



## Microbiome Based Innovation to Combat Relapse and Antimicrobial Overuse: The Probiotherapy Platform

YUN Probiotherapy™ builds the future of topical health through live probiotics.

Ingmar Claes – CSO YUN



**Your skin has more bacteria  
than people on Earth.**

**For decades, we've been  
trying to kill them, but most  
bacteria protect you.**

— Inspired by microbiome research (Blaser et al. 2011 - Nature)

Blaser, M. (2011). Stop the killing of beneficial bacteria. Nature 476, 393–394.

YUN Probiotherapy- 2026 Proprietary and Confidential.  
Claims subject to local regulations and regulatory approval.

**We lived with  
nature**

Diversity  
Balance  
Protection

**We walked away  
from nature**

Resistance  
Imbalance  
Recurrence



# Antimicrobial resistant (AMR), a cross-disciplinary problem

Standard therapies neglect the microbiome for a long time and as such exert significant non-target effects on the microbiome.



|                    | Gynaecology             | Dermatology                                                   |                                    | Veterinary Medicine                     |
|--------------------|-------------------------|---------------------------------------------------------------|------------------------------------|-----------------------------------------|
| Targeted Condition | Vulvovaginal candidosis | Acne vulgaris                                                 | Atopic dermatitis (AD)             | Otitis externa (canine)                 |
| Patients affected  | Up to 75% <sup>1</sup>  | Up to 85% <sup>2</sup>                                        | Up to 20% of children <sup>3</sup> | Common (PP of 7,4% <sup>4</sup> )       |
| Current approach   | Antimycotics            | Benzoyl peroxide, topical/oral antibiotics, oral isotretinoin | Anti-inflammatory                  | Antibiotic, antimycotic, corticosteroid |
| Relapse Rate       | High                    | High                                                          | High                               | Very high                               |
| Microbiome Impact  | Collateral damage       | Collateral damage                                             | Neglected                          | Collateral damage                       |

<sup>1</sup> Denning et al. 2018  
(Lancet Infectious Diseases)

<sup>2</sup> Heng et al. 2020  
(Scientific Reports)

<sup>3</sup> Nutton, S. 2015  
(Ann Nutr Metab.)

<sup>4</sup> O'Neill et al. 2021  
(Canine Medicine and Genetics)

One platform. Multiple categories. Same microbiome challenge.



# YUN is rethinking topical (skin) health

We have been treating health backwards. Time to restore the microbiome and not just treat the symptoms.

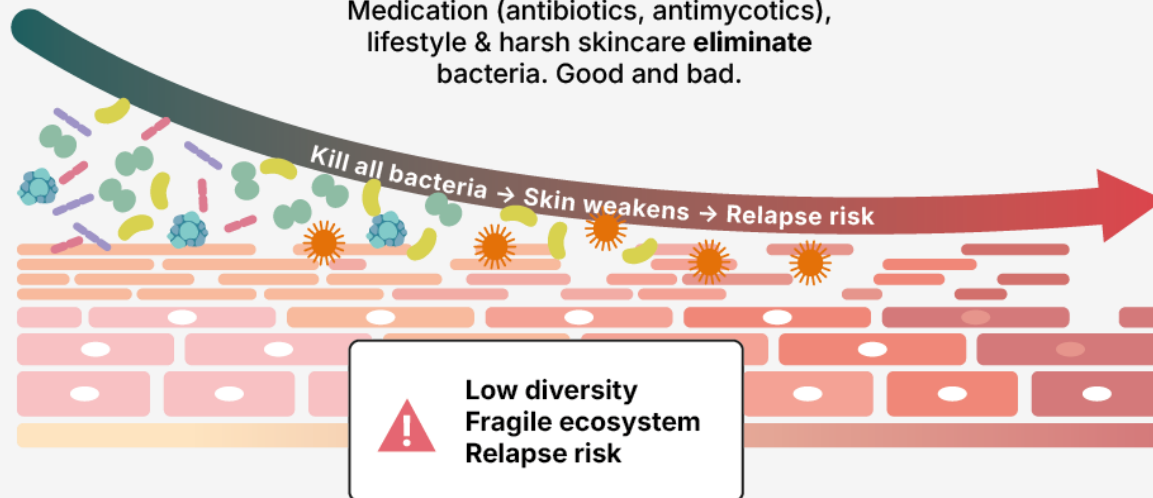
## Two fundamental different approaches

### TRADITIONAL APPROACH

Symptom management

#### Kill

Medication (antibiotics, antimycotics), lifestyle & harsh skincare **eliminate** bacteria. Good and bad.

