# MIMETRE

# Enhance your Toxicity Research

## Toxicity testing in high-throughput, human-relevant assays

Identifying adverse effects of drugs in the preclinical stage of drug development is key to preventing drug-induced organ injuries or conditions, and is an essential step in developing novel and successful therapies. Through our products and services, we offer physiologically-relevant 3D human tissue models and expert knowledge to take your toxicity studies to the next level.

#### Grow. Learn. Discover.

# Get Inspired

# Compound profiling and screening with complex, human-relevant assays for high-throughput toxicity assessment.

#### **Blood-brain Barrier Model**



#### **Blood Vessel Model**

#### **Blood Vessel-on-a-Chip**

# CD31 ZO-1 DNA

- Cell line: Human umbilical vein endothelial cells (HUVEC)
- Ready to use with OrganoReady<sup>®</sup> Blood Vessel HUVEC

#### **Barrier Integrity Assesment**

#### Trans-epithelial electrical resistance (TEER) data



Following exposure to known toxins, barriers show time- and dose-dependent disruption

The OrganoReady model has been **very useful for fast screening** of novel gene therapy related technologies in our company. The membrane-free fluidics is a **high throughput screening tool** to monitor a transfer of antibodies through the blood brain barrier.

Svetlana Pasteuning VectorY B.V

### **Kidney Model**

#### **Kidney-on-a-Chip**

**Gut-on-a-Chip** 

#### **Barrier Integrity Assesment**



**Kidney Tubuloids** 

- Cell line: Adult stem cellderived kidney organoids
- Ready to use with Organo-Ready<sup>®</sup> Kidney Organoid



Primary Kidney Proximal Tubule

• Cell line: Primary Renal Proximal Tubule Epithelial Cells (RPTECs)





Blinded compounds showed different effects on barrier function in RPTEC tubules

#### **Intestinal Model**



**Colon Tubuloids** 

- Cell line: Adult stem cellderived colon organoids
- Ready to use with Organo-Ready<sup>®</sup> Colon Organoid



Colon Caco-2 Tubules

- Cell line: Human Colorectal Adenocarcinoma Cells (Caco-2)
- Ready to use with OrganoReady<sup>®</sup> Colon Caco-2

#### **Barrier Integrity Assesment**



Following exposure to known toxins, barriers show time- and dose-dependent disruption

The OrganoPlate<sup>®</sup> 3-lane platform with the OrganoTEER will become a **standardized assay in our early investigative toxicology** drug screening workflow. With the OrganoPlate<sup>®</sup> we see a **reproducible** early screen for **intestinal toxicity**, and the first example internally of an **advanced cell model** being implemented into routine testing. To date, the OrganoPlate Caco-2 model is for us, at Merck, the **most suitable platform** offering at the same time **scalability**, **speed**, **robustness**, **ease of handling**, with low compound needs.

**Philip Hewitt,** Merck KGaA

# **OrganoReady**®

Discover the OrganoReady product line, with ready-to-assay 3D tissue models.



#### OrganoReady<sup>®</sup> Colon Caco-2

- 40 or 64 tissue culture chips with ready-to-use Caco-2 tubules
- Includes culture medium



#### **OrganoReady® Blood Vessel HUVEC**

- 40 or 64 tissue culture chips with ready-to-use primary HUVEC tubules
- Includes culture medium



**OrganoReady® Angiogenesis HUVEC** 

- 40 or 64 tissue culture chips with ready-to-use primary HUVEC tubules
- Includes culture medium and sprouting cocktail



#### **OrganoReady® BBB HBMEC**

- 40 or 64 tissue culture chips with ready-to-use primary HBMEC tubules
- Includes culture medium



- OrganoReady<sup>®</sup> Vascular Bed HUVEC
  40 or 64 tissue culture chips with ready-to-use HUVEC vascular beds
  Includes culture medium
- OrganoReady<sup>®</sup> Collagen
   40 to 96 chips with ready-to-use Collagen-I available in all our OrganoPlate<sup>®</sup> types



#### **OrganoReady® Kidney Organoid**

- 40 or 64 tissue culture chips with ready-to-use adult stem cell-derived colon organoid tubules
- Includes culture medium



#### OrganoReady<sup>®</sup> Colon Organoid

- 40 or 64 tissue culture chips with ready-to-use adult stem cell-derived colon organoid tubules
- Includes culture medium

## **OrganoTEER**<sup>®</sup>



Perform Transepithelial Electrical Resistance (TEER) measurements with this fast, automated, and impedance-based TEER device. Designed for automation, the OrganoTEER allows you to assay 40 or 64 chips with just a few clicks in less than 2 minutes.

With incubation and automated measurements, this is an asset ideal permeability or transports studies evaluating cytotoxic and inflammatory compounds – all under flow conditions and in real-time. The intuitive and easy-to-use software also enables automated data extraction through the click of a button.

#### info@mimetas.com | www.mimetas.com