Precision. Automation.
The beginning of Innovation

LOCAT ™

One-stop multi-organ automated culture system

A breakthrough solution, LOCAT™-W and the LOCAT™-S , designed to build complex multi-organ cell models and automate drug testing with precision and long-term inter-organ fluid circulation.

CellNBetter, Inc.

Next-generation in organ-on-a-chip, LOCAT™ (Long-term Organ Culture Automation & Testing)

The LOCAT™ platform includes LOCAT™ W, a ready-to-use kit for simultaneous multi-organ cell culture, and LOCAT™ S, an automated system that circulates culture fluid over extended periods while performing scheduled sampling. This advanced system expands possibilities in life science research by supporting drug efficacy and toxicity testing, personalized drug screening with patient-derived cells, and studies on rare and complex diseases.

LOCAT™

Delivers Precision and Efficiency in Every Test.

Proven Long-Term Performance

Reliable Testing for 90+ Days Fully automated workflow—minimizing user intervention while maximizing efficiency

Redefining Efficiency

Ready to Use Test Kits Instantly deployable—no setup, no hassle. Open and start testing right away.
Advanced Automation Systems End-to-end automation powered by custom-built equipment for seamless execution.

Validated Results You Can Trust

Controlled Environment. Reliable Results. Automation removes human error, enabling consistent results.
AI-Driven Advanced Analysis Designed for high-throughput testing—enabling advanced AI to generate accurate data

Customized solution

Modular Test Portfolio for Organ- and Disease-Specific Needs Flexible test models you can configure to fit your needs.
Tailored Testing Solutions Fully customizable protocols tailored to your research or therapeutic targets.

Cost-Effective Performance

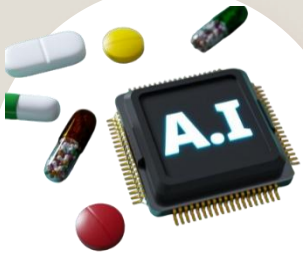
Remarkable Cost Efficiency with LOCAT™-S labor cost savings of approximately $150K to $190K over 5 years.
Outstanding Stability of LOCAT™-W Ready to use kits with long shelf life—ideal for mass production and streamlined distribution

LOCAT™ Series , Innovative Testing solution

LOCAT™ (Multi-Organ Automated Culture System) is a groundbreaking platform that automates multi-organ and tissue culture, as well as drug response evaluation, by replicating complex biological environments. It significantly enhances research efficiency and reproducibility—unlocking new frontiers in biomedical innovation.

