

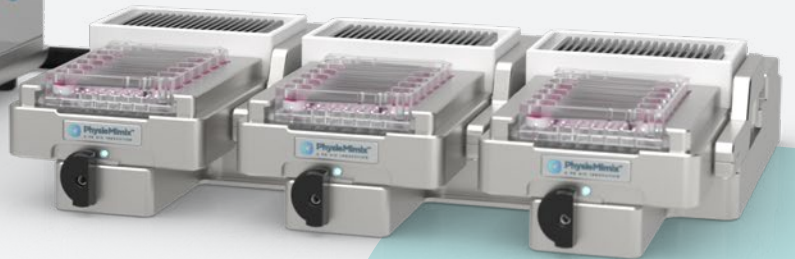
CN-BIO



PhysioMimix®



CORE



**A microphysiological system that
mimics human physiology like no other**

visit cn-bio.com



Transform drug discovery with predictive human organ models

The OOC evolution

How Organ-on-a-chip is reshaping drug discovery

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PhysioMimix[®] Core

The only microphysiological system that's easy to adopt, adapt and scale right away

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Multi-chip plates

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The OOC evolution

Organ-on-a-chip, or microphysiological systems (MPS), support the development of safe and effective therapeutics, reducing both costs and dependence on animal models

Why the shift?

With new regulations aiming to reduce animal testing and growing evidence that OOC data is more translatable than current *in vitro* approaches, the technology is now an integral drug discovery and development tool.

Who is using OOC tech?

Researchers in industry and academia rely on OOC to overcome limitations in existing models and generate human-relevant insights that bridge the translational gap.

Are you ready to change the game?

At CN Bio, we have led this shift - helping move organ-on-a-chip from emerging innovation into a practical tool for everyday use.

Our PhysioMimix Core platform is like no other. It enables researchers to generate human-specific efficacy, safety, and ADME data earlier in development, supporting more confident decision-making and better translational outcomes.

10+ years of OOC industry experience and know-how

Regulatory backing for OOC is growing on both sides of the Atlantic

In the US

The Food and Drug Administration's (FDA) formal endorsement of New Alternative Methods (NAMS), including organ-on-a-chip, is a turning point in drug development. Policy updates and a five-year roadmap are driving a shift toward more human relevant approaches beyond animal testing.



Learn more at
cn-bio.com/ooc-us

In the UK

The UK government has also announced a five-year plan to achieve its long-term vision of "a world where the use of animals in science is eliminated in all but exceptional circumstances."



