IN VITRO & EX VIVO **TESTING**

stratiCell
Testing & Beyond

Neurocosmetics

In vitro 3D model combining human neurons

StratiCELL and **Neuron Experts** (FR) join forces to develop a unique model of cocultured reconstructed human epidermis and human sensory neurons (RHE-huSN), respectively. In this combined model, human sensory neurons are derived from induced pluripotent stem cells (iPSC), and are growing in the immediate vicinity of 3D reconstructed human epidermis, i.e. on the backside of the polycarbonate support. Upon capsaicin stimulation, activation of neurons is measured by the release of the neuropeptide CGRP (Calcitonin Gene Related-Peptide) through activation of the TRPV-1 (Transient Receptor Potential Vanilloid 1) cationic channel. This innovative skin model allows to study the soothing properties of dermo-cosmetic ingredients or formulated products. A 2D model combining keratinocytes and sensory neurons (NHEK-huSN) is also available for efficacy screening.

2D & 3D models

RHE-huSN : **R**econstructed **H**uman **E**pidermis co-cultured with iPSC-derived **hu**man **S**ensory **N**eurons forming a network on the backside of the porous polycarbonate filter

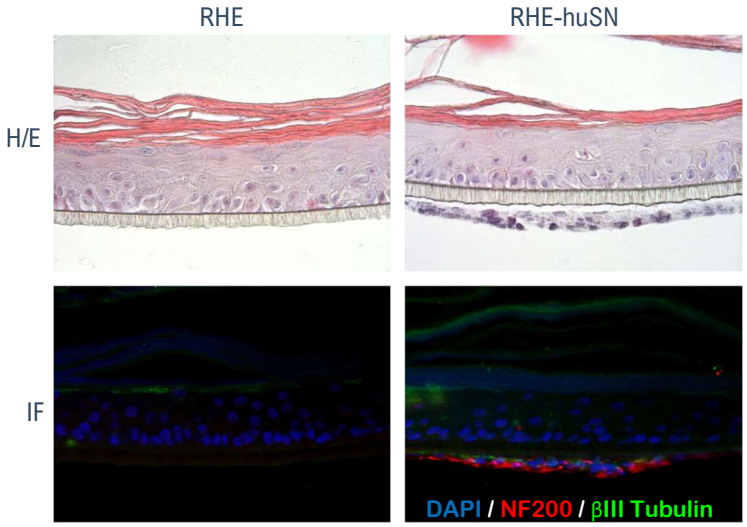
NHEK-huSN : **N**ormal **H**uman **E**pidermal **K**eratinocytes co-cultured with iPSC-derived **hu**man **S**ensory **N**eurons

Positive References

- Capsazepine (if Capsaicin stimulation)
- Beta-Endorphin (if Histamine induction)

Testing Methods

1. Morphological analysis by Hemalun/Eosin (H/E) and **immunofluorescence (IF)** staining of the neuronal network: βIII-Tubulin and Neurofilament NF200.



2. Quantification of **CGRP released** after Capsaicin or Histamine stimulations (ELISA).