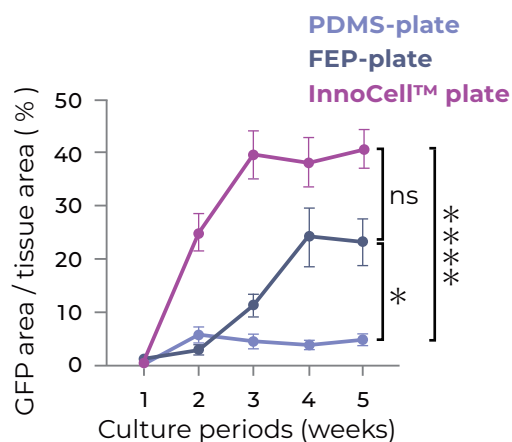


Additional Data 1

Culture of mouse testis tissue

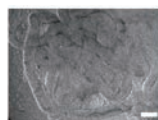
• Reference: Development of the membrane ceiling method for in vitro spermatogenesis. *Scientific Reports*, 15: 625, (2025).



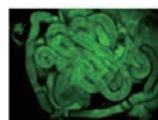
InnoCell™ plate
Image (5 weeks)

Scale bar : 100μm (White)

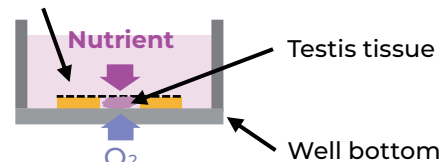
Bright field



GFP



Membrane ceiling (MC) chip



Conditions

[Tissue] GFP-tagged Acrosomes and RFP-tagged nuclei mice testis tissue
[Culture period] 5 weeks
[Plate type] InnoCell™ plate FP series (flat bottom)
Non-treated (N type)

InnoCell™ plate supports testis tissue culture and improves Acr-GFP expression compared with conventional oxygen-permeable plates.

Culture of PXB-mouse® liver slices

• Data provided by PhoenixBio Co., Ltd.

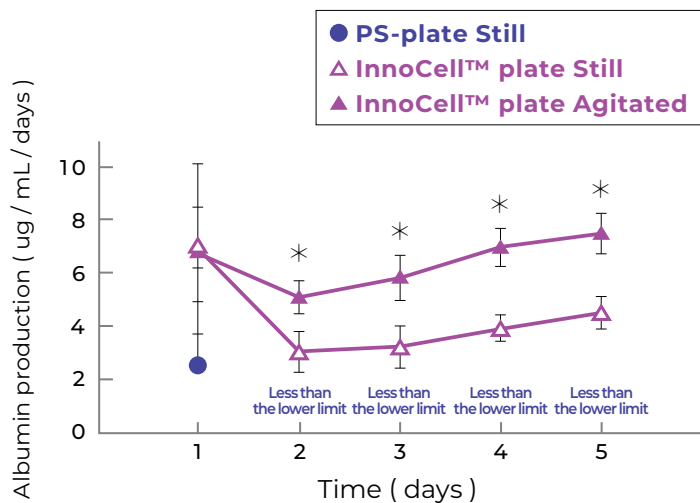
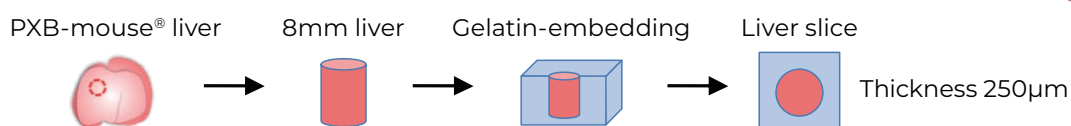
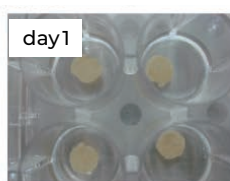


Image of liver slice in the plate



Conditions

[Slice] PXB-mouse® liver
[Plate type] InnoCell™ plate FP series (flat bottom)
Non-treated (N type)

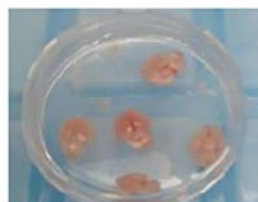
InnoCell™ plate even enables liver slices to maintain a high albumin production capacity for an extended period of time.

