Selective Addition Of Reagents To Droplets

Tech ID: 34454 / UC Case 2019-090-0

INVENTION NOVELTY

VALUE PROPOSITION

TECHNOLOGY DESCRIPTION

This innovative microfluidic technology enables the selective addition of reagents to specific droplets based on their detectable properties, such as fluorescence or absorbance signals. The system can identify droplets of interest and trigger targeted reagent delivery only to those desired droplets, allowing for precise enrichment and analysis of specific subpopulations without the need for complex physical sorting mechanisms. The technology has been successfully reduced to practice with demonstrated proof of concept, including high-speed video validation and microscopic analysis of selective droplet merger events. Unlike existing droplet microfluidic approaches that indiscriminately add reagents to all droplets, this technology provides unprecedented selectivity by combining detection and targeted delivery capabilities in a single platform. This breakthrough significantly reduces engineering complexity compared to traditional droplet sorting methods while enabling focused analysis of rare cell populations, making it particularly valuable for applications where specific subpopulations represent only a small fraction of the total sample.

APPLICATION

LOOKING FOR PARTNERS

STAGE OF DEVELOPMENT

RELATED MATERIALS

DATA AVAILABILITY

PATENT STATUS

Country	Type	Number	Dated	Case
European Patent Office	Published Application			2019-090
Patent Cooperation Treaty	Reference for National Filings	WO 2021/263008	12/30/2021	2019-090

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OTHER INFORMATION

KEYWORDS

Microfluidics

CATEGORIZED AS

- Biotechnology
  - Bioinformatics
  - Genomics
  - Proteomics
- Medical
  - Research Tools

RELATED CASES

2019-090-0

Additional Patent Pending

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