

Press release – for immediate release

MIMETAS develops high-throughput gut-on-a-chip technology in collaboration with pharmaceutical company

Leiden, August 16, 2017 – MIMETAS, in collaboration with the pharmaceutical company Roche (Basel), has developed a novel organ-on-a-chip system that supports evaluation of intestinal permeability in perfused 3D gut tubules in high throughput. The results of this research were published this week in the leading scientific journal *Nature Communications*.

In this publication, MIMETAS and Roche scientists report growing over 350 gut tubules under flow that formed leak-tight structures and could be interrogated for intestinal barrier function in real-time using automated microscopy and image analysis. The intestinal tubules were polarized and leak-tight after only 4 days in culture and showed increased expression of specific transporters and receptors. This gut model lends itself to toxicology, transport and disease modeling studies, as well as fundamental research on the intestinal barrier.

Paul Vulto, Managing Director of MIMETAS and senior author on the paper, comments: “This article in a major journal shows the world what the OrganoPlate® platform is capable of. With 350 gut tubes and over 20,000 data points measured, this is the largest organ-on-a-chip dataset ever published. It demonstrates that 3D cell culture under perfusion flow isn’t necessarily complex to do. In fact, every cell biologist is now able to work with OrganoPlates® and reproduce our results”.

According to Vulto, the Nature Communications paper shows only the tip of the iceberg: “Scientists at MIMETAS and elsewhere around the world are developing stunning 3D cell culture models in the OrganoPlate® platform every day. The fact that one can culture tubules, blood vessels, and tissue co-cultures in 3D, without artificial membranes and with an unprecedented imaging quality, enables researchers to study human tissue biology in a completely novel way. We are proud to support these fantastic scientists in their search for ever more physiologically relevant tissue models. We are now making this technology available to every scientist in the world”.

About MIMETAS BV

MIMETAS (Leiden, The Netherlands) is a biotechnology company developing human organ-on-a-chip technology and tissue models for testing drugs, chemicals and food components in the OrganoPlate®. The company produces and markets the OrganoPlate® culture platform, develops and validates customized disease, toxicology and transport models and ultimately will make its technology available for personalized therapy selection. The company’s unique microfluidic technology and model development know-how enables testing of compounds in high-throughput, showing better predictivity as compared to laboratory animals and conventional cell culture models. The OrganoPlate® culture platform supports 3D cell

culture under continuous perfusion, with membrane-free co-culture and epithelial and endothelial tubules.

For more information, please visit <https://mimetas.com>.

Contact information

MIMETAS BV

Jos Joore, Managing Director

pr@mimetas.com

+31 85 888 3161

