

MIMETAS

- 64 tissue culture chips
- Vascularized 3D tissues
- Pump-free perfusion
- Membrane-free co-culture
- 384 well format
- Easy handling
- Automation compatible



OrganoPlate® Graft

Product code 6401-400-B

The OrganoPlate® Graft is an advanced microfluidic tissue culture device that contains 64 independent tissue culture chips. The system is developed for grafting tissues to a vascular bed. Its open-top design makes it possible to receive target tissues for studying interaction with a vascular bed. It uniquely facilitates perfusion of the tissue and allows drug administration through the vasculature. The platform can be used for vascularization studies of various tissues in areas such as oncology and toxicology.

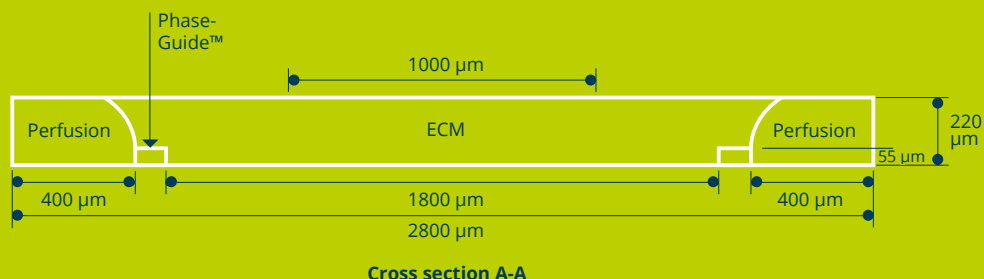
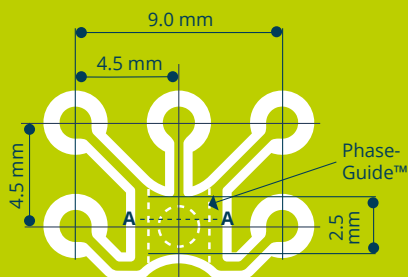
Each chip has one in-gel culture channel, two perfusion channels, and one open grafting chamber. The platform enables perfusion and addition of cells, compounds, and stimuli, and provides direct access to vascularized tissues. There is no membrane between the channels, as the channels are separated with PhaseGuide™ technology. A single chip is connected to 7 wells

of the OrganoPlate® in a 3x3 well grid, with the central well providing a grafting chamber and viewing access. Any number of chips can be used in an experiment.

Supported Tissue Models

The OrganoPlate® Graft supports a range of cell types in different tissue configurations. The system enables one or multiple cultures in an extracellular matrix (ECM) and up to 2 perfused tubules adjacent to an ECM of choice. Cells, compounds, and stimuli can be directly added from the apical and basolateral sides of the cultures. 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.

Detailed instructions: mimetas.com for manuals & protocols



Specifications

Applications	Perfused 3D cell culture, grafting organoids/spheroids and other tissues up to 1mm in size, co-culture, barrier integrity and transport, angiogenesis, gradient formation, cell migration
Product code	6401-400-B
Number of cultures per plate	64
Liquid handling system	Liquid handling systems able to work with industry standard (384 well plates)
Channels per tissue culture chip	1 grafting chamber, 2 perfusable, barrier- and membrane-free channels
Compound access to tissue	Apical and basal
Microfluidic channel width	Side channel: 400 μm. Middle channel: 1800 μm
Microfluidic channel height	220 μm
PhaseGuide™ dimensions	100 x 55 μm (w x h)
ECM-gel loading volume	2.5 μL recommended for middle channel, 2.0 μL for side channels
Internal volumes	Side channels: 1.6 μL ; middle channel: 1.32 μL
Medium volume	50 μL recommended in each well. 15 μL - 90 μL possible
Gel-medium interface surface	1.00 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 14° rocking angle, intermittent shear stress forces ranging between 0 - 1.7 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)
Recommended best by	The OrganoPlate® Graft offers optimal seeding performance when used within 9 months from purchase