



MicrofluidX and Stematters partner on advancing automated 2D expansion of Mesenchymal Stem Cells for cell therapy

Increasing the consistency and scalability of MSC expansion whilst retaining functionality and reducing costs

Stevenage, UK and Braga, Portugal, October 26th, 2022 – MicrofluidX (MFX), a UK-based provider of next-generation bioreactors for cell research and manufacturing, today announces a partnership with Stematters, a Portuguese CDMO with expertise on the manufacturing of cell therapies, including those based on Mesenchymal Stem Cells (MSCs), to generate data on automation of MSC expansion in mono-layers.

The partnership will address the burning need for increasing repeatability, decreasing labour costs, and enabling scalability of MSCs for a wide range of therapeutic applications. Early trials (data available [here](#)) suggest that MSCs can be grown with much higher densities while keeping their fundamental properties (such as the ability to turn into different types of cells down the mesenchymal lineage) on the MicrofluidX platform.

“We are extremely excited about this partnership, because it opens a new era of automation of 2D cell culture for cell therapy, where most processes are currently manual,” said James Kusena, VP Bioprocessing & Applications at MicrofluidX.

Currently 2D culture for cell therapies are produced manually in flasks or stacks. These face the challenges of every-increasing labour and cleanroom space needs and inter-operator variability. While scaffolds, micro-carriers, or micro-fibers offer a much higher surface area and some level of automation, they can face low cell recovery limitations and cannot be adapted for all types of cells, especially for some MSC processes. This technological gap results in high costs, high batch failure rate and in turn, restricted access to patients and CDMO are looking for solutions in this space.

With this project, customers of Stematters will eventually be able to rely on best-in-class bioprocessing automation for their cells, allowing faster time to market, more consistent product, and lower cost of goods.

“This platform addresses important manufacturing bottlenecks of adherent cells like MSCs, by enabling automation, increasing productivity and ultimately supporting much needed scalability of 2D culture operations. We are excited to partner with MicrofluidX and test their technology,” said Rui Sousa, Founder and CEO of Stematters.

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About MicrofluidX

MicrofluidX is an advanced therapy manufacturing platform company based in Stevenage, UK. They're developing the Cyto Engine™, a proprietary next generation, scalable bioprocessing platform for cell and gene therapy manufacture. Their mission is to make precision medicines accessible to patients around the world by disrupting the current advanced therapy development process, providing scalable, fully automated platforms that can be used in research and taken through to large-scale GMP manufacture. For more information visit www.microfluidx.co.uk

About Stematters

Stematters is a contract development and manufacturing organization (CDMO) operating in the manufacturing of regenerative medicine (RM) products such as cell therapies and cell-derived biologicals. The company addresses needs in product development and cGMP production, supporting the clinical translational and future commercialization of high-impact medicinal products.

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