

In Vitro Assay Services

LifeNet Health LifeSciences offers *in vitro* assay services under the direction of industry leader James McKim, PhD, DABT. We deliver high quality data combined with scientific expertise and innovation to accelerate the progress of your pipeline and to provide you with answers to your most complex toxicological and product safety questions.

Top scientific experts

- Unsurpassed expertise ensures studies address your research questions and conform to regulatory requirements

New approach methods

- Access to exclusive LifeNet Health innovations and the highest-performing cells and biospecimens, allowing you to be at the forefront of research

Fast results

- Quick turnaround times ensures your milestones are met with quality non-GLP and GLP results to reports within 10 days for non-GLP and 25 days for GLP

Our highly experienced *in vitro* assay services team offers a range of standardized and customized protocols. We provide study designs suitable for internal R&D and screening needs as well as regulatory submissions and collaborate with you to tailor the study to your specific research needs.

In vitro assays

- Skin, ocular, and endocrine safety studies
- Epithelial toxicity testing
- Endocrine disruption testing
- Biocompatibility testing
- DMPK/ADMET
- Cytotoxicity testing
- New approach methods (MPS, **TruVivo**[®], thyroid microtissue)
- Customized projects



Available Services

OECD Safety Testing

- **Dermal assays**
 - Dermal Corrosion (OECD 431, Corrositex®/OECD 435)
 - Dermal Irritation (SIT/OECD 439)
 - Dermal Sensitization (DPRA/OECD 442C, KeratinoSens™/OECD 442D, U-Sens/OECD 442E, IL-8 Luc Assay/OECD 442E)
 - Dermal Absorption (OECD 428, SCCS 1358/10)
- **Ocular assays**
 - Ocular Irritation (EIT/OECD 492)
 - Severe Ocular Irritation and Damage (STE Assay/OECD 491)
- **Endocrine disruption assays**
 - H295R Steroidogenesis Assay (OECD 456-T/E2, 13 Metabolite Panel)

Epithelial Irritation Testing

- **Dermal assays**
 - Epithelial Irritation (Oral, Gingival, Vaginal)
 - Epithelial Irritation and Toxicity (Bronchial/Tracheal, Lower Airway)

Additional Biocompatibility Tests

- Cytotoxicity – ISO 10993-5 (MEM Elution)
- Hemocompatibility
- Genotoxicity (Ames — 2 Strains or 5 strains, Micronucleus Assay)

Endocrine Disruption

- Estrogen Receptor Binding
- Androgen Receptor Binding
- Estrogen Receptor Transactivation
- Androgen Receptor Transactivation
- H295R Steroidogenesis Assay
- Aromatase Inhibition Assay
- Thyroid Hormone Disruption Testing with 3D Thyroid Microtissue Model

DMPK/ADMET

- Stability in Plasma (Rat, Dog, NHP, Human)
- Intestinal and dermal absorption
- Plasma Protein Binding (Rat, Human)
- Microsomal Protein Binding
- Blood Partitioning (Rat, Human)
- Metabolic Stability (Rat, Human)
- Intrinsic Clearance (Rat, Human)
- CYP Induction (Rat, Human)
- CYP Inhibition (Human)
- Transporter Interactions (Human)
- Reaction Phenotyping (Rat, Human)

Cytotoxicity Testing

- **Assays**
 - Multiple End Point Toxicity Testing (endpoint panels custom designed for our clients)
 - Membrane integrity
 - MitoTox – Gluc/Gal, ATP, MTT, mitochondrial membrane potential
 - Oxidative stress
 - Inflammatory response
 - Apoptosis/pyroptosis
- **Test Models (2D and 3D organotypic)**
 - Intestine
 - Liver
 - Kidney
 - Lung
 - Multiple primary cells and cell lines

Integrated Multi-Organ Microphysiological System

- **Organ Models (Human)**
 - Intestine-Liver-Kidney
 - Intestine-Liver-Thyroid
 - Skin-Liver-Kidney
 - Lung-Liver-Kidney

TruVivo All-Human 2D+ Hepatic System Service

- Intrinsic Clearance
- Thyroxine (T4) Metabolism related to CAR/PXR activation
- TruVivo + Kupffer Cells
- Hepatotoxicity (DILI)

Customized Projects

Future Capabilities

To support the reduction in reliance on animal testing, we strive to remain at the forefront of bridging data between currently accepted regulatory testing and new approach methods.

About LifeNet Health LifeSciences

LifeNet Health LifeSciences gives healing every advantage by providing research solutions that **empower groundbreaking discoveries** around the world.

Our goal is to improve health and safety for humankind by providing all-human cells, *in vitro* physiological systems, biospecimens for research, and *in vitro* assay services — all while honoring the generous gifts from our donors and donor families.

We support scientists in the pharmaceutical, medical device, biotech, agriscience, food safety, cosmetic, and personal care industries.



Contact Us

Talk with one of our experts for help with general inquiries, protocol details, or becoming a new client. [LNHlifesciences.org/information](https://lfnhlifesciences.org/information)

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