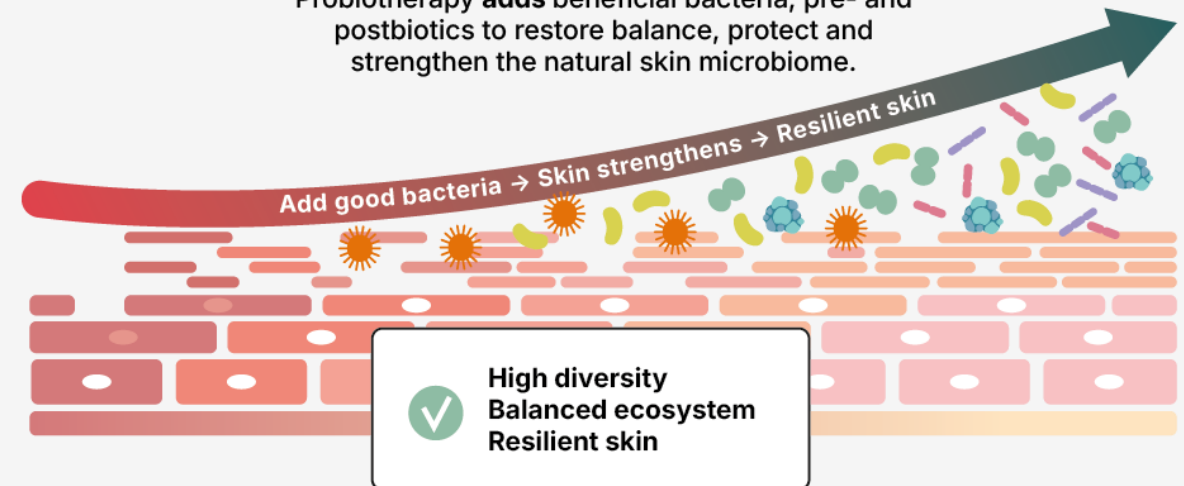


### YUN PROBIOTHERAPY™ APPROACH

Target the root cause

#### Add

Probiotherapy **adds** beneficial bacteria, pre- and postbiotics to restore balance, protect and strengthen the natural skin microbiome.



**Bacteria aren't the problem. They are the solution.**

# The breakthrough

No major player has solved live topical probiotic stability and efficacy at scale. YUN has solved this challenge and established a scalable platform for live topical probiotics.

**Live topical probiotics.**  
**Stable for minimum 24 months.**  
**At room temperature.**  
**Ready to scale.**



# Four challenges. All solved.

What no one had done before: keeping live probiotics alive, stable and effective in a topical product at scale.

## Challenge 1

### Selection of the right bacteria

*L. plantarum* YUN-V2.0  
*L. pentosus* YUN-V1.0  
*L. rhamnosus* YUN-S1.0



## Challenge 2

### Stability at room temperature

The right strains are useless if they die in the product before reaching the patient.



## Challenge 3

### Clinical validation

Proving that live topical lactobacilli deliver measurable results, in peer-reviewed science, across multiple conditions.



## Challenge 4

### Regulatory hurdles

No framework existed for live bacteria in a topical cosmetic. YUN proved it was possible and safe.



# Not all lactobacilli protect equally

YUN identified proprietary strains with demonstrated activity across these three important mechanisms