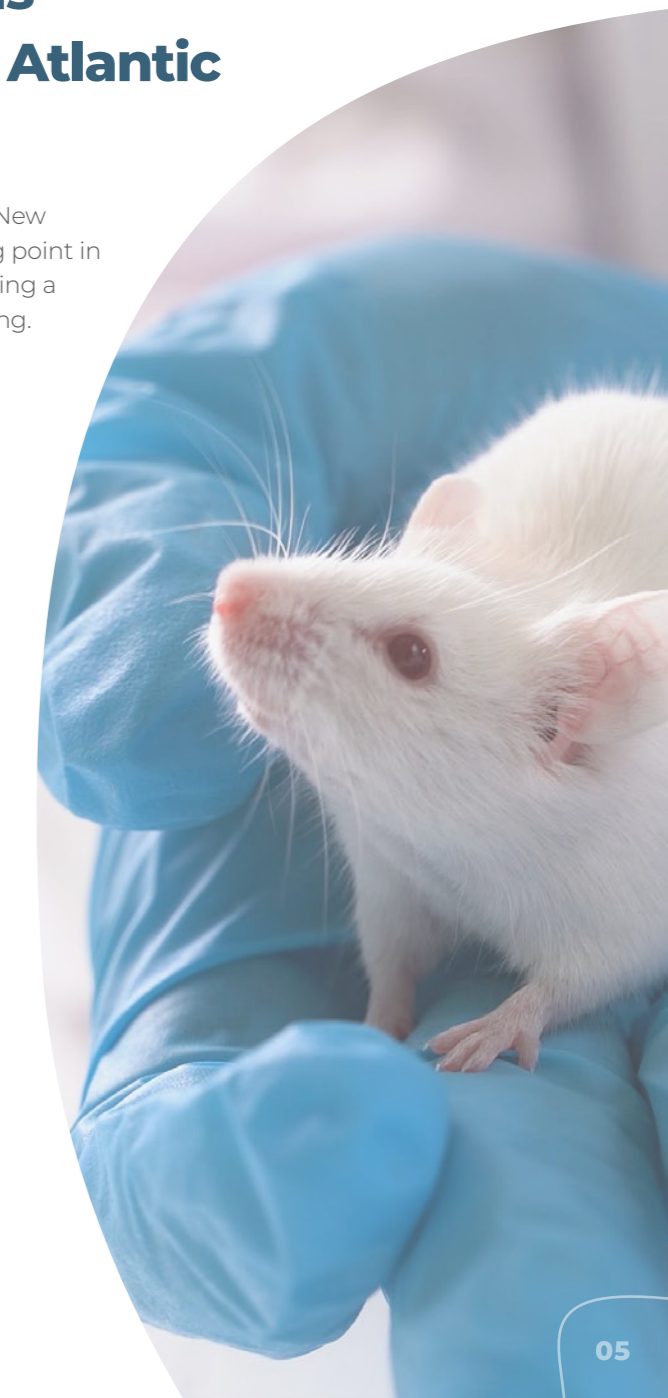
Learn more at
cn-bio.com/ooc-uk

In the EU

The European Union has a long-standing policy of replacing, reducing and refining animal testing (3Rs) and has set the goal of phasing out animal use for research and for regulatory purposes in the EU, as soon as scientifically possible.



Learn more at
cn-bio.com/ooc-eu



PhysioMimix[®] Core

PhysioMimix Core is the only microphysiological system that's easy to adopt, adapt and scale right away

It's validated for single-, multi-organ, and higher-throughput configurations, so you can use one system to support different research needs.

Easy onboarding simplifies set-up and use. It's flexibility and scalability provides reliable physiological results.

PhysioMimix Core mimics human physiology like no other system. By recreating human organs, tissues and biological processes *in vitro*, it improves the *in vivo* translatability of data.



Explore PhysioMimix with our animated video tour



cn-bio.com/video



16/20

top pharmaceutical companies use PhysioMimix[®]

70%

of our employees are scientists and engineers

Why choose PhysioMimix[®] Core?

Simple to start and seamlessly advance



Easy to adopt

Simple to set-up, easy to use and productive from day one



Easy to adapt

The flexibility to grow with your needs



Easy to scale

Built to meet today's needs and tomorrow's demands



The tech

Our PhysioMimix Core microphysiological system mimics human physiology like no other



Reliable tubeless microfluidics deliver biomechanical stimuli, oxygen and nutrients with no contamination risk and no daily maintenance requirement

Multi-chip consumable plate design is PDMS-free, familiar, cost-effective, scalable and accessible for seeding, dosing, and sampling

Organ and tissue-specific consumables provide perfused scaffolds for 3D model formation, or commonly used inserts for apical and basolateral tissue growth to recreate biological barriers

Multi-organ capability enables the connection of individual organs or tissues via microfluidics to study biological processes, disease mechanisms, inter-organ crosstalk, or toxicity

Adjustable intra- and inter-organ flow rates and flow types match physiological velocities when creating or customizing models and assays

Longer-term study capability with microtissue viability, function and phenotype maintained up to 4 weeks

Recirculating fluidic flow ensures secreted biomarkers are not diluted in an outlet reservoir, enabling clinical translatability

The widest range of endpoints enabled by large sample volumes (up to 1mL) and microtissue analysis to unlock deep mechanistic insights

Highest throughput capacity with up to 288 sample capacity per controller unit using Liver-48 plates, plus in-plate controls, and 7-point dose response curves in triplicate



What drives PhysioMimix development?

Our product pipeline is driven by market demand. Each product is precision engineered, thoroughly tested, and built to deliver robust scientific performance that meets your everyday practical needs.