Bioink-preloaded
Sample plates

Specialized system for
media circulation

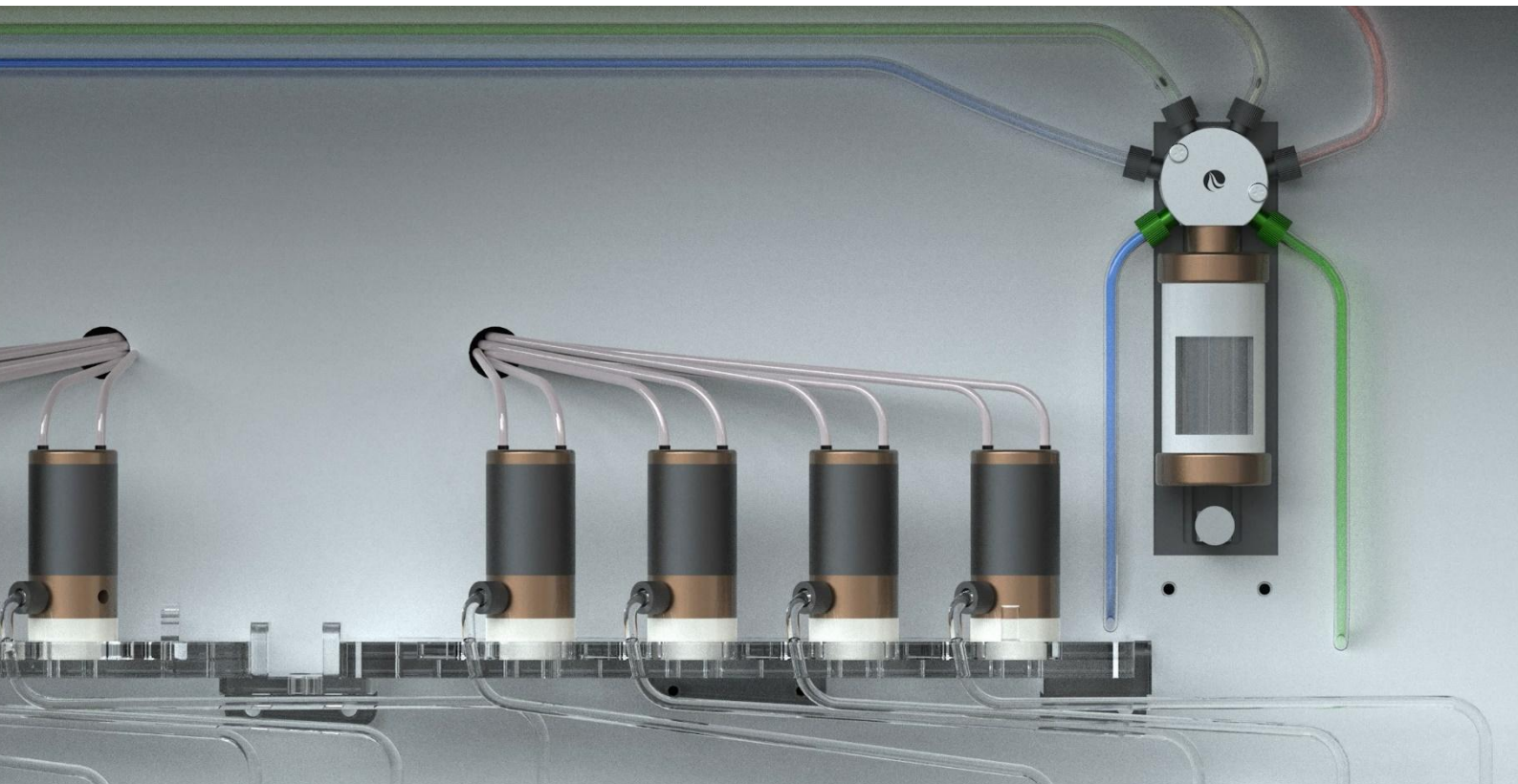


AI-powered
drug efficacy evaluation

Key Feature 1

