

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*



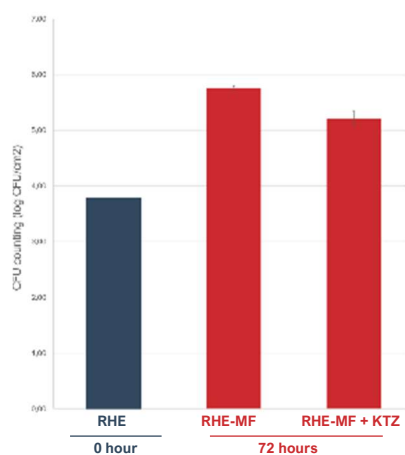
Positive Reference

- Ketokonazole (KTZ)

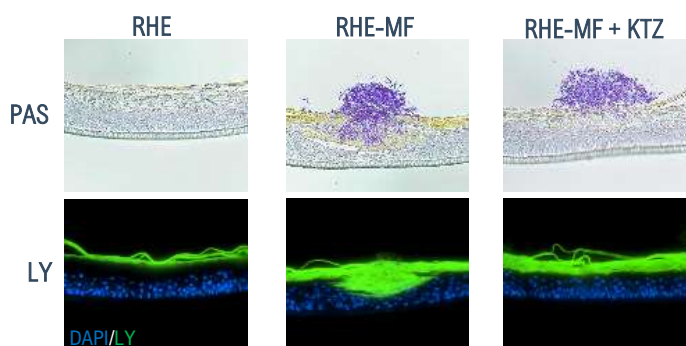


Testing Methods

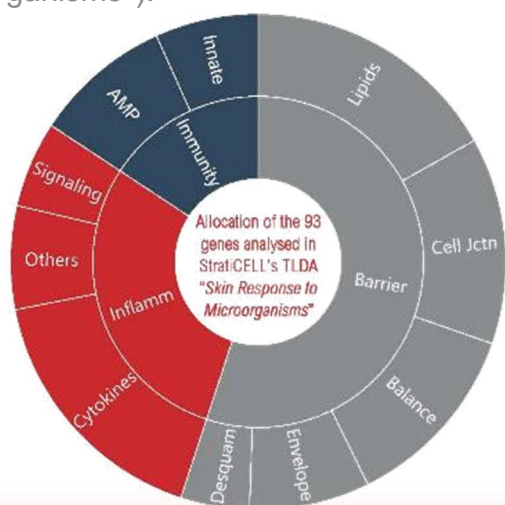
1. *M. furfur* growth on top of RHE by Colony Forming Units counting (CFU).



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)**.

