



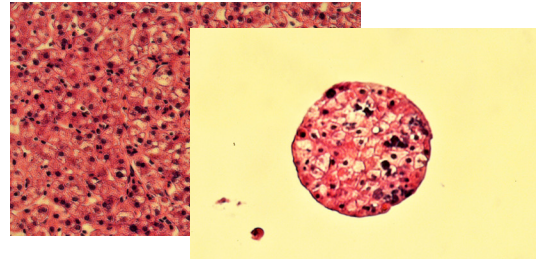
Hep-I-Spheres™: 3D *in vitro* hepatocyte test system for ADME-Tox investigations

Hep-I-Spheres™ are 3D hepatocyte spheroid cultures. These long-term cultures have liver-like morphology and function that allows for better simulation of *in vivo* drug exposure conditions, making it a useful tool for preclinical drug metabolism and safety studies.

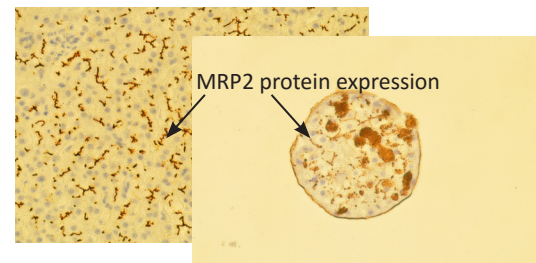
- P450 enzyme activity
- UGT & SULT enzyme activity
- MRP2 protein expression
- Albumin production
- Able to predict the cytotoxicity of prototypical hepatotoxicants
- Kupffer cell co-cultures useful for inflammation-mediated toxicity studies

IVAL offers this 3D *in vitro* test system as a product or as a contract service to provide customer the option that works best for them.

Human Hep-I-Spheres™ have liver-like morphology



H&E stain of human liver tissue and 21-day human Hep-I-Spheres™

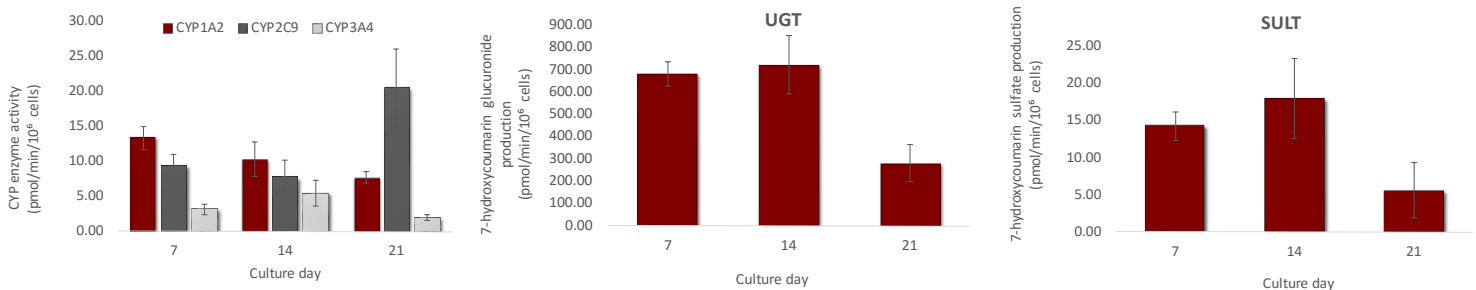


MRP protein expression in human liver tissue and 21-day human Hep-I-Spheres™

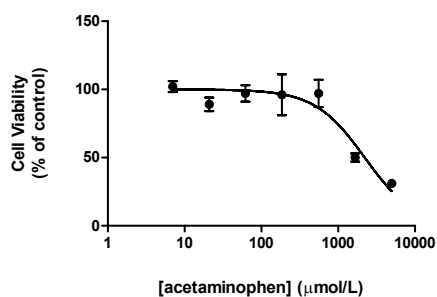
Advantages of Hep-I-Spheres™

- ✓ Use of cryopreserved cells; allows for repeat experiment using the same donor
- ✓ 1 singlespheroid per well
- ✓ Minimal size variation (<10%)
- ✓ Co-culture of liver parenchymal and non-parenchymal cells
- ✓ Compatible for HTS

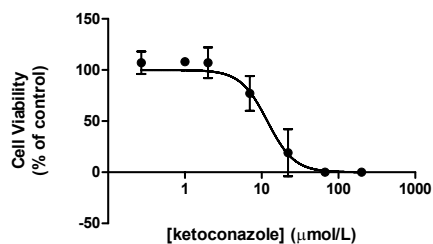
Long-term phase I P450 and phase II UGT and SULT enzyme activity in human Hep-I-Spheres™



