High-throughput combinatorial miniaturized 3D organoid culture for personalized medicine

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Organisation

Name of the organisation Katholieke Universiteit Leuven (KUL)

Department MeBioS - Biomimetics

Specific Research Group or Service Biomimetics

Country Belgium

Geographical Area Flemish Region

SCOPE OF THE METHOD

The Method relates to	Human health
The Method is situated in	Basic Research, Translational - Applied Research
Type of method	In vitro - Ex vivo

DESCRIPTION

Method keywords

Organoid screens

High-throughput

Microfabrication

Combinatorial

Personalized medicine

Microfluidic device

Scientific area keywords

Lab-on-a-chip

Droplet-based microfluidics

Droplet sorting

Combinatorial droplet library

Personalized medicine

Method description

Design and fabrication of a method to enhance the cost-effectiveness of organoid culturing and drug screening assays by miniaturizing the cultures and reduce the required reagent volumes to the sub-nanoliter range through microfluidic techniques. By growing single or multiple organoids per microbead in a microfluidic platform, we can increase the spatiotemporal control of the organoid environment and maximize the number of assays that can be performed from a single PDRO culture.

Method status

Still in development

REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

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