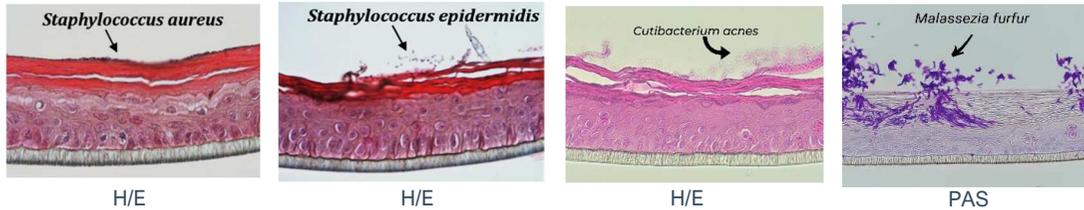


MicroBIOS PLATFORM : combining 3D skin model with microbial strains

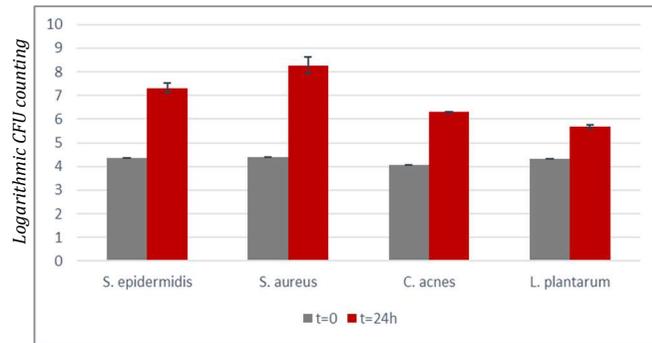


The cutaneous microbial flora and its diversity, also called microbiota, is essential and beneficial to maintain a good skin health. On its **MicroBIOS Platform**, StratiCELL is studying commensal and opportunistic strains of the skin including *Staphylococcus aureus*, *S. epidermidis*, *Cutibacterium acnes* and *Malassezia furfur*. StratiCELL is able to inoculate its reconstructed human epidermis (RHE) with these microbial strains, and jointly monitor both the bacterial growth and the epidermal response to infection. This dual approach allows to objectivate the influence of dermo-cosmetic actives such as anti-acne or anti-inflammatory solutions. It also allows to measure the "Microbiome-Friendly" properties of dermo-cosmetic products.

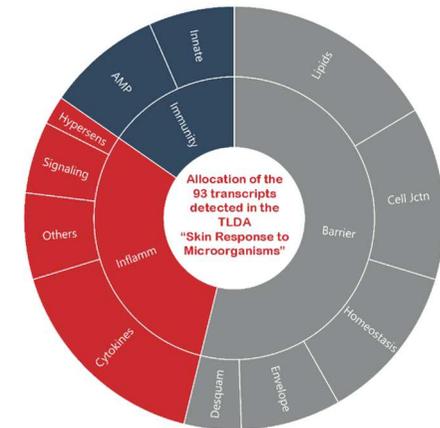
Description	3D reconstructed epidermis typically colonized by one living cutaneous bacterial or yeast strain. 2D normal human primary epidermal keratinocytes infected in the culture media with one living cutaneous bacterial strain.
Microbial Strains	<ul style="list-style-type: none"> - <i>Staphylococcus aureus</i> - <i>Staphylococcus epidermidis</i> - <i>Cutibacterium acnes</i> (phylotype IA1) - <i>Malassezia furfur</i>
Endpoints	<p>1. Morphological analysis of colonized tissues after histological staining : Hemalun/Eosin (H/E) staining for bacteria or Periodic acid-Schiff (PAS) staining for yeasts.</p> <p>3. Skin response to the presence of microorganisms by gene expression (RT-qPCR): individual TaqMan probes or 93 genes TaqMan Low-Density Array (TLDA – "Skin Response to Microorganisms").</p>



2. Bacterial adhesion and growth on RHE by C.F.U. (Colony Forming Units) counting. Positive controls available.



Growth of *Staphylococcus aureus*, *S. epidermidis*, *Cutibacterium acnes* or *Lactobacillus plantarum* during 24 hours on top of RHE, expressed by the logarithmic C.F.U. counting.



4. Skin response to the presence of microorganisms by quantification of biomarkers (ELISA).

Relative quantification of inflammatory biomarkers (IL-8, or HBD2) released in the culture media of RHE colonized by *Cutibacterium acnes* compared to uncolonized RHE (Control).