[Abbreviation] · PS : Polystyrene · FEP : Fluorinated Ethylene Propylene copolymer · PDMS : Poly (dimethylsiloxane) · COC : Cyclic Olefin Copolymer

Additional Data 2

FDSS / μ CELL Kinetic Plate Imager Analysis

• Data provided by HAMAMATSU PHOTONICS K.K.

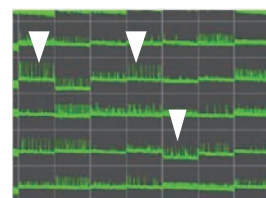


Rat cerebral cortex



Ca²⁺ dye

InnoCell™ plate



Ca²⁺ oscillation

Conditions

[Equipment] FDSS / μ CELL Kinetic Plate Imager
 [Tissue] Rat cerebral cortex
 [Culture period] 15 days
 [Plate type] InnoCell™ plate FP series (flat bottom)
 Non-treated (N type)

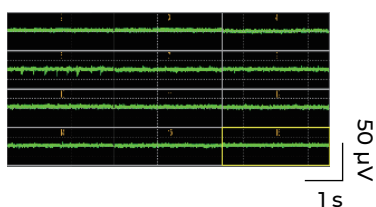
InnoCell™ plate enables good Ca²⁺ oscillations in tissue culture of rat cerebral cortex.

Enhanced spontaneous neuronal activity in brain organoids

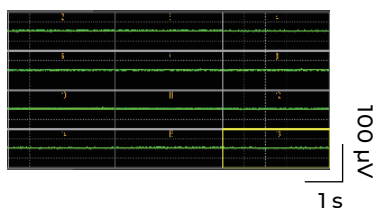
• Data provided by VitroVo, Inc.

PS-plate

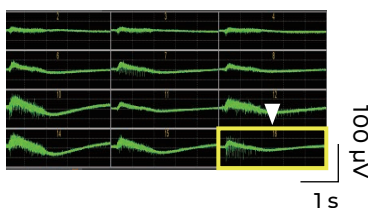
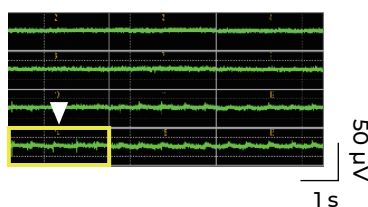
Cerebral organoid



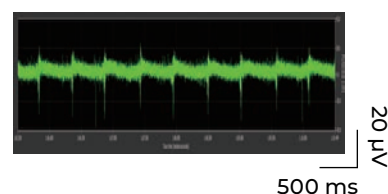
Midbrain organoid



InnoCell™ plate



▽ Zoomed-in view



Conditions

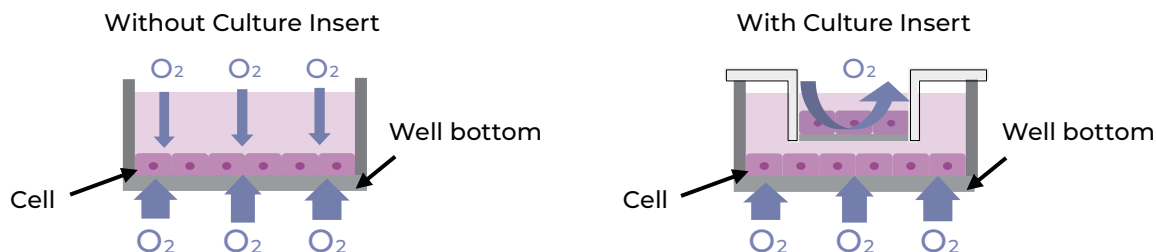
[Recording system] Presto (Alpha MED Scientific Inc.)
 [Culture period] 287 days
 [Plate Type] InnoCell™ plate FP series (flat bottom)
 Non-treated (N type)

Brain organoids on InnoCell™ plate shows high-amplitude and spontaneous electrophysiological activity.