Automated Drug Injection

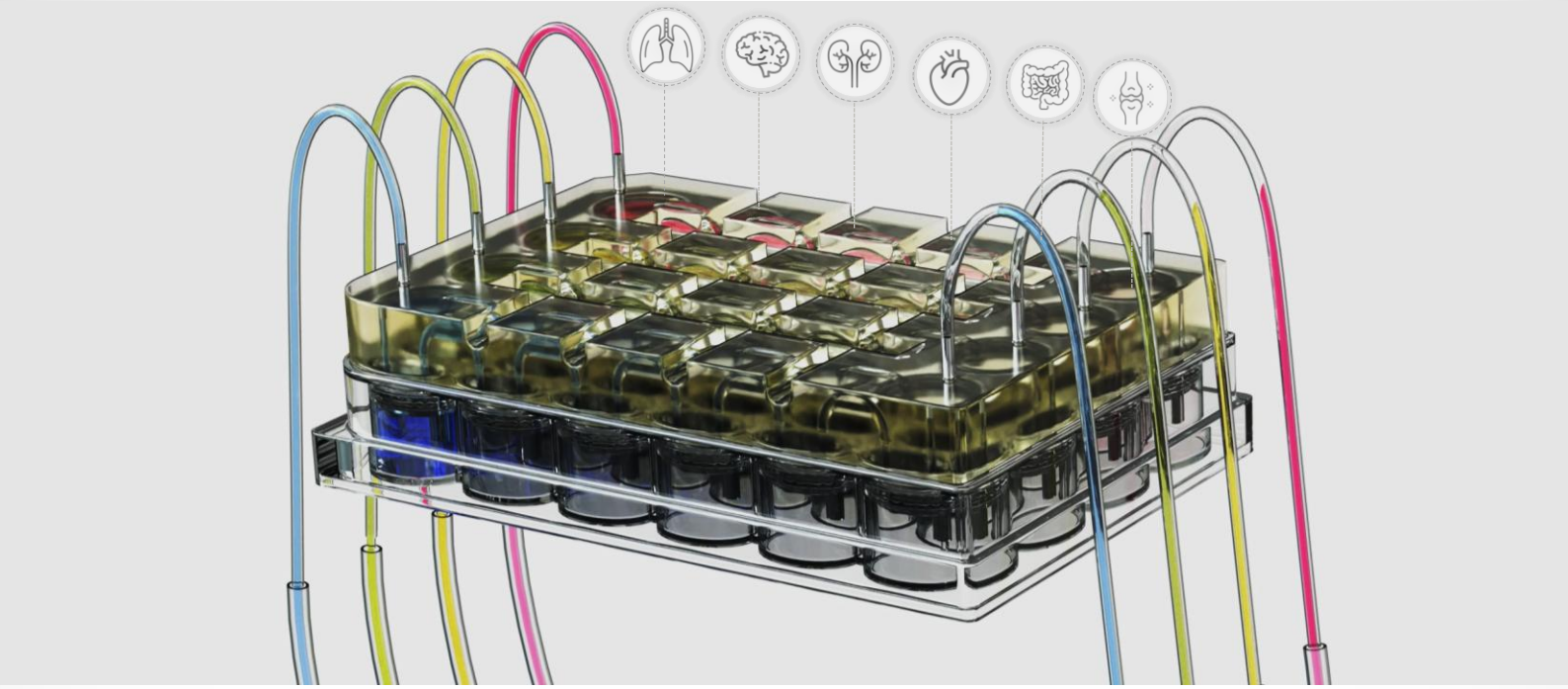
Precise, Automated Drug Delivery
Multi-Channel Processing
Comprehensive, Multi-Dimensional Drug Response Analysis.



