

- **40 tissue culture chips**
- **Pump-free perfusion**
- **Membrane-free co-culture**
- **Automation compatible**
- **384 well format**
- **Easy handling**



OrganoPlate® 3-lane 40

Product code 4004-400-B

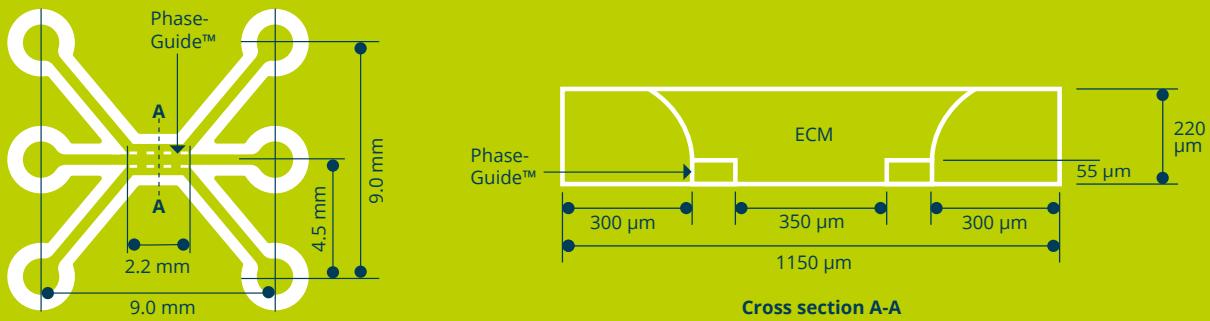
The OrganoPlate® 3-lane 40 is an advanced microfluidic tissue culture device that contains 40 independent tissue culture chips. Each chip features up to 2 extracellular matrix (ECM) lanes and up to 2 perfused medium channels for tubule culture. There is no membrane between the channels, as the channels are separated by PhaseGuide™ technology. A single chip is connected to 7 wells of the OrganoPlate® in a 3x3 well grid, with the central well providing viewing access. Any number of chips can be used in an experiment.

The OrganoPlate® 3-lane 40 supports apical and basal access to epithelial and endothelial tubules. This enables you to perform barrier integrity and transport assays for purposes such as toxicity screening or drug discovery.

Supported Tissue Models

The OrganoPlate® 3-lane 40 supports a range of cell types in different tissue configurations. The system enables one or multiple cultures in an ECM and up to 2 perfused tubules adjacent to an ECM of choice, without artificial membranes. Compounds and stimuli can directly be added from the apical and basolateral sides of the culture. With this direct access, the platform enables perfusion and supports various barrier integrity-, transport-, and migration assays.

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.



Specifications

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 |
| Liquid handling system | Liquid handling systems able to work with industry standard (384 well plates) |
| Channels per tissue culture chip | 3 channels, all perfusable, barrier- and membrane-free |
| Compound access to tissue | Apical and basal |
| Microfluidic channel width | Side channels: 300 μm. Middle channel: 350 μm |
| Microfluidic channel height | 220 μm |
| PhaseGuide™ dimensions | 100 x 55 μm (w x h) |
| ECM-gel loading volume | 2.0 μL recommended for all channels |
| Internal volumes | Side channels: 1.7 μL. Middle channel: 1.4 μL |
| Medium volume | 50 μL recommended in each well. 15 μL - 90 μL possible |
| Gel-medium interface surface | 0.57 mm ² |
| Plate format | SBS Standard 384 well plate |
| Materials | Top plate: virgin polystyrene. Bottom plate: optical quality 150 μm glass (1H coverslip thickness). Microfluidics: glass, proprietary polymers, biocompatible and low compound-absorbing. |
| Perfusion | Gravity driven and pump free using the OrganoFlow®. With the recommended 7° rocking angle, intermittent shear stress forces ranging between 0 - 1.41 dyne/cm ² |
| Readouts | Imaging (phase contrast, widefield fluorescence, confocal and more); plate reader (absorption, fluorescence, luminescence); off plate (ELISA, RNA/DNA analysis, MS, biochemistry) |