

MICROBIOME-FRIENDLY PRODUCTS, balance of *S. epidermidis*



A perfectly balanced microbiome is crucial to maintain a healthy skin. Skin care products preserving this equilibrium are confirmed as “**microbiome-friendly products**”. *In vitro* evaluation can be performed by assessing the growth and adhesion of *Staphylococcus epidermidis*, the predominant commensal in healthy human skin, on top of 3D reconstructed human epidermis. Tissue response to colonisation is also investigated at the gene level (by RT-qPCR) and the protein level (by ELISA).

Description

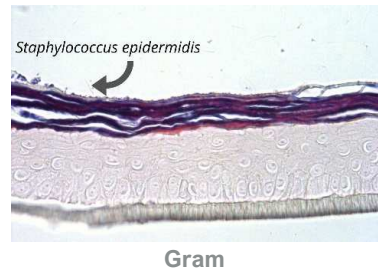
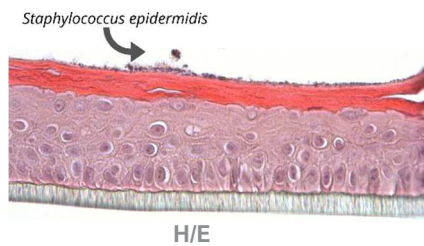
Adhesion and growth of a living strain of *Staphylococcus epidermidis* on top of reconstructed human epidermis.

Skin model

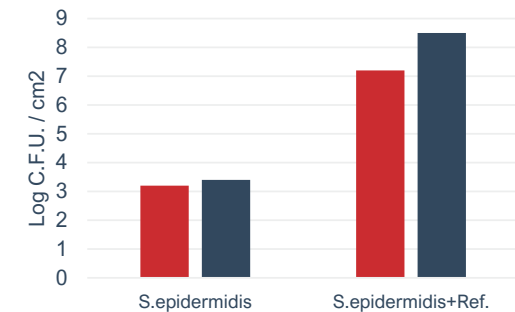
RHE-SE: Reconstructed Human Epidermis topically colonized by a living strain of *Staphylococcus epidermidis*.

Endpoints

1. Morphological analysis of colonized RHE, by **Hemalun/Eosin (H/E)** and **Gram staining**



2. *S. epidermidis* adhesion and growth by **C.F.U.** (Colony Forming Unit) counting.



Times of colonization of RHE
■ 0 hour ■ 24 hours

3. RHE response to *S.epidermidis* colonization by gene expression: individual TaqMan probes or **TaqMan Low Density Array (TLDA)** including 93 genes playing key roles in inflammation, immunity and skin barrier (“*Skin Response to Micro-organisms*”)

