

IN VITRO & EX VIVO TESTING



stratiCell
Testing & Beyond

Skin Hydration and Barrier

Combined *in vitro* testing for full objectivation

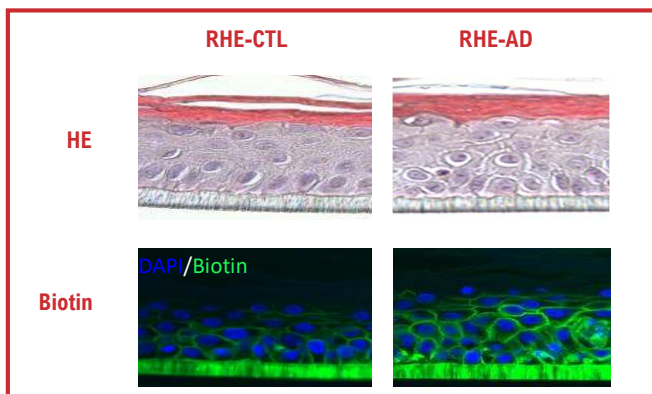
Skin is a chemical, physical and immune shield that protects us against aggressions from the environment and prevents loss of body water. The hydric barrier function is mainly ensured by the semi-permeable *stratum corneum* and hydrolipidic film, while intercellular tight junctions seal epidermal cells to form an efficient physical barrier. Water retention is also ensured by the extracellular matrix of the dermis.

StratiCELL offers an extensive range of *in vitro* assays to explore the effectiveness of dermo-cosmetic active ingredients and skin care products to reinforce the skin barrier properties. Both functional efficacy testing and gene expression analysis are available to offer full objectivation.

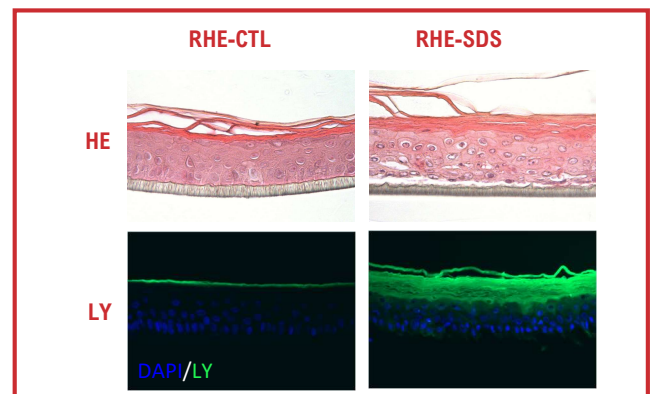


Testing Methods

CELL SYSTEMS*	CHALLENGES	TESTING METHODS
EPIDERMAL BARRIER		
NHEK	None	<ul style="list-style-type: none"> Detection and quantification of the epidermis structure components by immunostaining : Aquaporin-3, Caspase-14, Claudin-1, Cytokeratins, Desmoglein-1, Involucrin, Tight junction protein-1
RHE	SDS	<ul style="list-style-type: none"> Histological analysis by Hemalun/Eosin staining Trans-epidermal out/in Lucifer Yellow diffusion assay
RHE	Th2-type cytokines	<ul style="list-style-type: none"> Histological analysis by Hemalun/Eosin staining Trans-epidermal in/out Biotin diffusion assay
EXTRACELLULAR MATRIX REMODELLING		
NHDF	None	<ul style="list-style-type: none"> Detection and quantification of extra-cellular matrix components by immunostaining and/or ELISA : Collagen's, Hyaluronic Acid, MMP's and Elastin Quantification of the enzymatic activity of MMP-1 by ELISA
Ex vivo explants	None	<ul style="list-style-type: none"> Detection and quantification of extra-cellular matrix components by immunostaining : Collagen's, Elastin



Disrupted epidermal barrier induced in RHE untreated (CTL) or treated with Th2-type atopic dermatitis cytokines (AD), after Hemalun/Eosin staining (HE) or biotin diffusion assay (Biotin).



Disrupted epidermal barrier induced in RHE untreated (CTL) or treated with SDS (SDS), after Hemalun/Eosin staining (HE) or Lucifer Yellow diffusion assay (LY).



Gene expression analysis using StratiCELL 's TaqMan Low Density Array

CELL SYSTEMS*	CHALLENGES	TLDA DESCRIPTION
RHE	None	TLDA-epidermal lipids & corneocyte lipid envelope : 93 genes involved in the metabolism of ceramide, cholesterol, fatty acid and corneocyte-bound lipid envelope.
NHEK	None	TLDA-epidermal benefits : 93 genes involved in the epidermal biology, barrier function and response to stress.
NHDF	None	TLDA-glycosaminoglycans : 93 genes involved in glycosaminoglycans synthesis, metabolism and turnover.

* NHEK : Normal Human Epidermal Keratinocytes - NHDF : Normal Human Dermal Fibroblasts – RHE : Reconstructed Human Epidermis