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MicrofluidX and Immatics working together on automated end-to-end bioprocessing for TCR-T therapies

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Joint research project with the goal of increasing efficiency and reducing cost of manufacture through precision process control

MicrofluidX, a UK-based provider of next generation bioreactors for cell biology research and cell therapy manufacturing, today announces a joint research project with Immatics, a leader in the development of T cell receptor (TCR)-based immunotherapies, to combine Immatics' manufacturing of TCR-T cells with MicrofluidX's innovative new platform, the Cyto Engine™.

MicrofluidX and Immatics will collaborate to investigate more efficient and cost-effective manufacturing solutions for Cell and Gene Therapies. By utilising the Cyto Engine's precision process control, closed system automation, online and inline analytics and end-to-end capabilities, manufacturing processes can become more efficient, with shorter culturing times and significant reduction in the labour required to produce these complex therapies.

Early trials in the MicrofluidX bioreactors (data available here) have already demonstrated better transduction efficiencies of primary T cells (5x higher) and associated reduction in vector consumption (10x lower) than conventional approaches.

"We are excited to be working with such an experienced partner in the field of TCR-Ts, as we progress the Cyto Engine's development. We look forward to bringing the power of the Cyto Engine to the Immatics process and proving out the process improvements that precision control can bring", says Antoine Espinet, CEO at MicrofluidX.

“We are excited to test the abilities of the Cyto Engine platform within our cell therapy manufacturing process. The ability to precisely control T cell manufacturing via a microfluidic architecture represents an innovative approach to adoptive cell therapy production”, says Amir Alpert, Director Technology Scouting & Development.

MicrofluidX and Immatics will assess the capabilities of the Cyto Engine platform to generate TCR-T cells in an automated manner. Data generated within this project will be used to further improve the MicrofluidX manufacturing platform before its planned commercial launch in 2024.