Cellbox Labs

Industrial organ on chip technology

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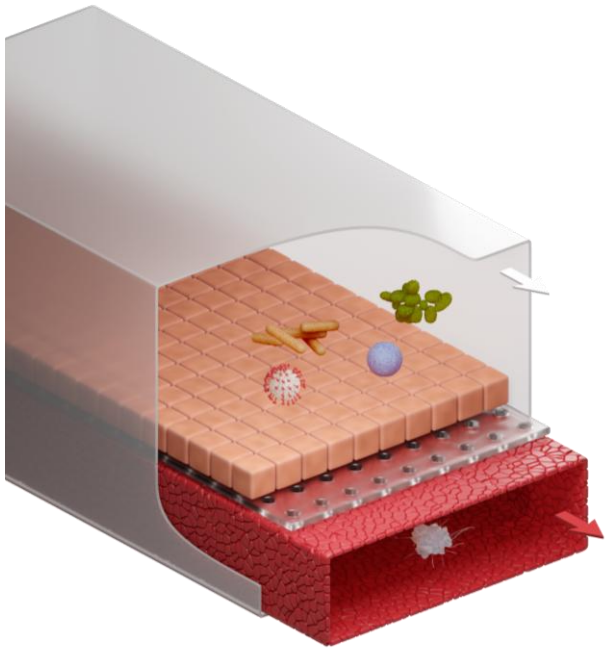

- **Organ on chip systems** better replicate the dynamic conditions of the human body compared to traditional static models
- **Organ on chip perfusion continuously supply** nutrients, waste removal, improves cell viability, function, and maturation
- **Enable complex co-culture tissues**, including anaerobic microbiota with human gut epithelium via controlled oxygen gradients
- **Shear stress** from flow enhances tissue architecture and mucus production
- **Improved physiological relevance** supports accuracy of drug penetration, pharmacokinetics and pharmacodynamics

- **Cellbox Labs offers** advanced contract research services with industrial grade Organ on chip platforms bridging the gap between conventional *in vitro* models and tissue like biology.
- Our **microfluidic chips** recreate complex tissue environments under continuous perfusion
- Enables **predictive testing** for drug development and disease research
- Whether you're testing a drug candidate, modeling a patient-specific disease, evaluating food-borne bioactivity, training AI models with biologically rich data, Cellbox Labs delivers **human-relevant data** with unmatched flexibility.

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Our Services

Dynamic tissue models

Cancer models

Intestinal model

Vasculature model

New model development

We use primary cells, cancer cell lines, patient derived cancer cells, iPS-derived cells, and cell co-cultures.

Applications

Assays

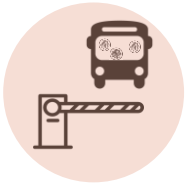
In vitro pharmacology

- PK/PD
- Toxicity/efficacy
- Cell functional assays
- Gene expression
- Imaging

Host and anaerobic microbiota interaction

- Metagenomics
- Metabolomics
- Bacterial adhesion
- Pre/probiotic tests

Biological barrier transport and integrity



- Induced permeability and recovery
- Para/transcellular transport analysis
- Mucus analysis

Disease modeling

- Biomarker analysis
- Inflammation
- Angiogenesis
- Extracellular vesicles
- Hypoxic conditions
- Microgravity

Our service includes five steps

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1

Tissue model type

Established models

New model development

2

Test compound

Drugs

Immuno cells

Biologics

Microorganisms

3

Application

Pharmacology

Host interaction

Disease modeling

Biological barrier transport

4

Methods of analysis

Viability/cytotoxicity
Barrier permeability
Imaging
Multiomics
Cell functional assays

Flow cytometry
Mass spectrometry
Bacterial adhesion assays
Mucus production
Inflammation

5

Reporting

Data sharing

Comprehensive report

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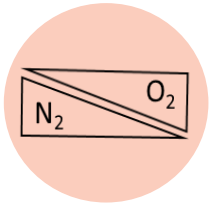
Key advantages of Cellbox Labs organ on chip services

Extended model longevity

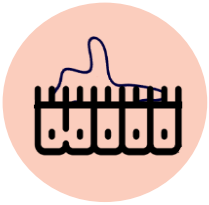
Maintains functional tissue cultures longer than static systems ideal for long-term studies.

(Article)



Anaerobic microbiota co-culture

Enables simultaneous growth of gut epithelium and strict anaerobes using oxygen gradients.



Improved barrier and mucus production

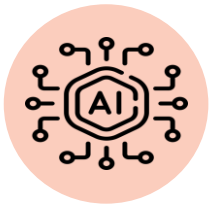
Shear stress affects epithelial integrity and enhanced mucus layer development.

(Whitepaper)

More accurate drug profiling

Precisely controlled dynamic flow improves compound distribution and better reflects real world PK/PD

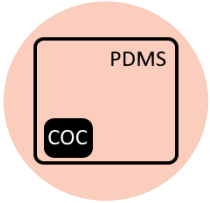
(Article)



AI-ready data output

Automated imaging and continuous flow produce standardized, time-resolved datasets for machine learning.

(Article)



Reliable compound exposure

PDMS-free, low-sorption chips maintain stable drug concentrations across experiments.

(Article)

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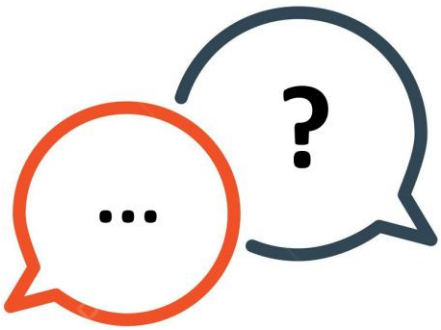

Didn’t find what you were looking for?

If your research needs fall outside our standard services, we’re here to help. Our scientific team can collaborate with you to develop a customized project tailored to your specific application. All of our organ-on-a-chip models and assays can be adapted to meet your unique research requirements.

Feel free to reach out and share your needs - our team will explore how we can support you.

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