IN VITRO & EX VIVO **TESTING**

stratiCell
Testing & Beyond

# Malassezia overgrowth

## *In vitro* testing for anti-dandruff hair care

***Malassezia furfur*** is a lipophilic natural cutaneous yeast, generally located in hyperseborrheic regions of the body, like face and neck. In case of dysbiosis, *M. furfur* is related to pityriasis versicolor or seborrheic dermatitis on the body skin. On human scalp, Malassezia overgrowth is however responsible for dandruff.

**StratiCELL** tests the efficacy of innovative antifungal actives using reconstructed epidermis colonized by a living strain of *M. furfur*, as a model of Malassezia infection. This new *in vitro* model displays a huge reactivity of the epidermis, as observed by the expression of inflammatory, immunity and skin barrier biomarkers.

## 3D model

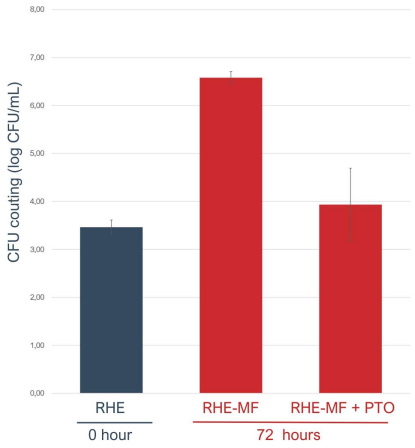
**RHE-MF :** Reconstructed Human Epidermis topically colonized by ***Malassezia furfur***

## Positive Reference

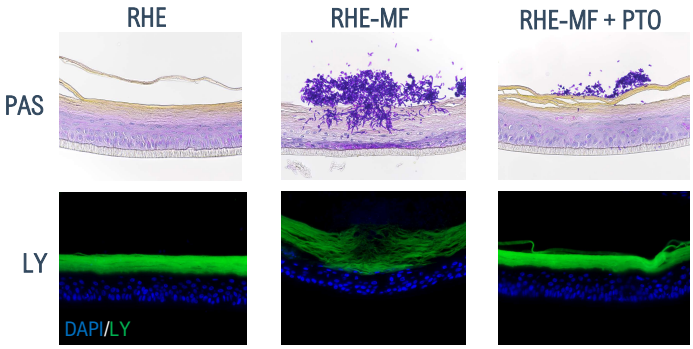
- Piroctone Olamine (PTO)

## Testing Methods

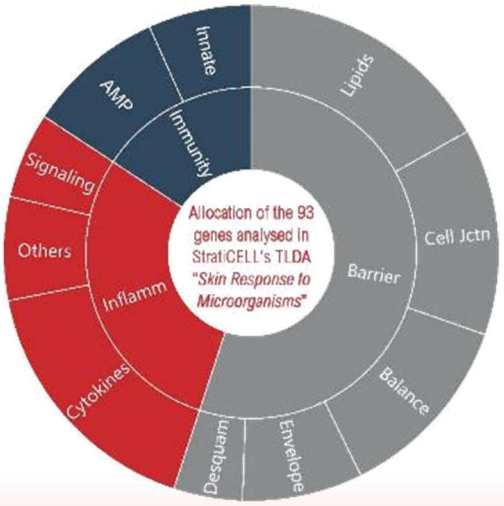
**1. *M. furfur* growth on top of RHE** by Colony Forming Units counting (CFU).




**2. Morphological analysis** of RHE-MF after Periodic acid-Schiff (PAS) staining and **Trans-epidermal barrier** Lucifer Yellow (LY) diffusion assay.




**3.** Skin response to *M. furfur* colonization by **gene expression (RT-qPCR)** : individual TaqMan assays or 93 genes TaqMan Low Density Array (TLDA – "Skin Response to Microorganisms").




**4.** Skin response to *M. furfur* colonization by **quantification of secreted proteins** (ELISA).