

OrganoTEER®

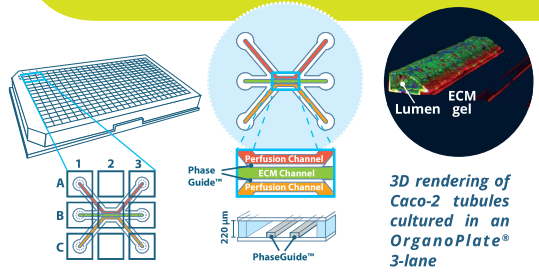
Rapid, High-Throughput TEER Measurements for Tox Applications

Performing Trans Epithelial Electrical Resistance (TEER) measurements provides insight in the integrity of a cellular barrier in 3D gut models established in the OrganoPlate®

1 OrganoPlate® technology

The OrganoPlate® 3-lane is a 3D culture plate with 40 microfluidic tissue model chips built into a standard 384 well plate. Within 4 days the Caco-2 cells form a 3D epithelial tube-like structure in the top perfusion channel. These structures are accessible from both apical- and basal sides, allowing barrier function and polarization studies.

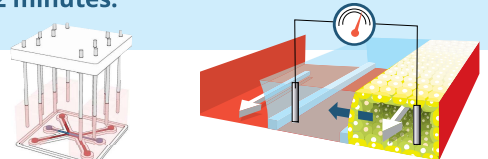
- Rapid TEER Measurement
- High throughput compatible
- Automation compatible
- Time lapse Measurements
- No membrane between cells and ECM
- Measure TEER on 3D tubules
- Easy to set up and use



The OrganoPlate® 3-lane lay out and chip design. The plate contains 40 microfluidic chips with 3 adjacent channels (lanes) in the observation window. The PhaseGuides™ allow for gel patterning without the use of artificial membranes between the channels.

2 Introducing the OrganoTEER®

We have developed the OrganoTEER®: a fast, automated, impedance measurement device capable of quantifying **40 tubules in under 2 minutes.**



The electrode board of the OrganoTEER is lowered into the wells of the OrganoPlate®

The OrganoTEER performs real time and continuous measurement of tubules under perfusion.

3 Measuring TEER on the OrganoPlate®

Epithelial cell layers exhibit an electrical resistance representative of their paracellular permeability to ions.

Using the TEER measurements, we can characterize tubular models in the OrganoPlate, and perform exposure studies to evaluate cytotoxicity and inflammatory reaction to compounds over minutes, hours and days.