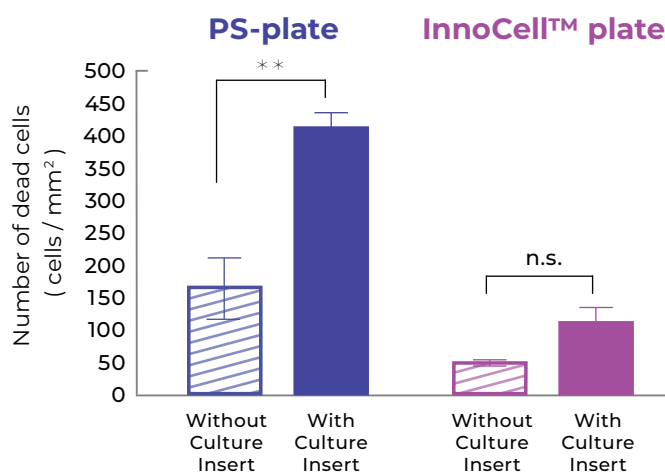
Additional Data 3

InnoCell™ plate Co-Culture System

• Reference: Enhanced Functionality of Human Hepatocytes using the Oxygen Permeable Culture Plate for Optimized Oxygen Supply in Co-culture Systems with Culture Inserts. *AATEX*, 29(2): 64-74, (2024).



Cell viability

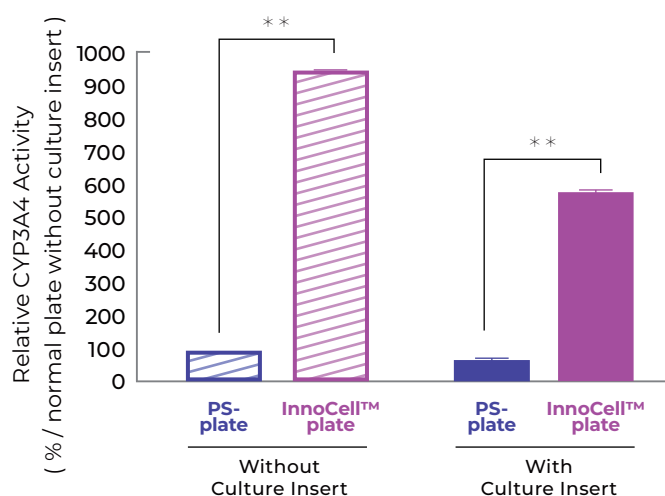


Conditions

[Cell] HepG2 cells
 [Culture period] 3 days
 [Plate type] InnoCell™ plate FP series (flat bottom)
 Collagen-coated (C type)

InnoCell™ plate stably supplies oxygen to cells at the bottom of wells even when using culture insert.

CYP3A4 metabolic activity



Conditions

[Cell] Hepa SH™ cells
 [Culture period] 7 days
 [Plate type] InnoCell™ plate FP series (flat bottom)
 Collagen-coated (C type)

