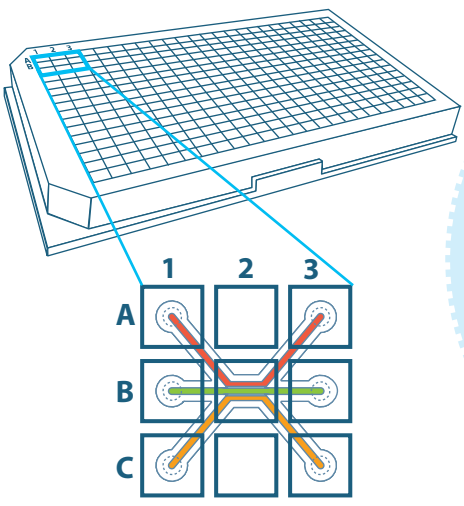
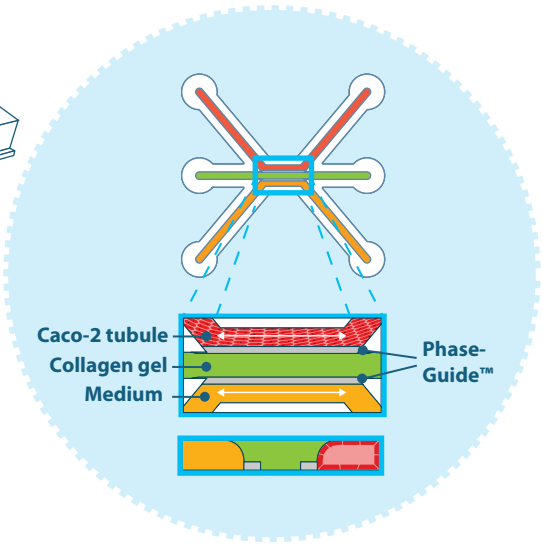
OrganoPlate® Caco-2 in a nutshell

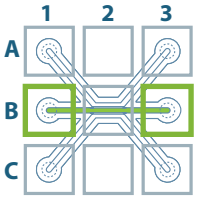
Assay Ready Gut Tubules

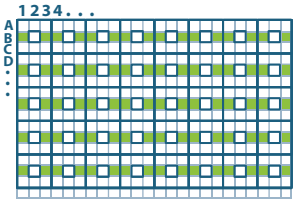




Well layout

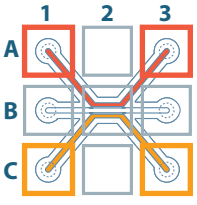
ECM Channel

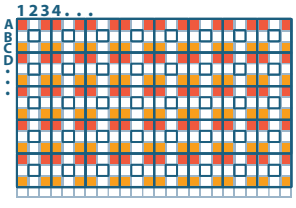




Gel Inlet/Outlet (green)
Used to access the collagen gel.

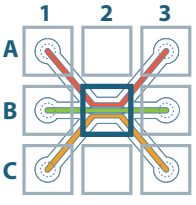
Perfusion Channel

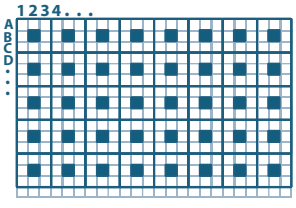




Top Perfusion Channel inlet and outlet (red), bottom Perfusion Channel inlet and outlet (orange)
Inlets used to add medium, reagents or compounds to the Caco-2 tubules. (Apical or basal side)

Observation Window





The Observation Window (blue)
Used for imaging your culture. This is where the three channels come together and make contact.

To perfuse your cultures: place on the OrganoFlow® for programmable rocking.

Please check protocols and the rocker manual on our website for instructions.

Visit **mimetas.com/support** for the latest protocols.

Experiments in the OrganoPlate® Caco-2

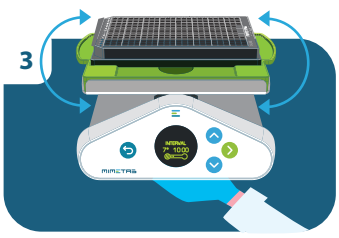
The four steps to get started with the OrganoPlate® Caco-2

1

Check for the latest protocols: mimetas.com/support

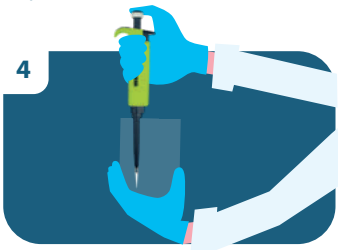
2

Unpack the OrganoPlate® Caco -2 and remove shipment medium according to protocol



3

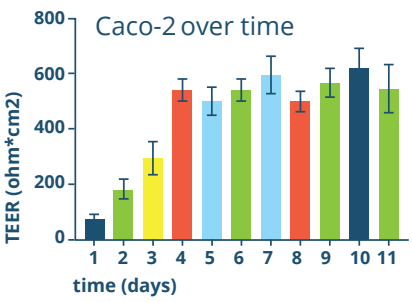
Incubate and perfuse the OrganoPlate® Caco-2 overnight



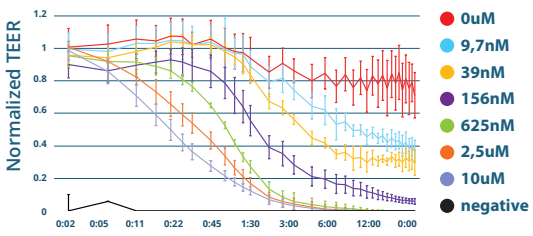
4

Perform your experiment

Culture readout examples



20 hours exposure of healthy Caco-2 tubules to Staurosporine dilutions in the OrganoPlate®



Product specifications

Applications	Drug-induced toxicity, Intestinal Permeability, DDI studies with P-gp transporter
Cells	Caco-2 cell line, Human Caucasian colon adenocarcinoma, Wild-Type
ECM-gel	Collagen 1 (Rat Tail)
Number of tissue chips	38
Number of control chips	2
Compound access to tissue tubules	Apical & basal (in- and outside)
Microfluidic lane widths	Top and bottom perfusion lane: 320 µm. Middle lane: 360 µm
Internal volumes	Top and bottom perfusion lane: 1.1 µL. Middle lane: 0.87 µL
Gel-medium interface surface	0.5 mm^2
Plate format	SBS-standard 384-well plate, 127.76 x 85.48 x 14.8 mm, (l x w x h) (17.3 mm height with lid)
Materials	Top plate: virgin polystyrene. Plate bottom: optical quality 170 µm glass (1.5H 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, typical shear forces in tubule 0 - 3 dyne/cm^2
Compatible assays	• Immunostaining • DNA isolation • RNA isolation • Cell viability assays • Transport assays • Migration assays • Barrier integrity assay • Western blot • Mass spectometry • Adhesion assays • ELISA • TEER
Readouts	Imaging (phase contrast, widefield fluorescence, confocal), plate reader (absorption, fluorescence, luminescence), sampling (ELISA, PCR, sequencing, MS, biochemistry)

Visit **mimetas.com/support** for the latest protocols.