

Cytokeratin-8-antibody staining

3D InSight™ Human Liver Microtissues

Delivered in 96-well plates ready-to-use for screening

- **Co-culture spheroids of primary hepatocytes with NPCs including Kupffer cells**
- **Suitable for idiosyncratic toxicity and long-term toxicity with repeated dosing**
- **Economical and convenient 96 well format, short delivery times**

Organotypic cell composition

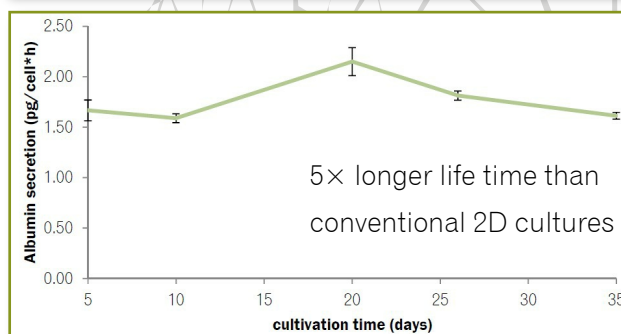
3D InSight™ Human Liver Microtissues are generated by co-culture of cryopreserved primary human hepatocytes and non-parenchymal cells (NPCs) to reflect the native cell composition of liver.

To assure short delivery times and the availability of specific donor lots over months and years, InSphero has developed a unique production process based on cryopreserved hepatocytes. Precise cell selection and treatment during 3D microtissue formation guarantee excellent functionality and viability.

3D InSight™ Human Liver Microtissues: Delivered in 96-well GravityTRAP™ plates – ready for screening.

Applications

- Acute systemic toxicity screening
- Long-term, repeated-dose toxicity testing
- Inflammation mediated toxicity (idiosyncratic toxicity)
- ADME/Tox
- Multiple donor comparisons



Key product characteristics

- Organotypic liver microtissues, one per well, 96-well format, ready for screening
- Primary human hepatocytes co-cultured with non-parenchymal cells
- Integrated primary endothelial and Kupffer cells allow heterotypic cell-cell interaction
- Bacterial LPS induces Interleukin-6 secretion by Kupffer cells (mediates inflammation-related compound toxicity)

Detect repeat-dose toxicity

InSphero's unique scaffold-free production technology assures an abundance of tight cell-cell contacts. As a result, the hepatocytes remain polarized, differentiated and active. With a viability of up to four weeks in culture, long-term toxicity testing with repeated dosing is finally possible. An intact bile-canalculi network ensures proper clearance of bile-acids into the medium.

Supplied ready for screening

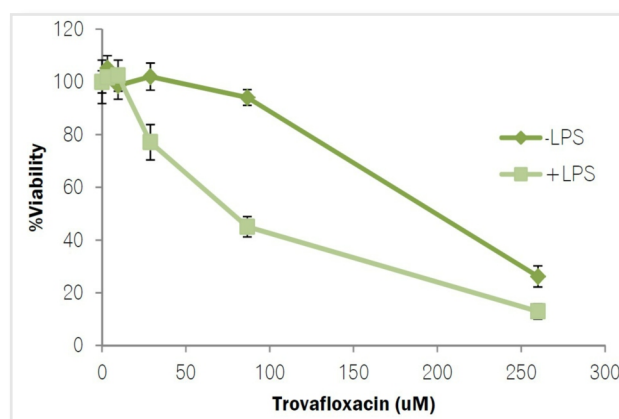
3D InSight™ Human Liver Microtissues are produced bi-weekly and delivered ready-to-use in the specially designed GravityTRAP™ plate. In this format automated plate readers can easily locate and analyze microtissues. In addition, the plate is designed to facilitate media changes and compound dosing during long-term maintenance.

The GravityTRAP™ plate is also suitable for standard luminescent and fluorescent assays, e.g. Pro-mega's ATP, LDH, GSH and apoptosis assays.

Inflammation-mediated toxicity

Hepatocytes alone are often not sufficient to understand in-vivo toxicology. For instance, cases of idiosyncratic toxicity are often mediated by inflammation involving Kupffer cells.

InSphero's 3D culture technology overcomes the challenge of co-culturing different types of cells and allows viable and competent Kupffer cells to be incorporated into this 3D human liver microtissue model. The presence of Kupffer cells means that, for the first time, inflammation-mediated toxicity can be reproduced reliably in vitro.



A co-exposure of the human-liver microtissues with the withdrawn drug Trovafloxacin (top) and an inflammagen (LPS) is identified as toxic.

Ordering information

Catalog #	Description
MT-02-002-01	3D InSight™ Human Liver Microtissues from primary hepatocytes (96x)
MT-02-002-04	3D InSight™ Human Liver Microtissues from primary hepatocytes, co-culture with non-parenchymal cells (96x)
CS-07-001	3D human liver microtissue maintenance medium LiMM (500 mL)

For more details, please visit us at www.insphero.com/liver or contact one of our customer representatives in the US or Switzerland



QR code