



MARKET CHALLENGES

Single-cell manipulation is a disruptive technology that enables analysis of single cells out of a complex mixture of cells. This type of analysis is crucial to understand complex systems in research areas as diverse as neurology, stem cell biology and oncogenesis.

Currently, to achieve single cell manipulation, researchers use expertise-requiring (FACS) or laborious (micro dissection) techniques. On another side, emerging dedicated solutions lack flexibility.



INNOVATIVE SOLUTIONS

The SCM Made Easy system is a simple device allowing single cell manipulation. It has been designed to encapsulate cells in a small volume (2nL), enabling further analysis such as cloning and genomics. The channels of the chip can easily be changed to adapt to various cell types, ranging from bacteria to neurons. The microfluidic chip is meant to be held by any automated device allowing droplet distribution into the microwells of a plate (96 or 384 wells) for further analysis.



SUGGESTED APPLICATIONS

- Cell cloning
- Single cell genomics

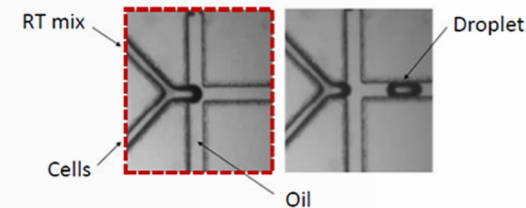
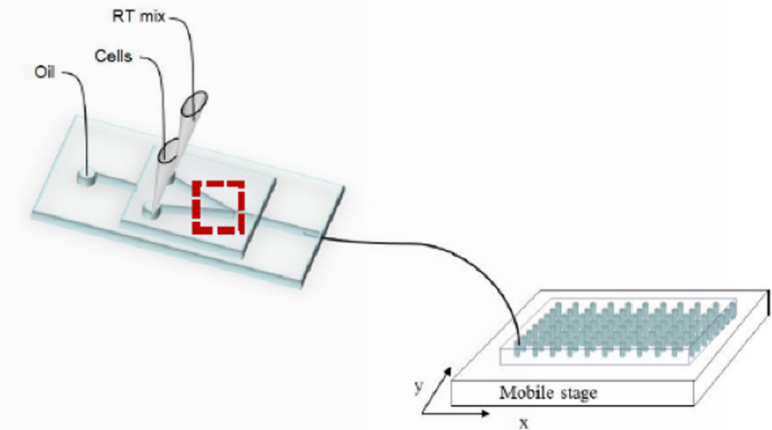


DEVELOPMENT STATUS

The proof-of-concept has been established using a home-made platform.

A development program is funded by SATT Lutech. The aim of this program is to adapt the chip in an automated dispenser (commercialized by Primadiag). Then the prototype will be tested for its applications: single cell cloning and single cell transcriptomics.

General principle



COMPETITIVE ADVANTAGES

- Easy learning system, requires little manipulation time
- Adjustable to various cell types (sizes and shapes)
- Rapid treatment of the sample (>3K droplets/hour)
- No dead volume (exhaustive exploitation of sample)