Key feature 2

Biomimetic Perfusion

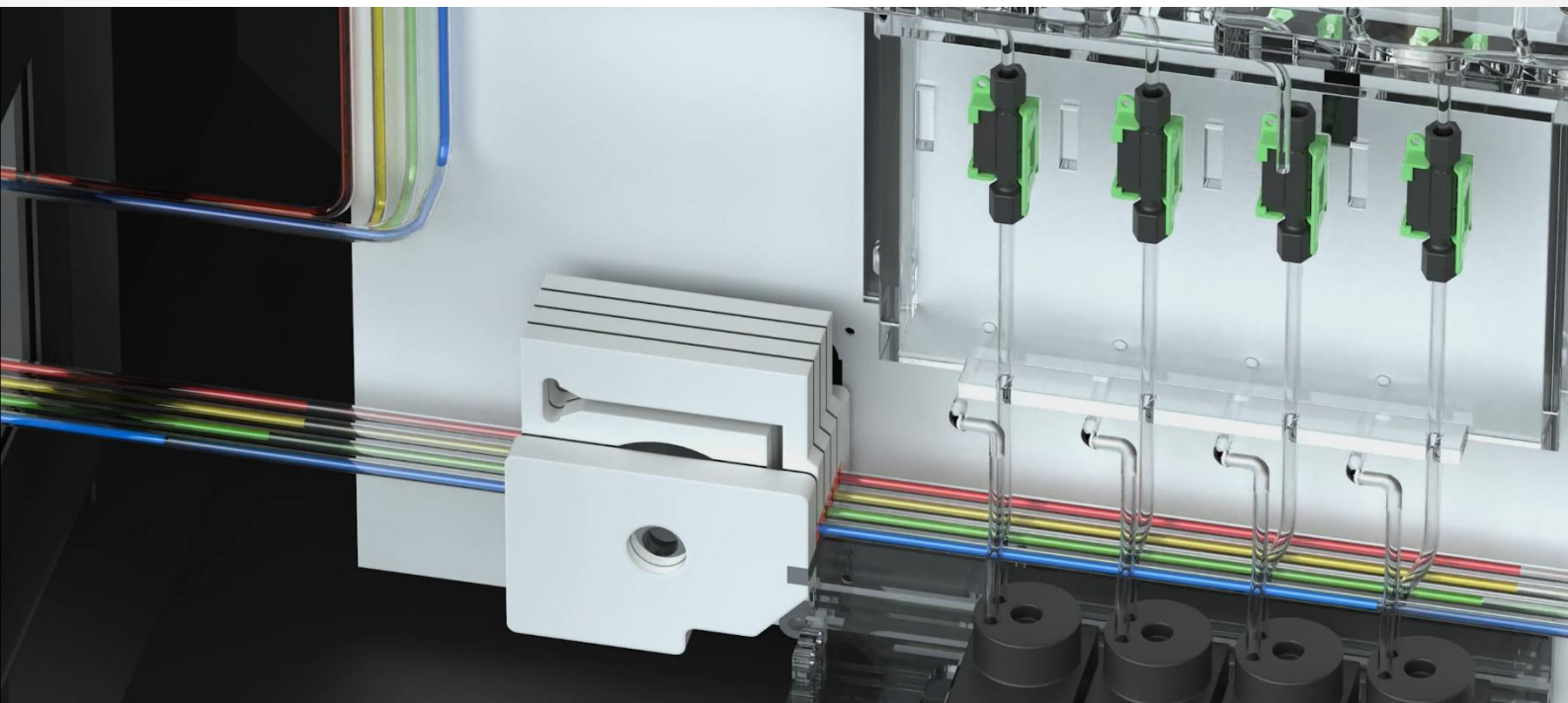
Microfluidic-Based Continuous Medium Circulation (Four Independently Operated Sets Support Six-Organ Arrays)
Efficient Nutrient Supply & Waste Removal
Biomimetic Culture Conditions for Improved Cell Functionality



Key feature3

Automated Sampling

Automatic Sample Collection of Culture Media at Specified Times
Simplified Process & Improvement of Data Quality
Real-Time Monitoring of Cell Responses to Drugs Throughout Long-Term Studies

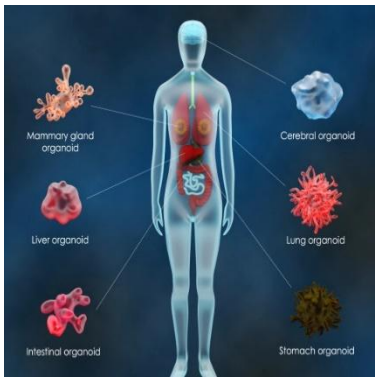


Applications & Services

Automated and High-Throughput Cell Culture

[Target Performance]
- Automated cultivation of multiple cells or tissues (total 24-well)
- Runs user-defined protocols

[Applications]
- Drug efficacy and toxicity testing with organoids and 3D cell samples
- Real-time monitoring of cell activity, viability, and functional indicators



Inter-Organ Interaction (Organ axis)

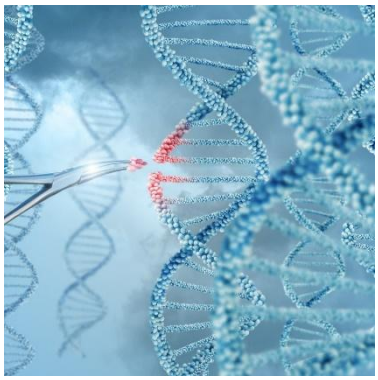
[Target Performance]
- Multi-organ interactions (e.g. gut–liver–brain and gut–kidney–bone axes).
- Integrated analysis for material exchange, signaling pathway, and immune responses across organs

[Applications]
- Real-time sample analysis for drug metabolites during long-term studies
- Disease modeling including metabolic syndrome, chronic diseases, and cancer metastasis

Precision Medicine

[Target Performance]
- Personalized drug response assessment using patient-derived cells
- Allow samples loading with minimal amounts of patient-derived bioink.

