



FLUOSPHERA – ADVANCED 3D TISSUE MULTIPLEXING TECHNOLOGY

Problem – Challenge

Traditional drug testing methods, primarily reliant on animal models and simple cell cultures, often fail to accurately replicate human biology, leading to high failure rates in drug development. These inefficiencies are costly, time-consuming, and can have significant ethical concerns.

Solution

Fluosphera’s advanced 3D tissue multiplexing technology mimics the natural physiology of the human body, enabling its partners to study human response to systemic drug delivery in an easy-to-use, high-throughput in vitro model. How does it work? Human tissues of different types are encapsulated into permeable color-coded capsules that enable tissue tracking. Compounds are applied to the cell culture, mimicking human systemic drug treatment. Biological activities are detected using sophisticated microscopy analyses, and post-assay tissue sorting enables analysis of both tissue-specific and systemic biological activities.

How will the technology be exploited? Fluosphera was created in 2021 as a University of Geneva spin-off. Its innovative approach has been recognized through awards and support from various Swiss and international organizations including iTeams, iGEM, Venturekick, Mass Challenge, Innosuisse, the Geneva incubator FONGIT and the US accelerator IndieBIO among others. Fluosphera has also gained traction with prominent companies such as Abbvie, Revvity, L’Oréal and Sciomics with which Fluosphera has partnered to apply its technology to realworld problems.

