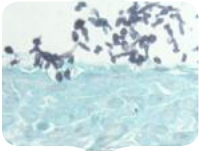


A vertical fluorescence microscopy image showing a column of cells. The cells are stained with a red dye, likely highlighting the cytoplasm or membranes, and a blue dye, likely highlighting the nuclei. The background is black, making the stained cells stand out. The cells appear to be arranged in a somewhat regular, vertical column, possibly representing a skin or mucosal barrier model.

# VitroScreen EXPERTISE ON MICROBIOME:

commitment to provide scientific  
evidences for new generation products

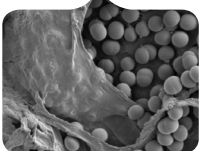
VitroScreen  
within its mission for  
**excellence in  
*in vitro* science** has  
developed specialized  
3D reconstructed  
human skin and  
mucosae models  
colonized with site  
specific associated  
microbiome  
and yeasts.



## MICROBIOTA MODULATES CUTANEOUS AND MUCOSAL RESPONSE

Microbiota colonized skin and mucosae models allow to explore microbe-host interaction mechanisms and to quantify tissue response against pathogens.

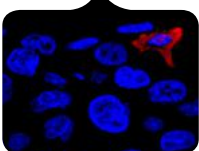
GMS staining on 3D human reconstructed epithelium colonized by *Candida albicans*



## BACTERIAL AND YEAST ADHESION AND BIOFILM FORMATION

Colonized tissue models enable to investigate microbial species proliferation, adhesion, growth, toxicity and biofilm formation thanks to a Multiple Endpoint Approach (MEA).

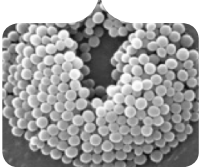
SEM analysis of *S.aureus* invading the surface of a skin with impaired barrier



## PROBIOTICS, PREBIOTICS AND POSTBIOTICS EFFICACY

3D models co-culture with immune-competent cells: a unique tool to assess innate and adaptive immuno-mediated responses induced by bacteria and bacterial components.

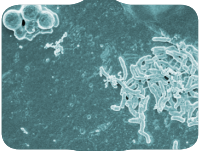
THP 1 cells infiltrated in RHE-CMM inserts and differentiated (CD86 IF staining)



## SKIN MICROBIOTA: *S. epidermidis* and *S. aureus*

Competition models between commensal species interacting with opportunistic pathogen members of the microbiota are fundamental to explore the mechanisms by which a product can modulate bacterial behavior on skin surface.

SEM image of reconstructed epidermis surface previously colonized by *S. epidermidis* where *S. aureus* is no more able to form a biofilm.



## RECAPITULATING THE ROLE of SCALP MICROBIOTA

In a realistic scalp model in presence of sebum, supporting dandruff condition, *P. acnes* has been shown to counteract the invasion of *M. restricta*.

SEM analysis of co-colonization with *P. acnes* and *M. restricta*

contact: [infos@vitroscreen.com](mailto:infos@vitroscreen.com)