5 reasons why PhysioMimix Organ-on-a-chip technology is like no other

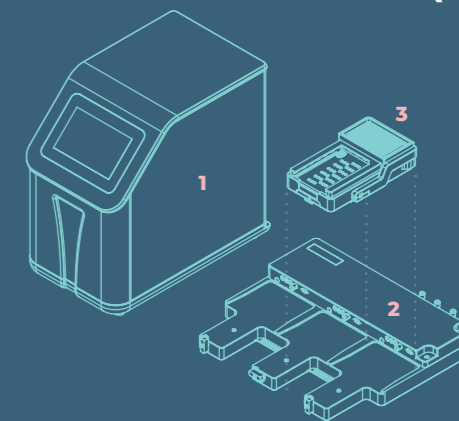
1. Compact benchtop system
2. Precise and controllable flow perfusion
3. High-content mechanistic insights
4. Bespoke consumables
5. Multi-chip plate design

Learn more at cn-bio.com/technology

PhysioMimix Core, ready for what's now and what's next

System components

1. Controller
2. Docking station(s)
3. Driver(s)



Technical specification
cn-bio.com/spec

Multi-chip plates

Customizable organ- and tissue-specific Multi-chip plates enable you to recreate human physiology and function more accurately



Familiar, accessible format

Easy transition from 2D to 3D culture



Air flow channels

Generate and recirculate microfluidic flow within the plate



More analyzable material

Large recoverable volumes of media and microtissue for deep mechanistic insights



PDMS-free

Reduce non-specific binding for result accuracy

Our plates are compatible with:

- ✓ Primary cells
- ✓ Induced-pluripotent stem cells
- ✓ Immortalized cell lines
- ✓ Circulating immune cells
- ✓ Precision-cut tissue slices
- ✓ Organoids



Learn more
cn-bio.com/plates

Liver-12 & -48 plates

MPS-LC12

MPS-LC48

Recreate 3D human liver tissues *in vitro* with PhysioMimix scalable Liver plates

PhysioMimix Liver plates enable primary human liver cells to be co-cultured in 3D using an engineered scaffold that mimics the architecture of the liver capillary bed.

Perfusion provides continuous oxygen and nutrients for long-term Liver-on-a-chip culture, maintaining cell phenotypes and functions for at least four weeks.

Liver-12 plate

Contains 12 wells, each designed to offer the deepest insights into drug or disease mechanism of action.

Liver-48 plate

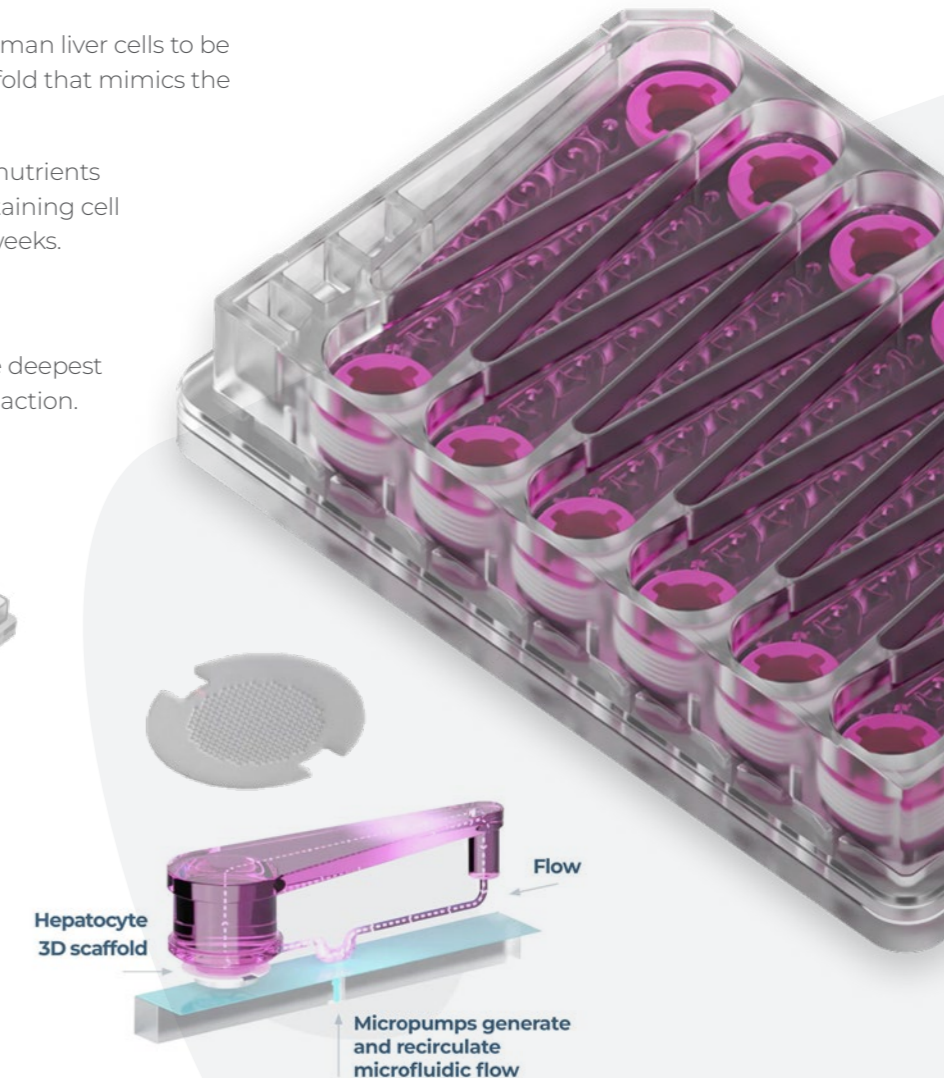
Contains 48 wells, each designed to reduce cost/sample. The plate increases throughput capabilities and confidence in comparative drug studies



