HCSPharma

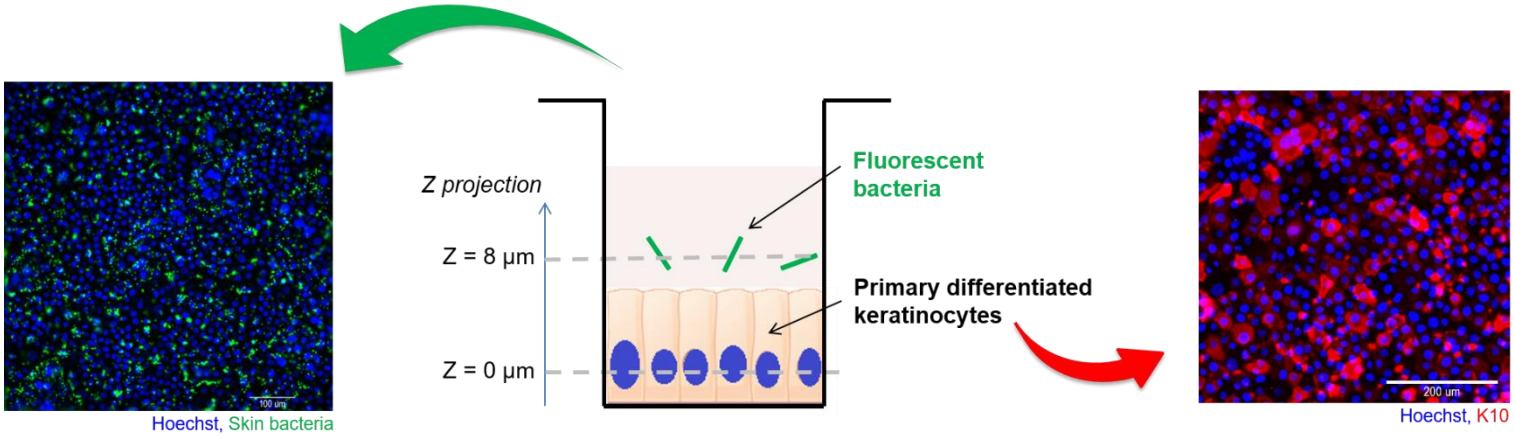
IMAGING PLATFORM FOR DERMO-COSMETOLOGY ASSESSMENT

SKIN MICROBIOTA

The skin microbiota refers to the microorganisms living on the skin, on its surface, but also more in depth. On 1 cm² of human skin, up to a billion microorganisms are residing, including bacteria, fungi, mites, and viruses.

➢ *In vitro* skin microbiota model

Within these microorganisms, **bacteria**, even though they represent only 0.1% of the total, are considered as the most important microorganisms of the skin ecosystem. HCS Pharma developped a **2D *in vitro* skin microbiota model** in 96-well plate made up of **primary differentiated human keratinocytes** and **cutaneous bacteria** such as *S. epidermidis* and *S. aureus*.



This model aims to **reproduce as much as possible the physiological cutaneous microenvironment** in order to collect *in vitro* data predictive of those you may obtain *in vivo*. In this context, bacteria can be mixed for a better representation of skin microbiota.

The majority of skin bacteria represent **commensal microorganisms**, which take advantage of the host for nutrients and environment, and which provide in return a **protection** against infection, inflammation, and oxidative stress. In this context, different studies can be carried out on this skin microbiota model, including assessment of **antioxidant properties** of ingredients through ROS measurement.

