MIMETAS

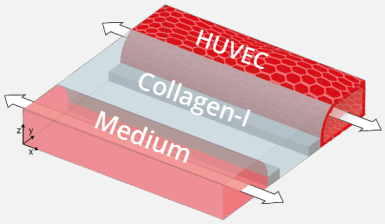
OrganoReady®
Blood Vessel HUVEC

3D Human Blood Vessel Model

3D-lumenized, perfused, polarized and leak tight tubules of primary human umbilical vein endothelial cells (HUVEC) prepared by MIMETAS experts in the OrganoPlate® 3–lane platform.

This primary endothelial model is made for screening small and large biotherapeutic compounds to quantitatively predict, and mechanistically dissect, vascular toxicities, immune cells biology and transmigration.

Built on a 384 well plate format, the platform is made for quantitative high-throughput and high-content microscopy, compatible with standard incubators, plate readers and liquid handlers. No need for specialized consumables, equipment, expertise with pumps or 3D biology. After a few days of recovery, the cell tubules are ready to use and will remain viable for an assay window of at least 7 days. Just add your compounds and start screening.



3D schematic of a HUVEC tubule grown in the OrganoPlate®.

Why OrganoReady®?

Live-cell culture

- 40 or 64 HUVEC tubules ready to use after a few days of recovery
- Includes OrganoMedium HUVEC-BM
- Ready to screen with optimized protocols

Translatable

- Expressing most important endothelial markers
- Membrane-free tissue culture
- Gravity-driven perfusion without the need for pumps
- Polarized apical and basolateral access

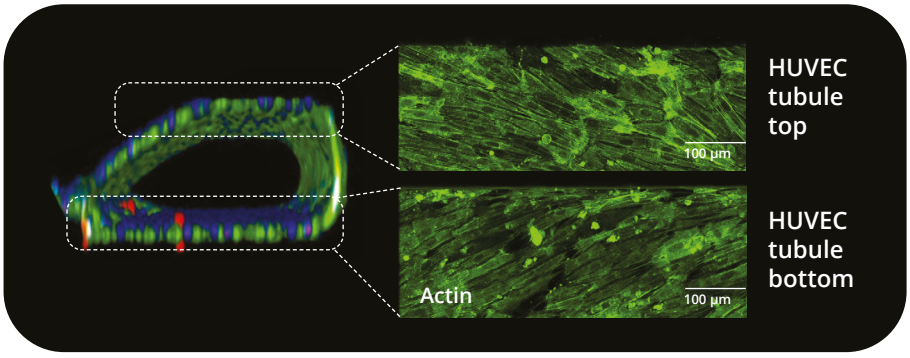
Robust

- Minimal variability with a consistent pre-validated batch of Collagen-I and cells
- TEER data without operator-induced variability
- Study up to 15 compounds and 1 control with 4 technical replicates each in a single plate

How the OrganoReady® model is used in routine screens

" Often you have to compromise either the throughput or the complexity of the model. Getting both in the same platform... no other platform can do that!

Scientist from a Top pharma



From production to your lab

Collagen-I and HUVEC seeding in OrganoPlate® ▶ QC & Shipping on Monday* ▶ Receive by Friday ▶ Assay window of >7 days after recovery

*Shipping to Europe, United States and Canada

One plate ready for a variety of applications

Compound-induced Barrier Disruption

- Use the OrganoTEER® for sensitive and robust assessment of barrier integrity in 40 or 64 tissue culture chips in less than 2 minutes
- The ideal assay to study vascular toxicity, and inflammation at scale in a perfused primary 3D human blood vessel model

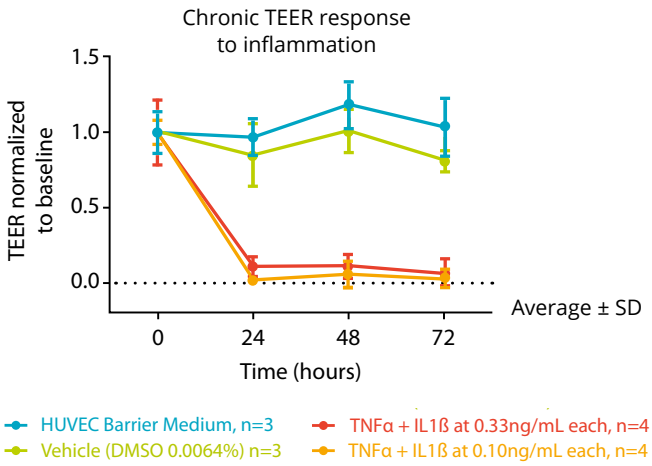
Measurement module

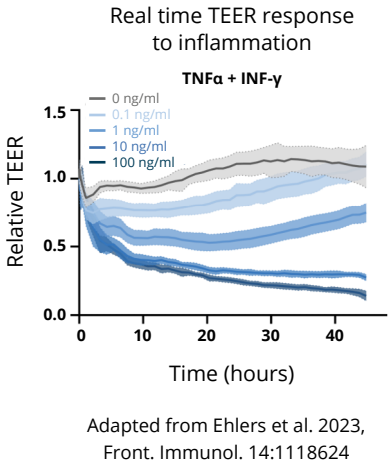
Electrode board

The OrganoPlate

Plate holder

Acute and chronic Toxicology screening

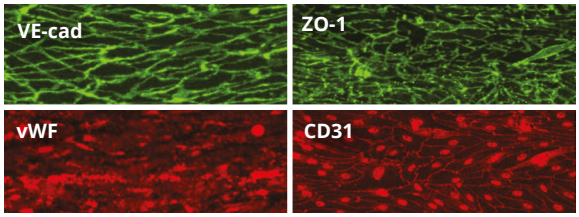




Adapted from Ehlers et al. 2023, Front. Immunol. 14:1118624

Phenotypic vascular toxicity

Multiplex your screening workflows with phenotypic readouts of vascular inflammation and dysfunction performing not just TEER, but also fluorescent barrier integrity, immunofluorescence imaging, or by extracting cells or media for downstream transcriptomic and proteomic analysis



Endothelial and junctional markers expressed: VE-cadherin, ZO-1, vWF, CD31, ICAM-1

Are you ready to take your cell culture to the next level?

Want to know more?
support@mimetas.com