



Sphere Fluidics and Geneva Biotech receive Eurostars genome editing grant

€1.6 million grant will support 'precise docking of very large DNA cargoes in genomes' project

Cambridge, UK, and Geneva, Switzerland, 27 November 2017: Sphere Fluidics, a company providing single cell analysis systems underpinned by its patented picodroplet technology, and Geneva Biotech, an EMBL spin-out developing world-class viral and non-viral DNA delivery systems, have received a €1.6 million grant from [Eurostars](#). The funding will be used to develop large DNA cargo gene delivery and genome engineering systems.

The Eurostars funding programme supports international collaborations between R&D-performing small and medium enterprises to develop innovative products, processes and services. The grant will support a collaborative project that aims to adapt the use of Sphere Fluidics' Cyto-Mine Single Cell Analysis System to generate an automated, benchtop device for precise docking of very large DNA cargoes in genome-edited cell lines. State-of-the-art gene editing technologies are effective at creating small local gene modification, but are severely limited by a lack of tools to dock complex multigene circuits into defined genomic sites. The proposed project will substantially increase researchers' capability to edit the genome. This would significantly impact multiple sectors including gene therapy, cancer immunotherapy, stem cell reprogramming, and drug discovery.

Cyto-Mine is the first integrated device to be able to automatically perform the techniques that are routinely used in the biopharmaceutical discovery and development workflow, including single cell analysis, sorting, imaging and dispensing into individual wells of microtitre plates. The high-throughput instrument uses picodroplet technology and microfluidics to enable processing of up to 10 million heterogeneous mammalian cells in less than half a day. Each cell is encapsulated in a picodroplet containing growth media, which acts as a bioreactor to compartmentalise the cell and let it grow; eventually trapping secreted molecules such as antibodies. The unique workflow enables selective screening of single cells to find rare lead candidates.

Dr Frank Craig, CEO and Director at Sphere Fluidics commented: *"Sphere Fluidics is adapting the use of its Cyto-Mine system for the genome editing field. The Eurostars programme will enable us to continue to expand its use in this rapidly growing market by working together with Geneva Biotech to develop a precise method of delivering large DNA cargoes in genomes."*

Dr Daniel Fitzgerald, CEO and Director at Geneva Biotech commented: *"Geneva Biotech has a long term vision to create viral vector tools that enable large DNA cargo delivery and genome engineering in primary cells that have proven refractory to traditional transfection, electroporation, or transduction methods. The Eurostars collaboration with Sphere Fluidics forms a key part of our strategy to improve our position in this field with significant therapeutic and industrial importance."*

For more information on the Cyto-Mine, please visit: www.spherefluidics.com/products/integrated-systems/cyto-mine/

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Notes to Editor



For a high-resolution image please contact Zyme Communications.

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About Sphere Fluidics www.spherefluidics.com

Sphere Fluidics Limited is an established Life Sciences Tools company commercialising single cell analysis systems for therapeutic discovery. Sphere Fluidics is located in Babraham, Cambridgeshire (UK) and Monmouth Junction, New Jersey (USA) and has 22 employees, the majority of whom are PhD scientists and engineers. The company is also internationalising its business via a global network of distributors.

Cyto-Mine is a registered trademark.

About Geneva Biotech geneva-biotech.com

Geneva Biotech specializes in development of large DNA cargo gene delivery systems for mammalian cells, insect cells, primary cells, tissues and organs.