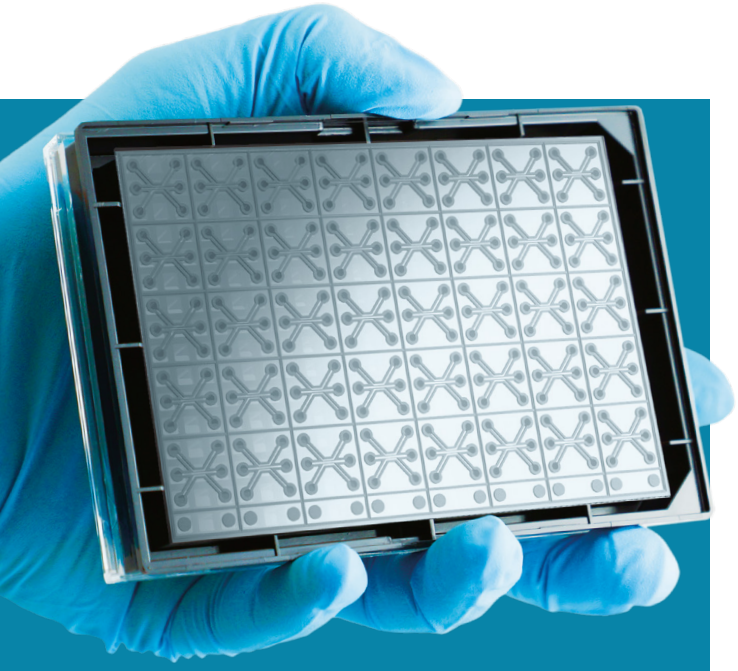
MIMETAS
the organ-on-a-chip company

OrganoPlate®3-lane

Product no. 4004-400-B



Features	
Tissue chips	40
Lanes per chip	3
Pump-free perfusion	yes
Membrane-free co-culture	yes
Compatible 384 well format	yes

Applications	
Perfused tubule (pump-free)	yes
In-gel tissue	yes
Tubule + in-gel tissue	yes
In-gel tissue + in-gel tissue	yes
Tubule + in-gel tissue + in-gel tissue	yes
Mixed in-gel co-culture	yes
Access to tubule inside (apical)	yes
Access to tubule outside (basal)	yes
Transport and barrier integrity	yes

The OrganoPlate® 3-lane is an advanced microfluidic tissue culture device that contains 40 independent microfluidic culture chips. Each chip features up to 2 ExtraCellular Matrix (ECM) lanes and up to 2 perfused medium channels for tubule culture, with no physical barrier in between. A single chip is connected to 7 wells of the OrganoPlate® in a 3 x 3 well grid, with the central well providing viewing access. Any number of chips can be used in an experiment. The OrganoPlate® 3-lane supports apical and basal access to epithelial and endothelial tubules, allowing barrier integrity and transport assays.

Supported tissue models

The OrganoPlate® 3-lane supports a range of cell types in different tissue configurations. The system allows for culture in ECM, tubular culture against ECM and combinations of in-ECM and tubular culture in 3 lanes, without separating membranes or barriers. You can use any ECM that remains solid at culture temperature, including chemically crosslinked ECMs and natural ECMs. Endothelial and epithelial tubules (e.g. blood vessels, Caco-2 gut tubules) can be combined with in-ECM culture, such as neurons, hepatocytes and organoids.

Materials and equipment

- Cells (cell lines, primary cells, iPSC-derived cells and others)
- ECM, for example Collagen I or Matrigel® (Corning®)
- For advanced perfusion control: Mimetas Perfusion Rocker™
- Pipettes 1 - 200 µL
- Optional: multichannel pipette 5 - 350 µL
- Research (confocal) microscope, high-content reader, plate reader

Detailed instructions for use and protocols are available on **www.mimetas.com.**

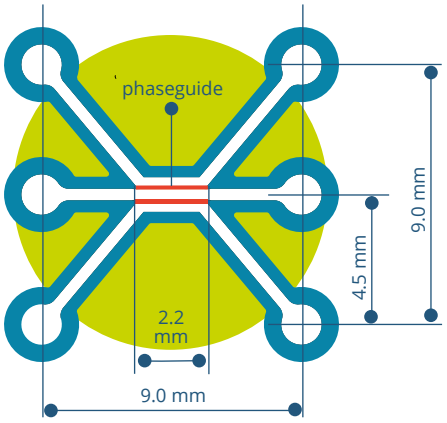
MIMETAS – the Organ-on-a-Chip Company

Enabling you to study complex 3D tissue biology in a simple device, that's our goal. With perfused vessels, co-culture and optimized micro-environments. So easy to use that you forget you're working with a highly advanced 3D culture platform. With the OrganoPlate®, we believe we've reached our goal. Say hello to the future of 3D tissue models.

MIMETAS
the organ-on-a-chip company

OrganoPlate®3-lane

Product no. 4004-400-B



OrganoPlate® 3-lane	
Applications	**Perfused 3D culture, up to 3-layer co-culture, barrier integrity and transport, angiogenesis, gradient formation**
Product code	**4004-400-B**
Number of cultures per plate	**40 (partial use possible)**
Lanes per culture cell	**3 lanes, all perfusable, barrier- and membrane-free**
Compound access to tissue tubules	**Apical & basal (in- and outside)**
Microfluidic lane widths	**Top and bottom perfusion lane: 300 µm. Middle lane: 350 µm**
ECM-gel loading volume	**1.3 - 2.5 µL**
Internal volumes	**Top and bottom perfusion lane: 1.69 µL. Middle lane: 1.45 µL**
Gel-medium interface surface	**0.5 mm²**
Plate format	**SBS-standard 384-well plate, 127.8 x 85.5 x 14.4 mm (l x w x h) (17.2 mm height with lid)**
Materials	**Top plate: virgin polystyrene. Plate bottom: optical quality 150 µm glass (1H coverslip thickness). Microfluidics: glass, proprietary polymers, biocompatible and low compound-absorbing.**
Microfluidic lane height	**220 µm**
PhaseGuide™ dimensions	**100 x 55 µm (w x h)**
Medium volume	**15-75 µL in each well**
Perfusion	**Gravity driven, pump free, 2° - 25° plate angle, typical shear forces in tubule 0 - 5 dyne/cm²**
Readouts	**Imaging (phase contrast, widefield fluorescence, confocal), plate reader (absorption, fluorescence, luminescence), sampling (ELISA, PCR, MS, biochemistry)**

www.mimetas.com +31 (0)85 888 31 61 info@mimetas.com

version: 2020-004