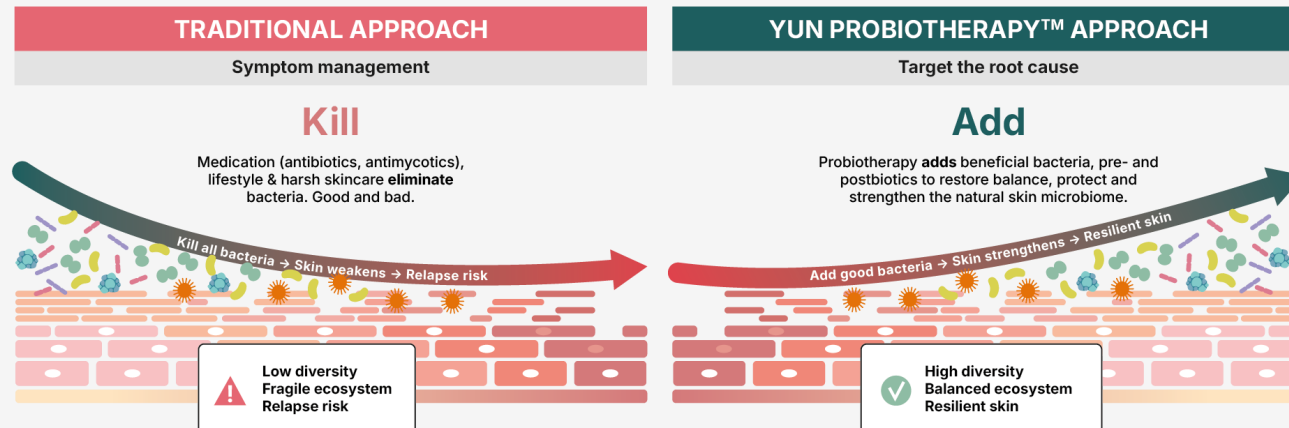
CHALLENGE 1 – Right strains

CHALLENGE 2 – Stability

CHALLENGE 3 – Clinical validation

CHALLENGE 4 – Regulatory

Two fundamental different approaches



*L. plantarum* YUN-V2.0  
*L. pentosus* YUN-V1.0  
*L. rhamnosus* YUN-S1.0

## 1 Inhibiting pathogens

Competitive exclusion and lactic acid production outcompete harmful bacteria **without antibiotics**.

Lebeer et al. 2022 · Cell Reports Medicine

## 2 Enhancing the skin barrier

Reinforces tight junction proteins **reducing moisture loss and vulnerability to relapse**.

Sultana et al. 2013 · Applied and environmental microbiology

## 3 Anti-inflammatory effects

Modulates immune signalling at cellular level reducing chronic inflammation **without systemic side effects**.

Lebeer et al. 2022 · Cell Reports Medicine



# How YUN solved what no one else could

New technologies were needed to keep live bacteria stable for months across multiple formulation types.