Organ models



Liver



Barrier plate

Generate more physiologically relevant barrier models *in vitro* with the PhysioMimix Barrier plate

PhysioMimix Barrier plates enable primary human cells to be cocultured on the apical and basolateral sides of a Transwell® insert to recreate biological barrier models.

Epithelial and endothelial cells can be cultured at an air-liquid interface (ALI) or immersed in media. Recirculating flow perfusion on the basolateral side recreates a physiologically relevant microenvironment within each of the plate's 12 wells.

This provides a continuous supply of oxygen and nutrients for long-term culture and creates 3D-like biological barrier tissue. This more closely resembles *in vivo* morphology and integrity compared to static cultures.

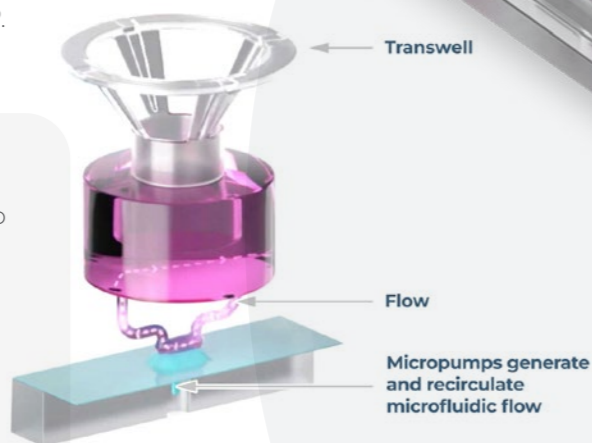
These plates accommodate standard 0.33cm² Transwell inserts so that you can easily transfer existing static models into perfused cell culture.

Barrier plates are also compatible with other commercial inserts such as, MucilAir®, EpiSkin® and RepliGut®.

Organ models

Including, but not limited to

- Gut
- Lung
- Kidney



MPS-T12

Dual-organ plate

Investigate organ-to-organ crosstalk with our PhysioMimix Dual-organ plate

PhysioMimix Dual-organ plates combine Barrier and Liver-12 plate capabilities into one, enabling two independently cultured *in vitro* barrier or organ models to communicate via recirculating fluidic flow.

