GATTEFOSSÉ and CYTOO join forces to investigate the biological effects of screen-emitted light on skin

Joint Press Release

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Artificial visible light is everywhere in our modern life. Our mode of social communication confronts us with screens of all kinds and their use is on the rise. Curious to discover the potential consequences of such an environment on skin health, GATTEFOSSÉ initiated a two-year investigation with CYTOO to determine the direct effects of screen exposure on the skin.

Unique equipment was designed by GATTEFOSSÉ to accurately recreate the characteristic light emitted by screens of electronic devices (smartphones, tablets, PC).

By using micropatterning technology, a method to guide cell shape and monitor cell fate, CYTOO has developed a High Content Screening assay combining precise control of human dermal fibroblast spreading and sensitive analysis of mitochondrial fusion/fission dynamics by non-invasive live-cell imaging.

GATTEFOSSÉ and CYTOO have united technology, expertise and know-how to explore mitochondrial modulation and protection upon artificial visible light exposure.

Mitochondria, also termed the powerhouse of cells, produce the energy essential to proper biological function of cells. Mitochondrial quality is finely adjusted by constant reshaping of its structure via a process involving fusion and fission.

CYTOO and GATTEFOSSÉ have discovered that exposure to screens significantly weakens mitochondrial function and dynamics. Fragmentation of the mitochondrial network is observed alongside loss of quality control and diminished capacity to produce ATP*.

"Mitochondrial fission and fusion play critical roles when cells experience metabolic or environmental stresses. We were delighted to start a long-term collaboration with GATTEFOSSÉ, and to adapt our platform to dermo-cosmetic applications. Both companies have brought cutting-edge technologies to address a brand-new vision of biological processes implied in skin homeostasis. This collaboration with GATTEFOSSÉ validates once more the ability of CYTOO to generate innovative and predictive solutions to our partners" said Luc Selig, CEO of CYTOO.

*ATP: Adenosine TriPhosphate

"Using the CYTOO model, we have been able to demonstrate that screen-emitted light has a tremendous detrimental effect on the mitochondrial network of skin fibroblasts. This research highlights the need for a strategy to protect the skin from everyday artificial light", said the Skin Biology Research Manager at GATTEFOSSÉ, Nicolas Bechetoille.

This work will be presented at the 2017 IFSCC conference in Seoul – October 23-25.

About GATTEFOSSÉ

GATTEFOSSÉ develops, manufactures and sells specialty ingredients for the personal care and pharmaceutical industries and offers a strong expertise in formulation for both of these activities.

GATTEFOSSÉ markets its products in more than 60 countries through 12 affiliated companies and a network of agents and distributors who provide technical and marketing support.

Innovation, ethics, quality and long-term stability are the company key-drivers since the beginning.

GATTEFOSSÉ was founded in Lyon, France in 1880 by Mr. Louis Gattefossé to whom building strong relationship with customers was a priority. The company remains a family-run, independent business, and now employs more than 280 people worldwide.

About CYTOO

Created in 2008, CYTOO is a biotechnology company specialized in the development of physiologically-relevant cellular models and assays for High Content Screening (HCS).

The company has developed its own models of human striated muscle (MyoScreen™) and skin (EpiScreen™, FibroScreen™) available to the pharmaceutical, dermato-cosmetic, nutraceutical, food processing and animal health sectors for screening of biologically active compounds.

Independently, the enterprise has engaged in its own drug discovery business committed to treating muscle wasting and Duchenne muscular dystrophy. CYTOO has offices in Grenoble, France and Bethesda, MD, USA.

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