CHALLENGE 1 – Right strains

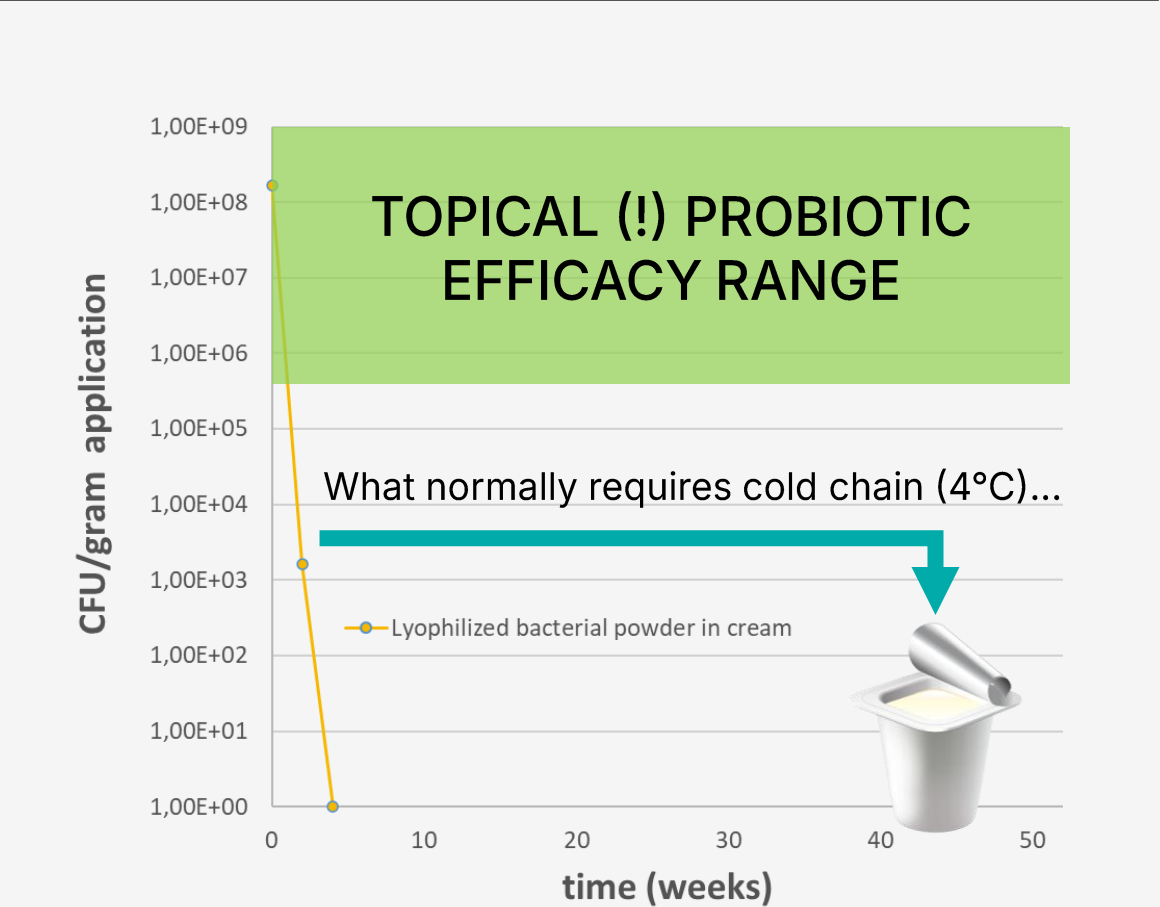
CHALLENGE 2 – Stability

CHALLENGE 3 – Clinical validation

CHALLENGE 4 – Regulatory

The viability range to maintain to be effective

One challenge, multiple engineered solutions



Claims subject to local regulations and regulatory approval.

| Matrix & Stabilization Strategy                                                                                                                 | Example Product                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Anhydrous gel matrix<br><br>Low-water-activity stabilization | VGN Gel<br><br>29 months                 |
| Water-based emulsion<br><br>Microencapsulation               | ACN Cream<br><br>24 months               |
| Aerosol spray<br><br>Pressurized anhydrous system          | FNG Spray<br><br>29 months             |
| Anhydrous oil<br><br>Anhydrous stabilization system        | ProAuris Repair Drops<br><br>29 months |



# The third challenge: clinical validation

A pharma-grade evidence model that has earned partnerships with leading groups across multiple markets and segments.

