

Poietis announces its new Single-Cell Laser Assisted Bioprinting Platform

Dedicated to industrial and R&D applications, the new Poietis bioprinting platform allows companies and researchers to design and produce biological tissues at Single-Cell Resolution.

Pessac - France, May 12th, 2017.

Poietis, the world leader in 4D Bioprinting solutions, is proud to introduce its new Single-Cell Laser Assisted Bioprinting Platform dedicated to the production of 3D tissue models for cosmetics and pharmaceutical laboratories as well as the development and the preclinical evaluation of human tissue-engineered grafts.

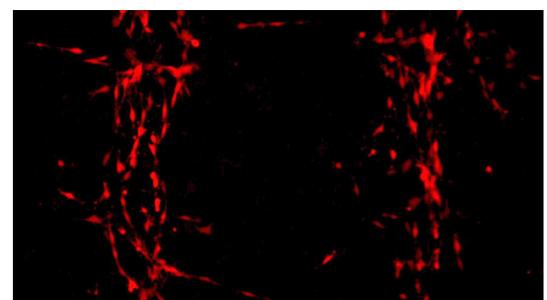
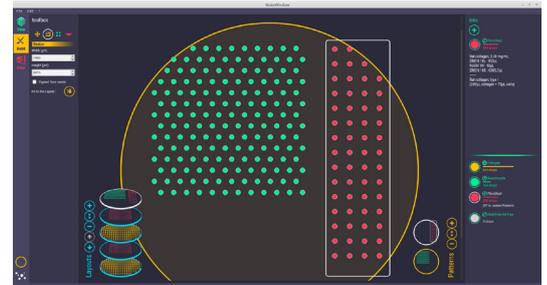
This next generation bioprinting platform establishes a new standard in tissue manufacturing by providing users with the capacity to design and bioprint tissues at Single-Cell Resolution while the bioprinting process is precisely controlled and bioprinted tissues are safely and reliably fabricated.

This innovation breakthrough includes:

i) a cyto-centric Computer-Assisted Design software to define the position and the local environment of each of the cells within three-dimensional tissue structures by integrating at the cellular scale several cell types and different materials ;

ii) an industrial Single-Cell Resolution Bioprinter (named NGB 17.03) capable of 3D-printing each cell and its matrix in sterile conditions, with great accuracy and reliability thanks to its eight-axis motion capacity and multiple real-time manufacturing control systems ;

iii) a specific imaging system to monitor and validate bioprinted tissues conformity.



«Poietis' mission is to provide patients and clinicians with regenerative medicine therapies using Laser-Assisted Bioprinting. We adress three of the main bioprinting challenges: the standardization of tissue manufacturing process to ensure tissue safety and the reproducibility of tissue fabrication; the control of the tissue morphogenesis during maturation and the fabrication of complex tissues. Today, with Single-Cell Bioprinting, we introduce a new paradigm where tissue manufacturing becomes cyto-centric, which means no longer conditioned by the printing device but driven by the Biology, and the need to control the cellular environment at the cell level.»

Fabien Guillemot, Poietis CEO and Chief Scientific Officer.

Why Single-Cell Resolution matters?

Because it is the only way to guarantee the reproducibility and reliability of bioprinted tissues.

Conventional bioprinting technologies cannot be used to reliably control the deposition of cells because they are deposited randomly. This means that the reproducibility and reliability of bioprinted tissues cannot be guaranteed. This would represent an unacceptable hurdle, not only for industrial production but also in terms of regulatory requirements for future clinical applications.

Poietis provides the solution with the first single-cell bioprinting platform that allows the design and manufacture of biological tissues by controlling both the resolution (the ability to print cell by cell) and the accuracy of printing (the ability to precisely position the cell in a 3D environment).

About Poietis

Poietis is a biotechnology company devoted to provide patients and clinicians with Regenerative Medicine Therapies based on 4D Laser-Assisted Bioprinting. 4D Bioprinting aims at programming tissue self-organisation, i.e. designing appropriate 3D patterns of cells and extracellular matrix (ECM) so that a specific tissue function emerges with time from cell-cell and cell-ECM interactions.

Poietis is currently developing 3D physiological models and has partnerships with major pharmaceutical and cosmetic groups (e.g. BASF and L'Oréal). These tissue models allow for a more predictive in vitro assessment of the toxicity and the efficacy of candidate drugs and new cosmetic ingredients. Poietis bioprinting technology relies on pioneer research conducted during ten years at Inserm and the University of Bordeaux. Poietis is the exclusive user of this technology worldwide. Poietis was the winner of 2014 iLab Challenge (French National Competition for Innovative start-up Creation of the Ministry of Research) and 2016 Worldwide Innovation Challenge.



Poietis bioprinted skin models

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