Accurately Predict *In Vivo* Hepatic Clearance with TruVIVO®

Accurate *in vitro* prediction of hepatic clearance (Cl_{int}) is pivotal for successful drug development. Designing drugs for oral administration with low first-pass metabolism and longer half-lives presents challenges in predicting slow metabolism and low Cl_{int} values. TruVivo, a pioneering all-human 2D+ hepatic system, provides a solution for obtaining more relevant Cl_{int} data with high IVIVE accuracy. Features of TruVivo include:

- **All-Human Cells:** TruVivo combines pre-qualified primary human hepatocytes with human feeder cells of stromal and endothelial origin

- **Human Relevance:** Hepatocytes in this system maintain their morphology, metabolic health, drug metabolizing capacity (phase I and phase II), and transporter function for more than 14 days

- **Broad Applicability:** TruVivo can provide clearance data for high, intermediate, and low Cl_{int} compounds in a single model

Benefits of Our Services:

Accurate and **reliable** data for informed decision-making

Fast turnaround times to keep your drug development on track
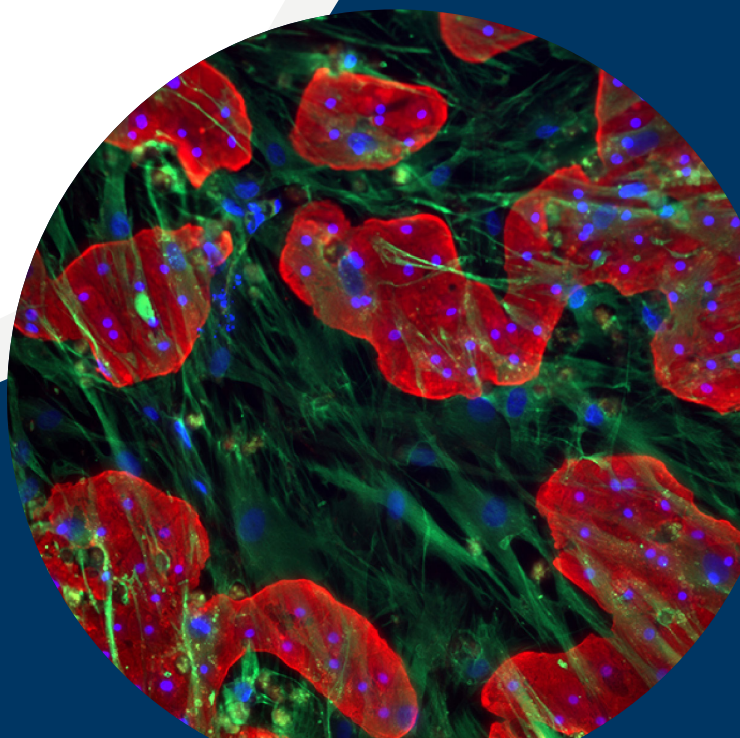
Unsurpassed expertise and quality control from the donor gift to assay testing

Collaborative approach to ensure the study addresses your research questions

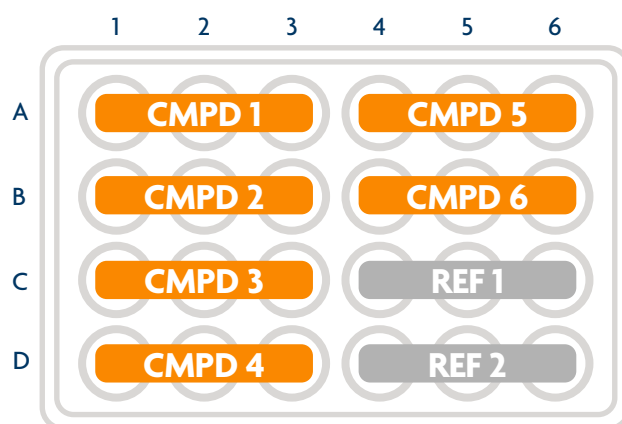## Additional LifeNet Health LifeSciences Services | *Click to learn more:*

- *In vitro* assay services
- DMPK/ADMET assays
- OECD safety studies
- Cytotoxicity assays

Pre-Study Evaluation Study Design

ASSAY PARAMETER	PROTOCOL
Test system (panel of donors for client selection)	TruVivo, all-human 2D+ hepatic system
Qualified hepatocyte lots	Metabolism, genotyping, clinical background
Plate format	24-well
Replicates	3
Cell density	0.3×10^6/well
Test Cpd concentration (can be adjusted)	1 µM
Standard sample times (low, medium, and high clearance)	0, 1, 2, 4, 8, 22, 30, 48, 72, 96hr (up to 7 days is possible)
Amount of test compound required	2mg
Cell health markers	Urea production and LDH leakage
Bioanalytical	LC/MS/MS
Reference Cpds (Cl_{int})	2 (high and low)
Time to complete	3-4 weeks
Regulatory	Non-GLP or GLP compliant
Deliverables	Full report, Cl_{int} value, TI/2, with graphs and tables where appropriate

Sample Plate Layout

Example 24-well plate layout for six test compounds and two reference compounds

Potential Reference Compounds

Compound name	Cl_{int} category
Diazepam	Low
Disopyramide	Low
S-Warfarin	Low
Metoprolol	Low
Naloxone	High
Buspirone	High
Verapamil	High

How can we help?

Talk with one of our experts for help with general inquiries, protocol details, or becoming a new client.

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