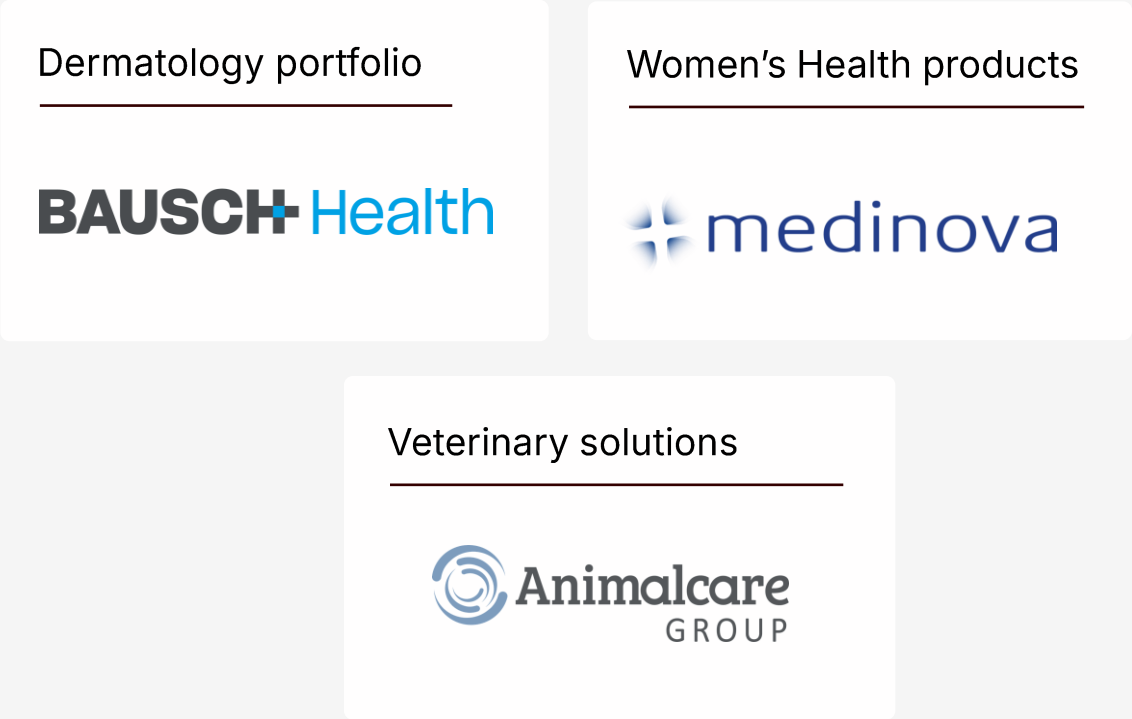


A PHARMA-STYLE GTM: EVIDENCE FIRST, TRUST FOLLOWS



**YUN operates at the top of the pyramid.  
Clinical validation before commercial launch.**

TRUSTED BY PHARMACEUTICAL PARTNERS ACROSS THE PORTFOLIO



# Scientific trust

Backed by academic research, peer-reviewed science and patented technology.

CHALLENGE 1 – Right strains

CHALLENGE 2 – Stability

CHALLENGE 3 – Clinical validation

CHALLENGE 4 – Regulatory

## SCIENTIFIC REPORTS

### Impact of lactobacilli-containing gel on vulvovaginal candidosis

Oerlemans et al. 2020

## VETERINARY DERMATOLOGY

### Clinical Efficacy of Probiotic-Based Ear Drops

Carrasco et al. 2026

## CELL REPORTS MEDICINE

### Selective targeting of skin pathobionts

Lebeer et al. 2022

## BIOCHEMICAL SOCIETY TRANSACTIONS

### The role of lactobacilli in inhibiting skin pathogens

Delanghe et al. 2021

**78+ worldwide granted and pending patents**

### Patented technology

Microcapsules and spray

### Patented microbiome-safe formulations

Surfactants and preservatives

### Unique patented strains

*L. rhamnosus* YUN-S1.0

*L. pentosus* YUN-V1.0

*L. plantarum* YUN-V2.0

Backed by leading European universities



# This unlocks a new category

Probiotherapy connects clinically proven efficacy with the safety of skincare based on microbiome knowledge.

CHALLENGE 1 – Right strains

CHALLENGE 2 – Stability

CHALLENGE 3 – Clinical validation

CHALLENGE 4 – Regulatory

## PHARMA & MEDICINES

Strong clinical evidence  
Healthcare professional trust  
Disease-focused innovation

**BAUSCH** Health

 **Animalcare**  
GROUP

 **medinova**

## PROBIOTHERAPY Both. At once.

Clinically proven efficacy

Safe for daily and  
longterm use

Microbiome-safe

Fast results

**YUN**  
PROBIOTHERAPY

## BEAUTY & PERSONAL CARE

Daily use  
Long-term use  
Mass reach

  
Unilever

**L'ORÉAL**

  
**P&G**

**This is not only a product innovation.  
It is a new way of care within existing categories.**



# From invisible life to visible results

When conventional treatments fall short, microbiome restoration can make the difference.

**BEFORE**



**AFTER 4 WEEKS**



"Me today recognizing myself again and enjoying life again..."

Felicia



# The YUN Probiotherapy ecosystem

Our Probiotherapy ranges contain active probiotics to target and resolve a wide range of topical health issues.

## HUMAN



**ATO**

ECZEMA



**ACN**

ACNE SYMPTOMS



**VGN**

WOMEN'S HEALTH



**BBY**

BABY RASH



**FNG**

ATHLETE'S FOOT

## ANIMAL



**ATO**

ECZEMA



**HFG**

HOOF FUNGUS



**OTI**

OTITIS EXTERNA



Animal and human topical (skin) disorders share the same microbiome-driven mechanisms. Our platform delivers a cross-species alternative to antibiotics.

A group of children are running away from the camera through a field of tall grass at sunset. The sun is low on the horizon, creating a warm, golden glow and long shadows. The children are in motion, with their arms and legs extended, suggesting a joyful run. The background shows a clear sky and distant hills.

Let's build the future together.

**UUN**  
PROBIOTHERAPY