IN VITRO & EX VIVO **TESTING**

stratiCELL
Testing & Beyond

Psoriasis

In vitro models featuring inflammation and hyperplasia

Psoriasis is a frequent multifactorial chronic inflammatory skin disease affecting approximately 2-3 % of the population. Th-17 and Th-22 T-cell subsets play a major role in the establishment of psoriasis. Th-17 lymphocytes are highly activated in psoriatic skin, releasing inflammatory cytokines involved in psoriasis plaques. Additionally, Th-22 secreted cytokines activate the proliferation and differentiation of keratinocytes, resulting in the specific hyperplasia of psoriatic epidermis.

StratiCELL has set up 2D keratinocytes and 3D reconstructed epidermis stimulated by Th-17 or Th-22 like cytokines, to respectively reproduce psoriasis features of inflammation and hyperplasia. Those *in vitro* models are highly adapted to evaluate beneficial dermo-cosmetic actives to cure psoriasis.

2D & 3D models

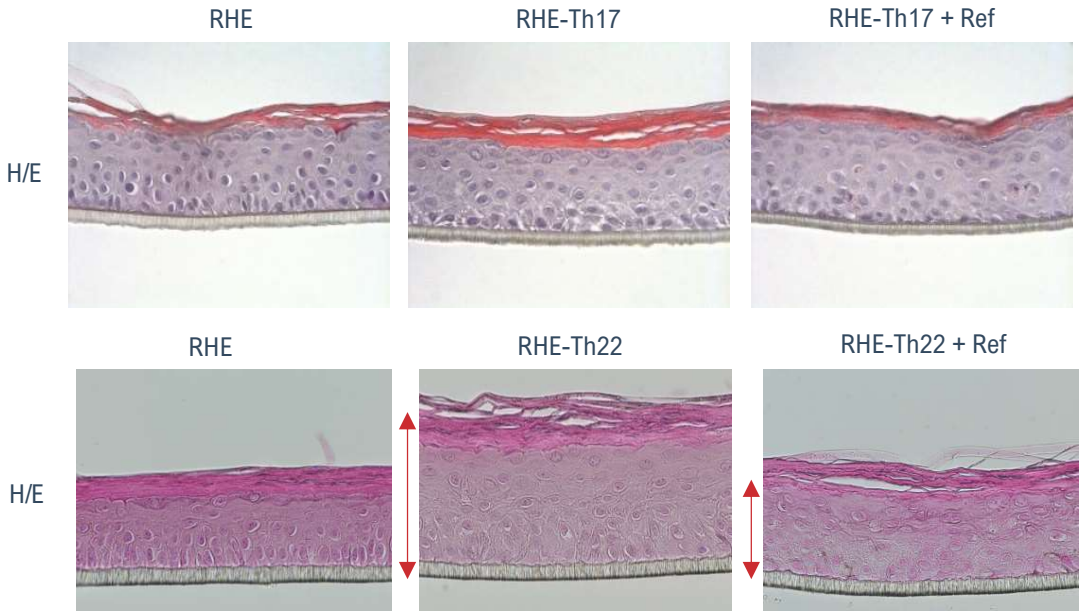
NHEK-Th17 : **N**ormal **H**uman **E**pidermal **K**eratinocytes stimulated with **Th17**-type cytokines
RHE-Th17 : **R**econstructed **H**uman **E**pidermis stimulated with **Th17**-type cytokines
RHE-Th22 : **R**econstructed **H**uman **E**pidermis stimulated with **Th22**-type cytokines

Positive References

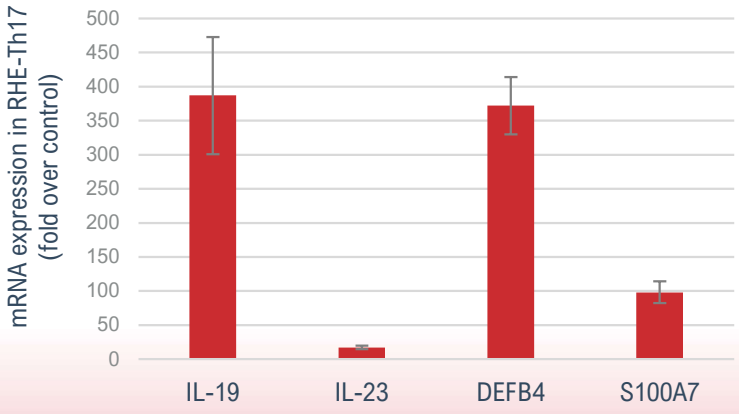
- IκB kinase (IKK) inhibitor to reduce the Th17-induced inflammatory status
- Tacrolimus to reduce the Th22-induced hyperplasia

Testing Methods

1. Morphological analysis and **thickness measurement** based on Hemalun/Eosin (H/E) histological images.



2. Expression of genes playing key roles in inflammation and immune response, by RT-qPCR.



3. Quantification of IL-19 proteins release by ELISA.