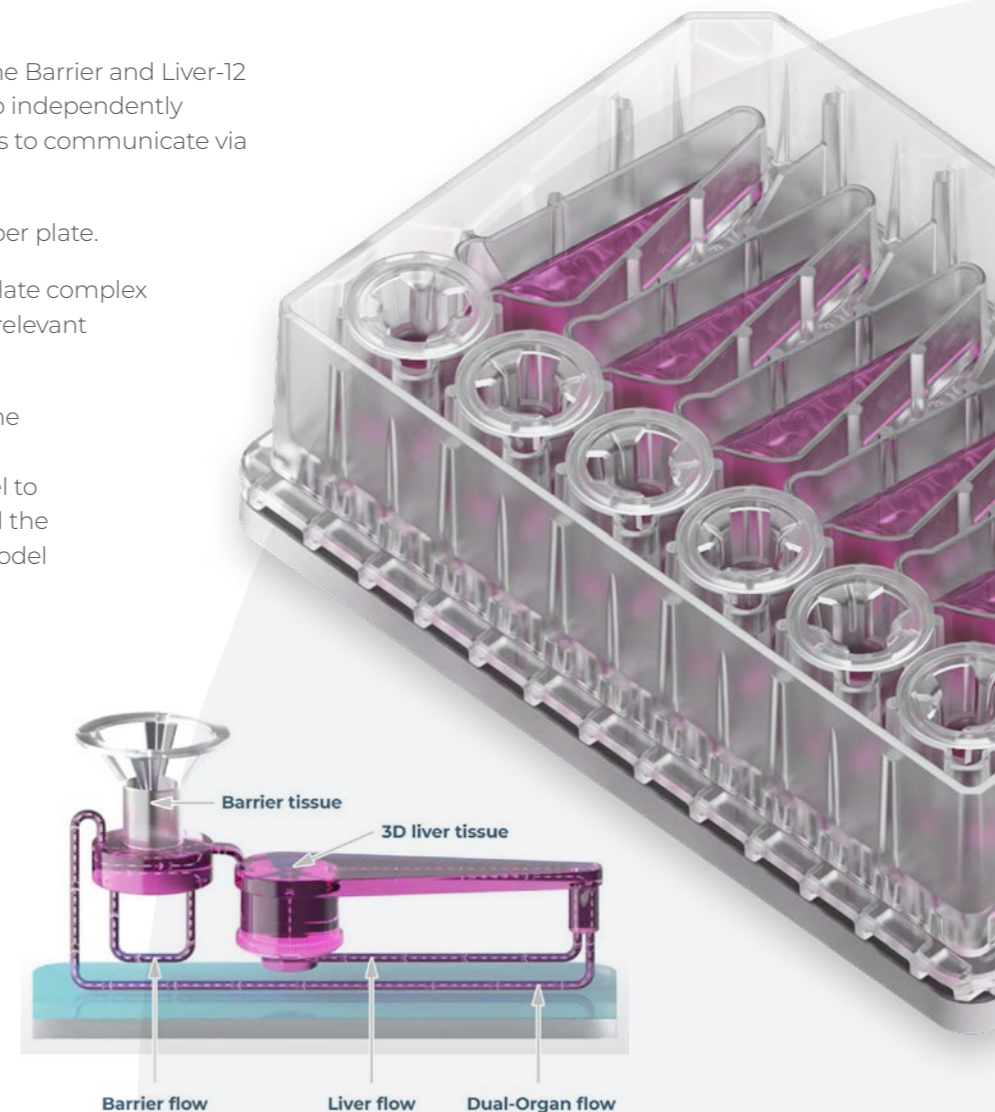
Six dual-organ models can be created per plate.

Dual-organ models accurately recapitulate complex human processes, providing a human-relevant alternative to the use of animals.

Our plates are compatible with the same commercial inserts as the Barrier plate. We have optimized our Gut/Liver model to utilize primary human hepatocytes and the RepliGut®-Planar Jejunum intestinal model from Altis Biosystems.

Organ models

- Liver ↔ Gut
- Liver ↔ Lung

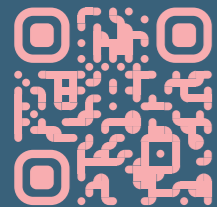


MPS-TL6

Views from the bench

PhysioMimix's robustness, reliability and enhanced performance over traditional approaches is FDA-recognized.

PhysioMimix data has informed several regulatory filings, including metabolic liver disease.



Explore the PhysioMimix Core system and its capabilities further by visiting our website visit [cn-bio.com](https://www.cn-bio.com)



Using the PhysioMimix® System is really straightforward; with a little practice, any tissue culture scientist can master the skills needed for Organ-on-a-chip (OOC) assays

Dr. Déborah Lenart

Research Scientist, Charles River Laboratories

I think that the PhysioMimix system will become a “must-have” piece of equipment for labs focussing on liver pathophysiology and tissue-to-tissue interactions.

Michele Vacca, MD PhD

Clinician Research Associate at the Institute of Metabolic Science, University of Cambridge

In my experience, you don't need any specialized skills beyond standard tissue culture. The PhysioMimix system is now very much a plug-and-play instrument. When I started, the legacy liver chip required more manual construction, but now everything arrives ready to use. As long as you know how to maintain sterile tissue culture, you're good to go!

Amanda Clark, Ph.D.

Research Assistant Professor, Department of Pathology, University of Pittsburgh



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