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HORIZON 2020

Multi-compartmental Organ-on-a-Chip

Fact Sheet

Project Information

MOOAC

Grant agreement ID: 753743

Project website

DOI
10.3030/753743

Project terminated on 31 October 2019

EC signature date
17 March 2017

Start date	**End date**
1 April 2018	31 March 2020

Funded under
EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

Total cost
€ 185 076,00

EU contribution
€ 185 076,00

Coordinated by
ELVESYS
France

Objective

Drug development is stuck in an innovation gap, in which it incurs staggering expenses and takes many, ten to fifteen, years to get a drug to market, furthermore, during the process many animals are sacrificed in preclinical work, and in the end many times the results from the animal studies does not accurately predict what will happen in humans, resulting in failures, delays, and recalled drugs. There is currently a gap in the preclinical testing platform for therapeutics. Organ-on-a-chip technologies of closing this gap, and have the potential of curtailing the high experimental costs and complexities associated with in vivo studies, and eventually evolving into next generation tools for therapeutic validation and development.

We propose that by using a multi-compartment microfluidic platform, while integrating synthetic biointeractive hydrogels into and between the compartments, we will be able to produce a multi-organ-on-a-chip which recapitulates organ-like functions in each compartment and a vascular-similar conduit system between compartments to produce an early stage human on-a-chip for future therapeutic assessment and development applications.
This project aims to develop a preliminary human-on-a-chip device, initially focusing on a heart-, and liver-on-a-chip and an endothelialized-conduit system between and through the two organ compartments.
Successful production of this platform will improve the therapeutic and pharmaceutical development pipeline, while also minimizing our reliance on animal testing in accordance with the needs and guidelines within the EU.
The long term implications of this work would result in increasing the throughput of therapeutics, directly minimizing the cost of drug development and increasing the efficiency. This would lead to lowered economic burden to produce drugs, as well as quicker turn around, having large implications on improving the quality of life in globally.

Fields of science (EuroSciVoc)

engineering and technology > other engineering and technologies > microtechnology > **organ on a chip**

Keywords

Microfluidics
Organ-On-A-Chip
Biomaterials
in vitro models
Pharmaceutical Testing

Programme(s)

H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions MAIN PROGRAMME

H2020-EU.1.3.2. - Nurturing excellence by means of cross-border and cross-sector mobility

Topic(s)

MSCA-IF-2016 - Individual Fellowships

Call for proposal

H2020-MSCA-IF-2016

See other projects for this call

Funding Scheme

MSCA-IF - Marie Skłodowska-Curie Individual Fellowships (IF)

Coordinator

ELVESYS

Net EU contribution

€ 185 076,00

Total cost

€ 185 076,00

Address

172 RUE DE CHARONNE B2 2 EME ETAGE
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SME

Yes

Region

Ile-de-France > Ile-de-France > Paris

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Last update: 23 July 2023

Permalink: https://cordis.europa.eu/project/id/753743