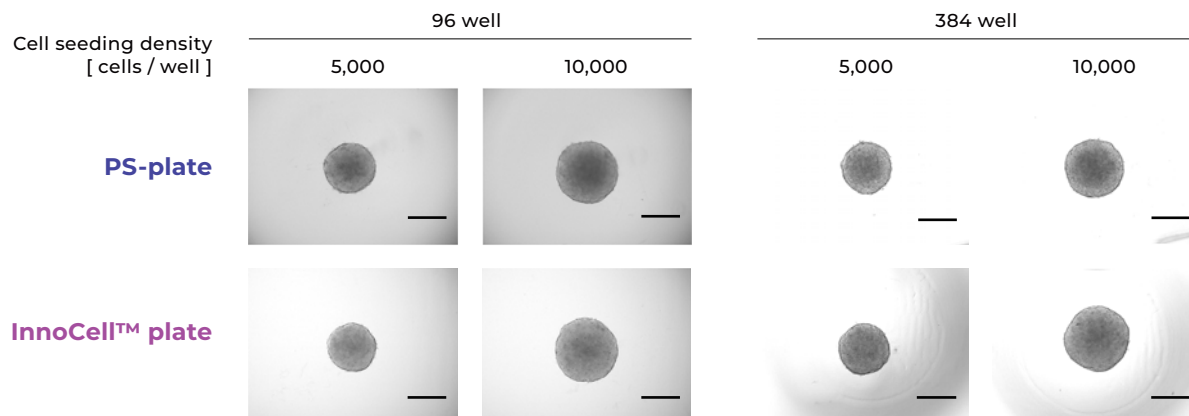
InnoCell™ plate maintains higher drug metabolism enzyme activity even if the culture insert is installed.

Additional Data 4

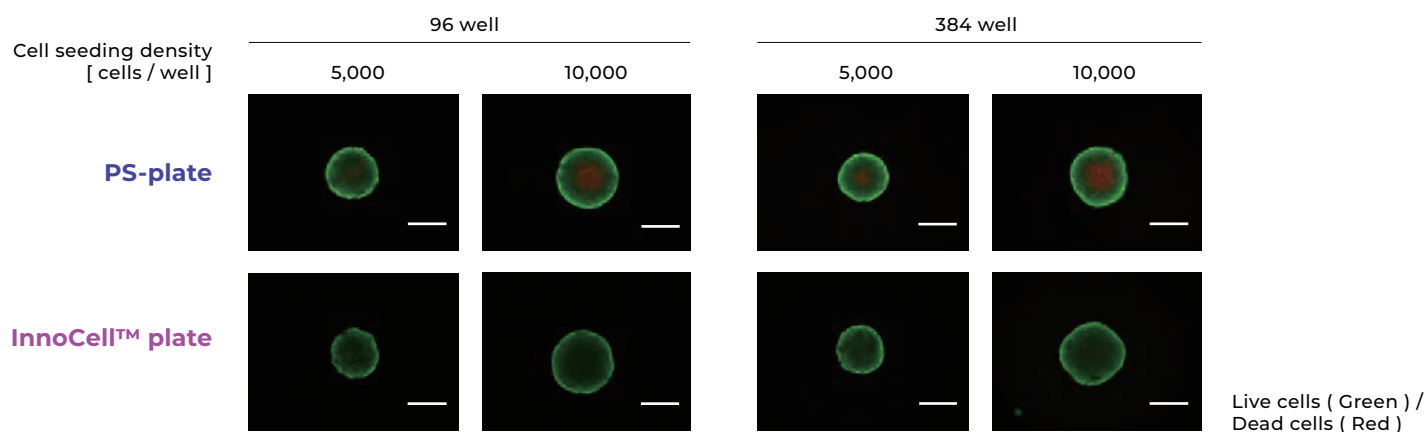
Spheroid formation and function using InnoCell™ plate 3D series

• Data obtained by Mitsui Chemicals

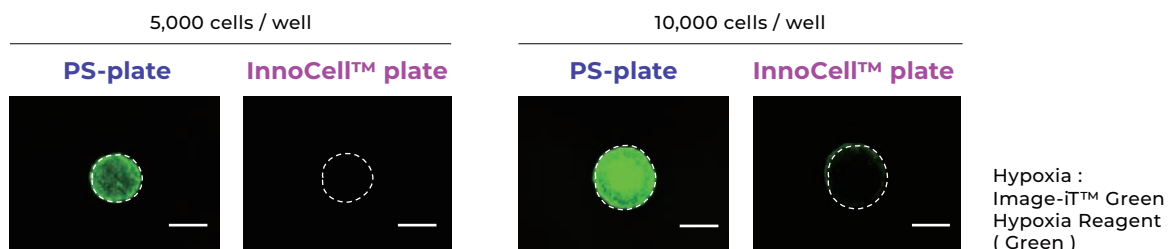
Spheroid formation (Bright Field)



