



ExAdEx-Innov



INNOVATION

## **ExAdEx-Innov announces the signature of a licence agreement with CNRS Innovation on human stem cell model to enlarge R&D platform tools from cells to tissue**

*ExAdEx-Innov* develops and operates a unique and innovative R&D platform based on real *ex vivo* human fat. *ExAdEx* breakthrough technology allows for the generation of 3D vascularized, long-term viable and fully functional adult organoids of human adipose tissue, preserving whole tissue structure and donor characteristics. The startup is currently using this platform with dermo-cosmetic, aesthetic surgery, nutraceutical, and pharmaceutical companies to elucidate innovative mechanisms of action and evaluate drugs and active ingredients in a clinically relevant context that is close to final applications.

With the aim of integrating complementary models to its proprietary platform and strengthening the panel of research and development projects covered, *ExAdEx-Innov* has signed a licence agreement with *CNRS Innovation* for a patented application of 2D stem cell model hMADS.

hMADS are Human Multipotent Adipose-Derived Stem cells that were isolated from donor adipose tissue and extensively studied by the academic research laboratory managed by *ExAdEx-Innov* co-founder and Scientific Advisor Christian Dani, PhD, and Director of Research at INSERM. He is a co-inventor of the patents covering their application.

Dani's laboratory at *Institut de Biologie Valrose* and *CNRS (Centre National de la Recherche Scientifique)* in Nice (France) has shown in multiple peer-reviewed works over the years that hMADS cells can differentiate into cells that exhibit the key properties of white human adipocytes, including insulin-stimulated glucose uptake, lipolysis in response to beta-adrenergic receptor ( $\beta$ AR) agonists and atrial natriuretic peptide, as well as release of adiponectin and leptin that are key adipose tissue secreted effectors. More interestingly, hMADS cell-derived white adipocytes can switch to a brown adipocyte phenotype that is associated with an increased energy expenditure. A patent protection of such applications is currently managed by *CNRS Innovation*, the technology transfer office for *CNRS* laboratories. hMADS can thus be used to screen for drugs and active ingredients stimulating energy expenditure capacity, which could help to dissipate excess caloric intake in several clinical applications (nutrition, pharmaceutical approaches, cosmetics).

« *The signature of a licence agreement with CNRS Innovation on hMADS cells is an important step in the development of our ExAdEx platform, as it will allow us to provide a full panel of complementary tools and know-how to our clients and collaborators, in particular in a field such as energy expenditure that has become a hot topic in research in recent years to address a major societal challenge worldwide such as weight management, nutrition, overweight and obesity* », states Vincent Dani, CEO and co-founder of *ExAdEx-Innov*.

« *hMADS cells are a powerful 2D tool for screening of compounds in a standardized, time-effective and cost-effective manner, that perfectly complements ExAdEx 3D real human fat tissue organoids, for a comprehensive investigation on adipose tissue from screening up to mechanistic studies* », concludes Luigi Formicola, COO and co-founder of *ExAdEx-Innov*.

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