[Applications]
- Screening precise biomarkers for each individual
- Tailored drug screening



Models for Rare and Genetic Diseases

[Target Performance]
- Inherited rare disease characterized by multiple organ systemic dysfunction
- A mechanistic interpretational model based on multi-organ connectivity

[Application]
- Marfan syndrome, Fabry disease, Alagille syndrome, Hunter syndrome, etc.

Technical Detail – IP portfolio

Technical Requirements	Category	Title	Reference
Culture plate	Paper	Hydrogel-incorporating unit in a well: 3D cell culture for high-throughput analysis	*Lab on a chip,* 2018
	Patent	Three-dimensional cell culture container	KR 10-1847044, 2018 US 16/645,539, 2020 CN 201780094660.2, 2020 EP 17924352.2, 2020
	Tech-Transfer	3 dimensional cell culture plate	(주)*****, 2018, 2020
	Patent	Led irradiation device, hydrogel photo-crosslinking method, and drug efficacy evaluation method using the same	KR 10-2023-0149832, 2023
	Patent	Method and Apparatus for Screening Osteoporosis Drug Based on Image Analysis of Bone Tissue Mimetics	KR 10-2531759, 2023
	Thesis	A long-term storable gel-laden chip composite built in a multi-well plate enabling in situ cell encapsulation for high-throughput liver model	*Biofabrication,* 2024
	Patent	Composite hydrogel-scaffold support manufacturing method and composite hydrogel-scaffold support prepared accordingly	KR 10-2655286, 2024
Multi-Organ culture Equipment	Patent	Multi-organ culture system	KR 10-2024-003513, 2024
AI Analysis Platform	Patent	Bone disease drug screening method and apparatus using bone tissue mimic image analysis	KR 10-2648746, 2024
	Paper	Brain Drug Toxicity/Efficacy Screening	*Lab Chip,* 2018
	Paper	Evaluation and screening of bone osteoporosis drugs	*Bioeng. Transl. Med.*, 2023

Specifications & Options

LOCAT™-W 24-well plate, uniform pore size in freeze-dried gel(100~ 300 μm), Retains optimal quality for 3 months
LOCAT™-S

- Each of four independent channels can culture up to six tissue samples.
- Flow rate is adjustable from 100 to 500 μl/min.
- Main functions include drug injection, media circulation, and sample recovery.
- Automatic cleaning is built in.

Category	Product	Feature
Sample Kit*	LOCAT-W (COL)	24-well Bioink Loaded well plate (collagen)
	LOCAT-W (Liver)	24-well Bioink Loaded well plate (Liver ECM)
	LOCAT-W (Bone)	24-well Bioink Loaded well plate (Bone ECM) - 'Scheduled'
	LOCAT-W (Kidney)	24-well Bioink Loaded well plate (Kiney ECM) - 'Scheduled'
	LOCAT-W (Brain)	24-well Bioink Loaded well plate (Brain ECM)) - 'Scheduled'
	LOCAT-W (Intestine)	24-well Bioink Loaded well plate (Fat ECM)) - 'Scheduled'
Culture Equipment**	LOCAT-S (ver '25)	Injection, culture, sampling
Other consumables	LOCAT-Module	Fluidic Full Connection Set
	LOCAT-VIS	Photocrosslinking System for Well Sample (Visible Light)- 'Scheduled'
	LOCAT-UV	Photocrosslinking System for Well Sample (UV)

Contact

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