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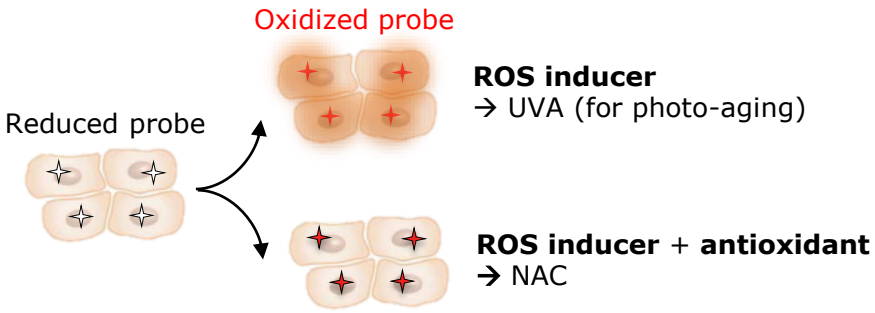
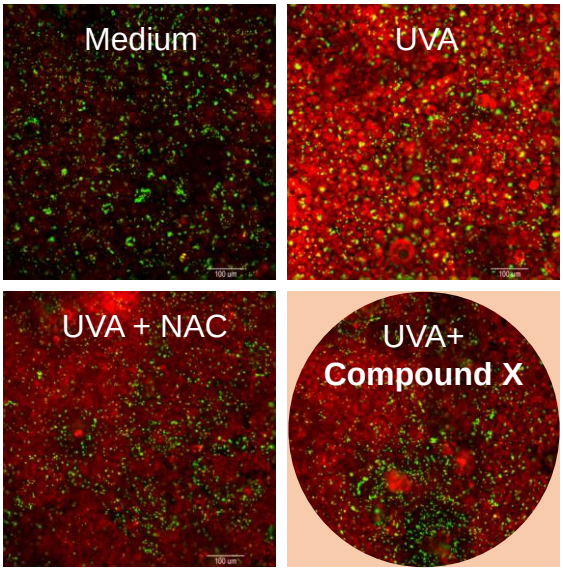
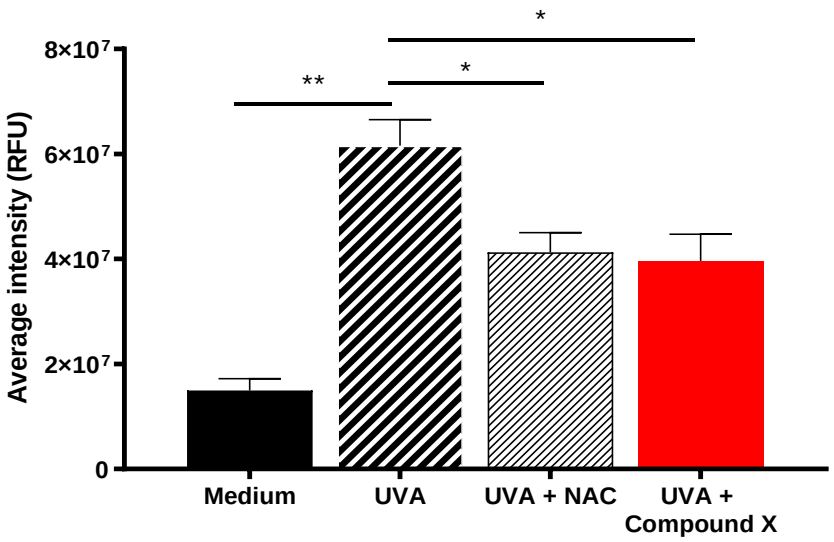
➢ *In vitro* ROS assessment on skin microbiota model

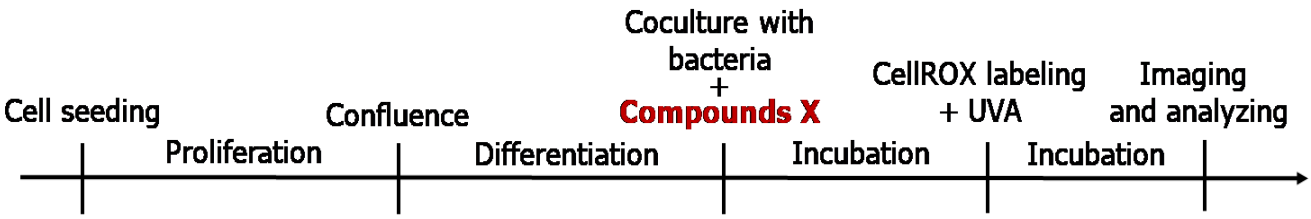


CellROX Deep Red
Skin bacteria





T-test (* p-value < 0.05 ; ** p-value < 0.01)



Endpoint : NHEK intracellular ROS production.

Check our other brochures for more details on each model, or visit our website.

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