

IN VITRO & EX VIVO TESTING



stratiCell
Testing & Beyond

Atopic Dermatitis

Skin barrier disruption in a Th2-driven inflammation

Atopic Dermatitis is a very common skin disease affecting 2 to 20% of the general population. Dermatitis is characterized by a Th2 inflammatory response associated with epidermal barrier defects. Intense pruritis and colonization by *Staphylococcus aureus* exacerbate the inflammatory process and therefore the lesions.

StratiCELL has developed 2D and 3D skin models displaying atopic dermatitis features, allowing to study the efficacy of dermo-cosmetic active ingredient and skin care products to restore the skin barrier and reduce inflammation of atopic and sensitive skins. *In vitro* efficacy tests related to staphylococcal infections are also available at StratiCELL.



2D & 3D models

NHEK-Th2 : Normal Human Epidermal Keratinocytes stimulated with Th2-type interleukins

RHE-AD : Reconstructed Human Epidermis stimulated with Th2-type interleukins



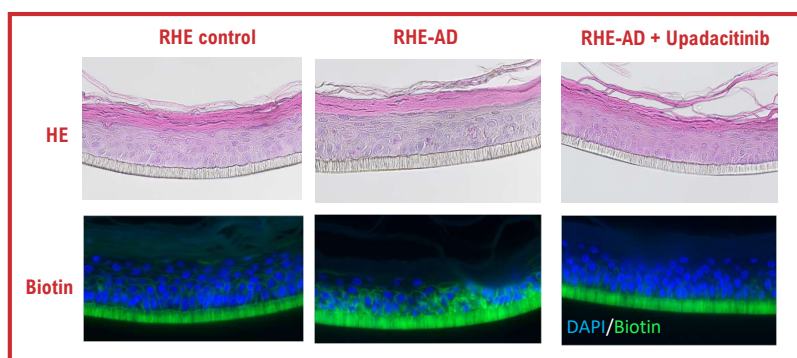
Positive References

- Upadacitinib (JAK/STAT inhibitor)
- GW3965 (LXR agonist)



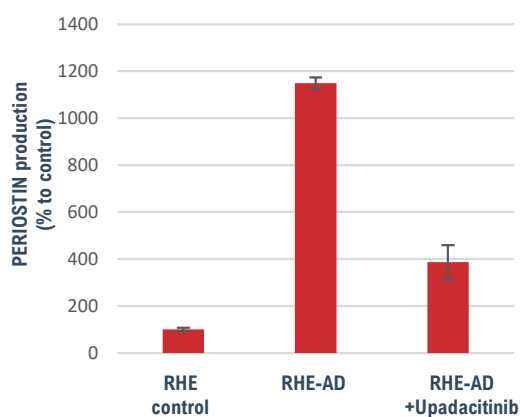
Testing Methods

1. **Barrier function** analysis based on histological Hemalun/Eosin (H/E) images and trans-epidermal in/out Biotin diffusion assay.

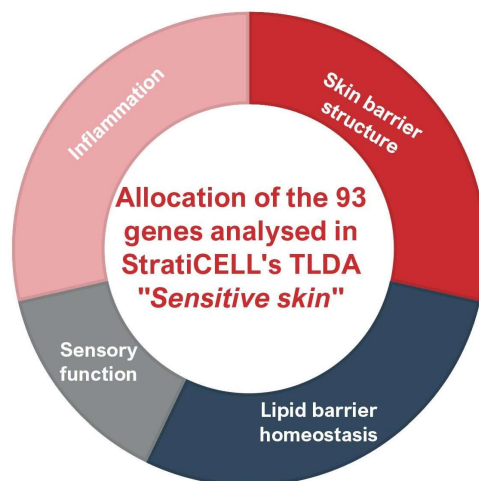


Disrupted epidermal barrier induced in RHE control, treated with Th2-type interleukins alone (RHE-AD) or in the presence of Upadacitinib, after Hemalun/Eosin staining (HE) or biotin diffusion assay (Biotin).

2. **Quantification of Periostin** by ELISA.



3. **Gene expression analysis** by RT-qPCR using StratiCELL 's TaqMan Low Density Array (TLDA) studying the expression of 93 genes playing key roles in sensitive skins (inflammation, barrier, lipids, pruritus and sensory function).



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Staphylococcus aureus – Staphylococcus epidermidis

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