



TreeFrog Therapeutics and Invetech expand partnership to transition high-throughput stem cell encapsulation technology to GMP system for commercial-scale cell therapy manufacturing

- *TreeFrog Therapeutics and Invetech started their collaboration in 2019 to industrialize TreeFrog's stem cell encapsulation technology to enable the mass production of hPSC¹-derived cell therapies in industrial bioreactors, with best-in-class cell quality and low production costs.*
- *Invetech delivered a beta encapsulation system with a throughput of 1,000 stem cell capsules per second to TreeFrog Therapeutics in the second quarter of 2020.*
- *The strategic partnership aims to develop a GMP-compliant encapsulation device by the end of 2022 to support TreeFrog Therapeutics' in-house and partnered cell therapy programs.*

¹ Human pluripotent stem cells (hPSC)

Bordeaux, France, 7 October 2020. TreeFrog Therapeutics, a French biotech leveraging a unique cell manufacturing technology to advance a pipeline of cell therapies with mass-market potential, and Invetech, a global leader in the development and production of automated manufacturing solutions for cell and advanced therapies, today announced a strategic partnership to develop a GMP-compliant device for high-throughput stem cell encapsulation by the end of 2022.

Since January 2019, TreeFrog Therapeutics has been collaborating with Invetech to turn its R&D encapsulation set-up into an automated single-use device for industrial bioproduction. “Our C-Stem™ technology bridges stem cell biology and biophysics,” explained Kevin Alessandri, CEO and CTO of TreeFrog Therapeutics. “We found in Invetech a team eager to confront a new technology, with strong execution capacities, supported by a step-by-step methodology to de-risk the project. As a matter of fact, they managed to deliver the prototype in time in April 2020, right in the middle of the COVID crisis.”

The beta encapsulation system designed by Invetech meets its technical specifications with a throughput of 1,000 stem cell capsules per second. The first benefit of cell encapsulation is protection against hydrodynamic damages. This is instrumental to amplifying and differentiating fragile cells such as pluripotent stem cells in large-scale bioreactors. The second benefit of the capsule lies in the recapitulation of a biomimetic stem cell niche. In this micro-environment, pluripotent stem cells self-organize in a biomimetic 3D conformation, which promotes fast growth and accurate chromosome segregation.

“Today, our C-Stem™ technology reduces manufacturing costs by ten-fold, while dramatically improving batch-size, yields and genomic quality. All our efforts are now focused on bringing this technology to the clinic as fast as possible, by advancing a pipeline of cell therapies in co-development with leading pharmaceutical companies. In this context, our partnership with Invetech is critical to secure our roadmap to GMP compliance and to enhance even further the functionality, yield and processing conditions of our encapsulation device,” said Maxime Feyeux, co-founder, CEO & CSO of TreeFrog Therapeutics.

“TreeFrog approached us with a very novel, early-stage technology that has progressed extremely fast and shows incredible promise,” remarked David Kneen, Invetech’s Vice President, Cell Therapy. “In under 18 months, our combined teams have transitioned C-Stem™ from a bench-top proof-of-concept, to a closed and automated beta production system. It’s been a great collaboration driven by our shared vision of commercializing this technology to enable the mass-production of cell therapies for patients in need.”

About Invetech

For pathfinders in cell and gene therapy striving to accelerate next-generation care, Invetech delivers robust, scalable and cost-effective manufacturing systems for clinical through to high-volume commercial production. Since 2003, Invetech’s Cell Therapy Group has provided Assured Pathways™ to the commercial manufacturing of cell, gene and tissue

therapies, including peripheral and precursor materials such as viral vector and media. Invetech configures manufacturing systems to address client process demands, building from portfolio of proven modules and platform technology. Invetech is a globally recognized leader in life science automation, and a member of the Fortive (NYSE: FTV) group of companies.

www.invetechgroup.com

About TreeFrog Therapeutics

TreeFrog Therapeutics aims at providing access to cell therapies for millions of patients. The company has developed C-Stem™, a high-throughput cell encapsulation technology allowing the mass-production and differentiation of stem cells in industrial bioreactors. This proprietary technology platform provides an end-to-end and scalable solution that will dramatically improve the quality of therapeutic cells and reduce treatment costs.

Since its incorporation in November 2018 in Bordeaux, France, TreeFrog Therapeutics has experienced strong acceleration, raising over €13M (\$14,65M) in 2019. In January 2020, TreeFrog Therapeutics joined the FrenchTech120, an elite programme for the fastest-growing technology companies in France. The team – currently 31 staff - moved into a brand-new production facility of 13,000 sq ft in June 2020.

www.treefrog.fr



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