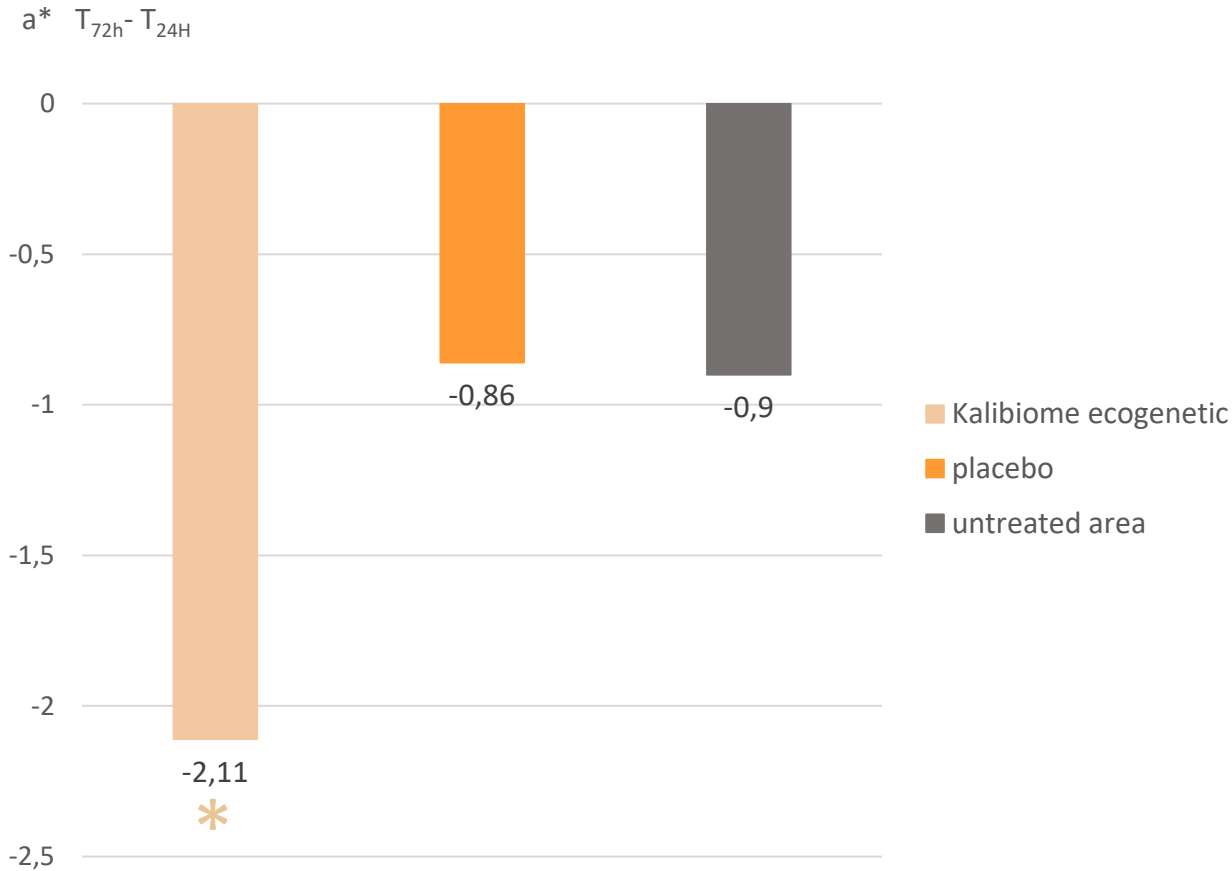
Dosage: 0,2%
application twice daily vs placebo
for 6 weeks

Testing skin repairing action IN VIVO TEST

- Skin echogenicity and redensifying
- TEWL, skin extensibility
- Redness reduction

SKIN REDNESS REDUCTION

15 Caucasian subjects
Dosage of Kalibiome in
the tested cream: 0,2%



a* is a parameter calculated by the Chromameter that increases linearly with erythema

Measurement of mean variations of a* value were carried out (to assess the change of skin redness 48 and 72 hours after the removal of SLS patches)

Kalibiome ecogenetic shows significant redness reduction against placebo and non treated area

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Immunomodulation

Inflammaging prevention

Microbiome ecogenetic balancing

Anti-pollution

Tissue Regeneration

Skin regeneration

Skin barrier integrity increase

Dermis redensifying

Skin wellness

Hydration increase

TEWL reduction

Skin firmness

Microbial Control

Pathogen bacteria biofilm onset

Skin microbiota balancing

Strengthening skin defense systems

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SKINCARE & DEFENSE IN THE COVID-19 ERA

The first mode of transmission of Covid-19 is direct skin contact with infected people and contaminated surfaces



World Health Organization recommends to frequently wash and sanitize skin as the first and more effective measure against Coronavirus infection



Due to these repeated treatments skin becomes dry, cracked and more sensitive to external aggressive factors



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protects the skin by:

Increasing skin defenses due to its immunomodulatory effect

Rebalancing skin microbiota which protects skin from pathogens

Promoting skin barrier function due to its skin tightening effect

Reducing inflammation and promoting hydration thus counteracting sanitizing treatments side effects



KALIBIOME

ECOGENETIC

- **Skin care and emulsions**
(microbiota balancing, anti-ageing, skin wellness, anti-inflammaging, redness reduction and soothing)
- **Toiletries & Sanitizers**
(soothing, microbiota balancing and reinforcement)
- **Cosmeceuticals & medical device**
(gynecological, dermatological and cosmeceutical treatments for sensitive skin)