

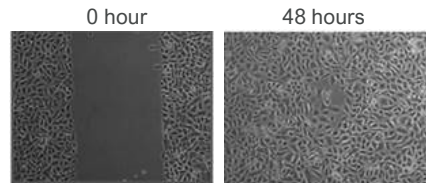
WOUND-HEALING PROCESSES



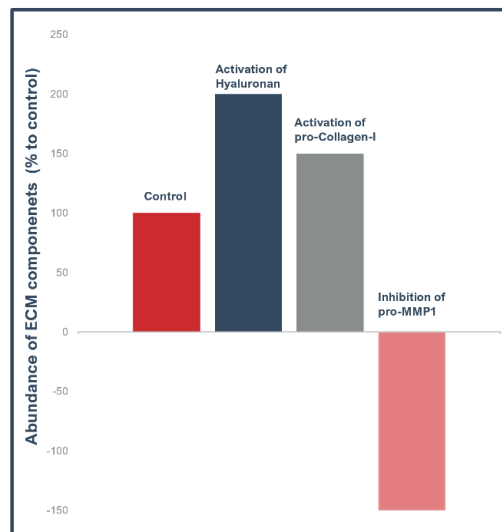
Cutaneous **wound healing** is a complex physiological process requiring a sequence of molecular and cellular events, categorized into the following phases: exudative (inflammatory), proliferative, and maturation with extracellular matrix remodelling. StratiCELL evaluates the properties of actives and formulations to favour those wound healing phases, using *in vitro* assays targeting cell proliferation and migration, fibroblast contraction, but also key repairing biomarkers including cytokine secretions and protease activities.

KEY TOPICS	SKIN MODEL*	EFFICACY ENDPOINTS
REEPITHELIALISATION	NHEK or NHDF	• Determination of cell proliferation and/or migration by scratch test assay: images and quantification
	NHEK or NHDF	• Determination of cell proliferation by Bromo-deoxy-Uridine incorporation assay
EXTRACELLULAR MATRIX REMODELLING	NHDF	• Detection and quantification of extra-cellular matrix components (collagen's, hyaluronic acid, MMP's and Elastin) by immunostaining and/or ELISA • Quantification of MMP-1 activity
ANGIOGENESIS	HUVEC	• Determination of cell proliferation by Bromo-deoxy-Uridine incorporation assay

* abbreviations: HUVEC : Human Umbilical Vein Endothelial Cells - NHDF : Normal Human Dermal Fibroblasts - NHEK : Normal Human Epidermal Keratinocytes - RHE : Reconstructed Human Epidermis



Example of images from scratch test assay on confluent NHDF after 0 hour and 48 hours of recolonization.



Abundance of extracellular matrix (ECM) components secreted by NHDF after induction of Hyaluronan, pro-Collagen-I or pro-MMP1 secretion, in comparison to Control NHDF.

In support to those functional studies or as a screening tool, impact on the expression of **84 genes** playing key roles in cell response to wound healing is studied by RT-qPCR using the **TaqMan Low Density Array (TLDA)** technology.

