



Bi/ond Organ-on-Chip: Nourishing, stimulating and monitoring cells

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Abstract:

Nowadays, biologists must choose between two options when running pre-clinical models in the early phase of drug testing: in vivo studies conducted on animals or in vitro screening. However, in vitro model and animals have shown to be inadequate for testing new pharmaceuticals to treat the many diseases that afflict humans. To achieve better medicine, there is a considerable need for more accurate human-representative systems. Therefore, biologists developed high-content 3D tissue models (organoids, microtissues, patient-derived tissues, etc.). However, they found that maintaining these 3D tissue models alive it is extremely complex in long term studies. In particular, it is fundamental to control oxygen gradients and nutrients using a dynamic system. BIOND Solutions (Bi/ond) supports biologists working in pharmaceutical companies, biotech and academia to explore fundamental questions about human health and diseases by providing versatile, dynamic chips that nourish, stimulate and monitor your complex 3D tissues. The approach consists in combining human cells, or patient-derived tissue with the use of a microfluidic chip.



Biography:

Nikolas Gaio was born in Feltre, Italy in 1990. He received the B.S degree in electronic engineering from the Polytechnic University of Milan, Milan, Italy in 2012. In 2011 he was visiting student at Tongji University, Shanghai, China, where he received a B.Eng. in Electronic Information in 2013. In 2013, he joined as guest researcher the Shenzhen Institute of Advanced Technology (Chinese Academy of Science). In 2015 he received a M.Sc. (cum laude) in Biomedical Engineering at the Faculty of Mechanical, Maritime and Materials Engineering in TU Delft.

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