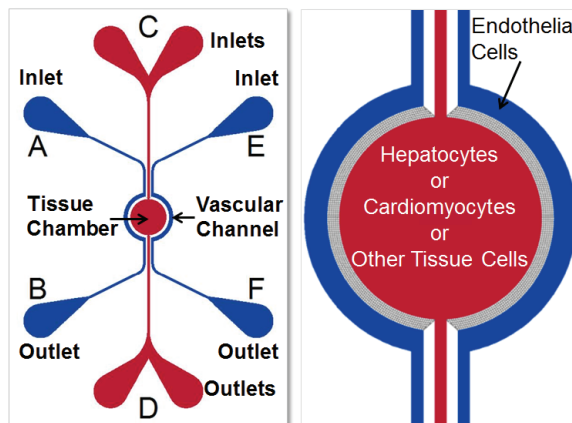


SynTox 3D Toxicology Model

SynTox™ 3D toxicology model replicates a histological slice of a tissue with in vivo like multicellular architecture.

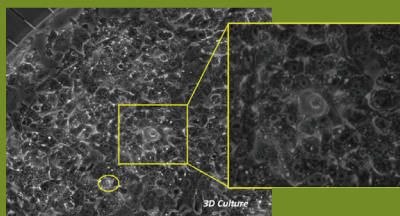
- Physiologically realistic vascular and tissue cell interactions
- Universal platform to model architecture specific to desired organs
- Real time monitoring of cellular responses
- Compatible with standard analytical instruments for both on chip and off chip assays including omic methodologies



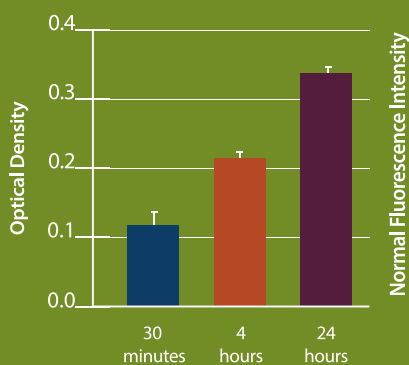
SynTox 3D Toxicology Model recreates the in vivo microenvironment by recreating a histological slice operating in an in vitro format.

SynTox used to model toxicity in liver, vascular and cardiac tissues

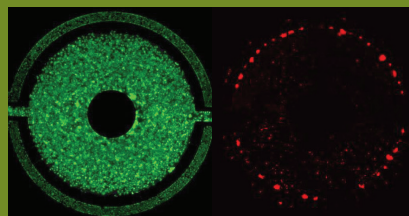
Liver and heart cells were co-cultured with their respective endothelial cells and analyzed for toxicity after treatment with various drugs.



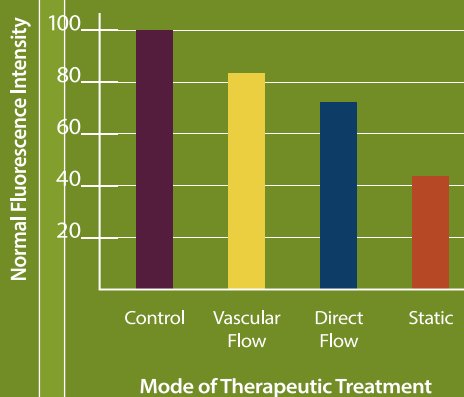
Hepatocytes form bile-canaliculi in SynTox model.



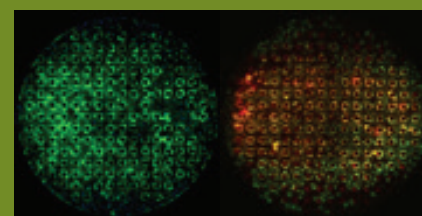
Hepatocytes secrete urea with increasing concentration in a time-dependent manner.



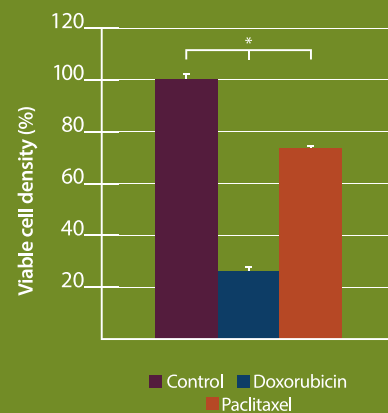
Acetaminophen toxicity on hepatocytes following bolus injection. Peripheral hepatocytes show severe toxicity.



Hepatocytes toxicity following different modes of treatment.



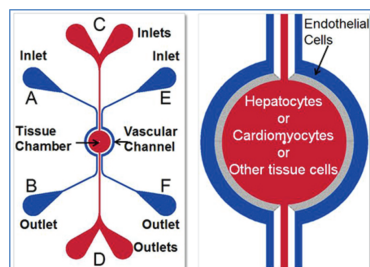
Drug toxicity on cardiac cells. Left panel indicates viable cells while right panel indicates mixture of live and dead cells following drug treatment.



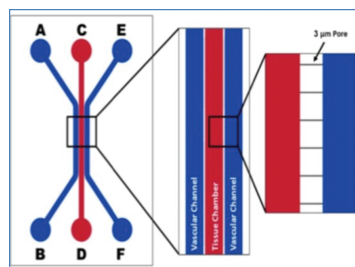
Plot of vascular (endothelial) cell toxicity following treatment with chemotherapeutic. Endothelial cells are highly susceptible to the drugs.

Evaluate candidate drugs for organ specific toxicity responses

Idealized network co-culture Chip (IMN2-Radial)



Idealized network co-culture Chip (IMN2-Linear)



Chip Schematics - Depending on your specific research applications you can select from basic IMN2 Radial or Linear chip configurations.

Product Purchase Options

| Catalog# | Description | Price |
|----------------|---|---------|
| 404002, 404004 | SynTox Toxicology Model Starter Kit - Includes 10 chips, pneumatic priming device, tubing, clamps, syringes and needles | \$1,700 |
| 404001, 404003 | SynTox Toxicology Model Assay Kit - Includes 10 chips, tubing, slide clamps, needles, and syringes | \$1,500 |
| 102016-STo3 | SynTox Toxicology Model Chip - IMN2 - Radial (3um slits) - Pack of 3 | \$350 |
| 108013-STo3 | SynTox Toxicology Model Chip - IMN2 - Linear (3um slits) - Pack of 3 | \$350 |

Contract Research Services using the SynTox Model

Real-time Monitoring of Organ and Species-Specific Drug Toxicity

| | |
|--------------------------------|---|
| SynTox Models Available | <ul style="list-style-type: none"> • Monoculture using endothelial cells • Co-Culture with stromal/tissue cells |
| Assays available: | <ul style="list-style-type: none"> • Drug-induced vascular leakage • Vascular inflammation • Biomarker analysis • Efficacy and toxicity screening • Dose-response • Cell viability • Mechanism of action studies |
| Sample Endpoints: | <p>Sample Endpoints: Vascular Permeability measurements using fluorescent-tagged molecule. If untagged use mass spectrometry or other readouts from collected effluents, TEER resistance measurements, Viability, ROS, Real-time imaging of cellular changes, Biomarker analysis, Quantitation of immune cell interactions with the endothelium, Biomarker screening using immunoassays. Collect cells or effluents for downstream genomic, proteomic or metabolomic analysis. Contact us to discuss your specific project needs.</p> |

Publications using the SynTox Model

A 3-dimensional microfluidic platform for modeling human extravillous trophoblast invasion and toxicological screening (2019) Yong Pu *et al. Lab Chip*, 2021, 21, 546-557



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