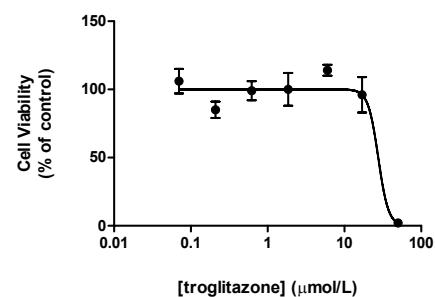
Human Hep-I-Spheres™ are sensitive to prototypical hepatotoxicants



IC₅₀: 2219 (1347-3656) μmol/L

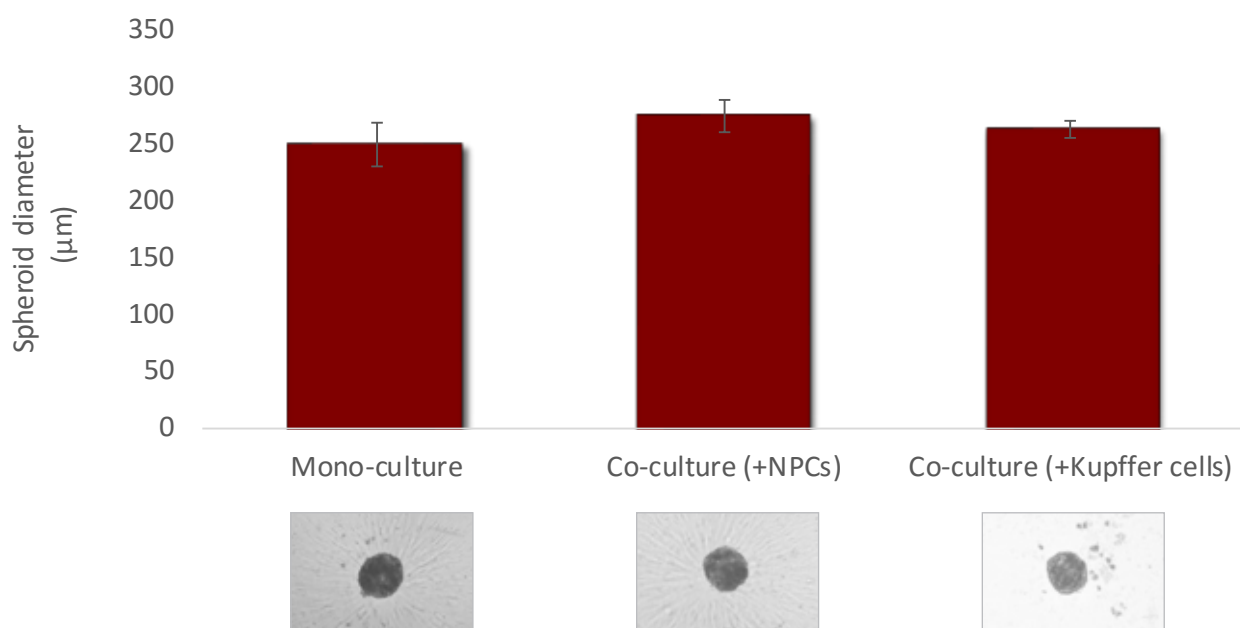


IC₅₀: 11.85 (8.90-15.79) μmol/L



IC₅₀: 27.60 (9.90-76.92) μmol/L

Brightfield images and size assessment of human Hep-I-Spheres™ (mono- and co-cultures)



Hep-I-Spheres™	Mono-Culture	Co-Culture (NPCs)	Co-Culture (Kupffer)
Human Hep-I-Spheres™, 96-well	87001	87003	87005
Monkey Hep-I-Spheres™, 96-well	87013	-----	-----
Dog Hep-I-Spheres™, 96-well	87011	-----	-----
Rat Hep-I-Spheres™, 96-well	87009	-----	-----
Mouse Hep-I-Spheres™, 96-well	87007	-----	-----

Hep-I-Spheres™ Optimized Media	250 mL	500 mL
Hep-I-Spheres™ Maintenance Medium (for Human, Monkey, and Dog) Supplement included with order	87015	87016
Rodent Hep-I-Spheres™ Maintenance Medium (for Rat and Mouse) Supplement included with order	87019	87020