Spheroid viability



Spheroid hypoxic condition (96 well)



Scale bar : 400μm

Conditions

[Cell] TFK-1

[Culture period] 3 days

[Plate type] InnoCell™ plate 3D series

InnoCell™ plate is applicable to for spheroid formation even with a higher cell seeding density. Moreover, InnoCell™ plate improves spheroid viability, with suppression of central necrosis and reducing hypoxia in large spheroids.

Additional Data 5

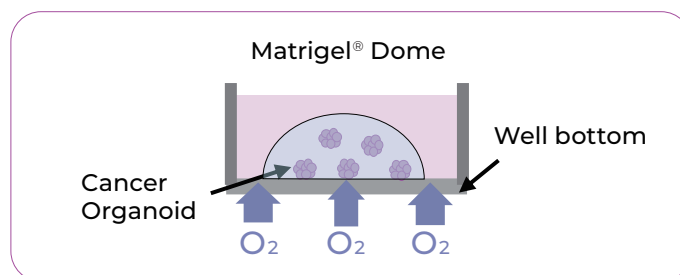
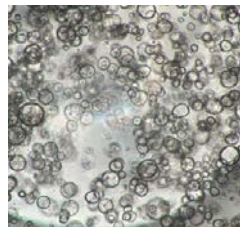
Matrigel® culture for cancer organoids

• Data provided by Dr. Hiratsuka, Osaka International Cancer Institute

PS-plate



InnoCell™ plate



Conditions

[Tissue] Human pancreatic cancer
 [Culture period] 8 days
 [Plate type] InnoCell™ plate FP series (flat bottom)
 Non-treated (N type)

InnoCell™ plate enables rapid and effective proliferation of organoids derived from pancreatic cancer patients.

Oxygen concentration within Matrigel® dome

• Data obtained by Mitsui Chemicals

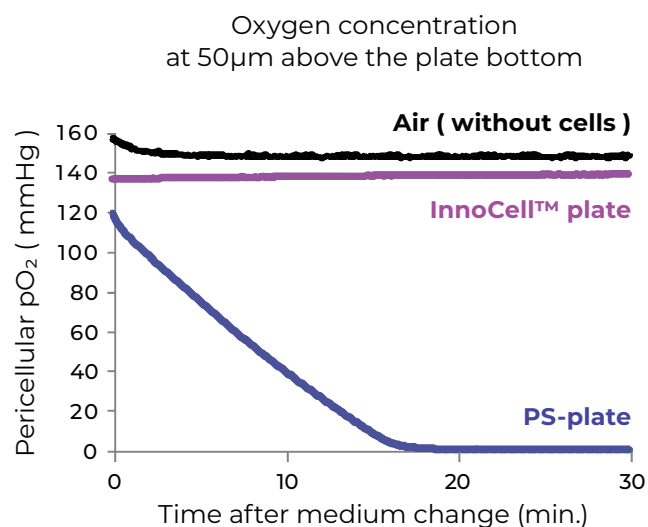
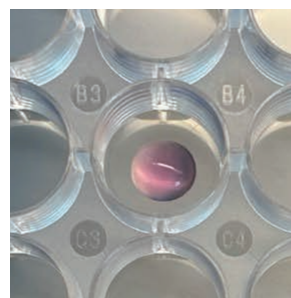


Image of Matrigel®
dome in 24 well



Conditions

[Cell] HepG2 cells
 [Seeding density] 3.0×10^5 cells / 80 μL Matrigel®
 [Culture period] 3 days
 [Equipment] Optical oxygen sensor
 [Plate Type] InnoCell™ plate FP series (flat bottom)
 Treated (P type)

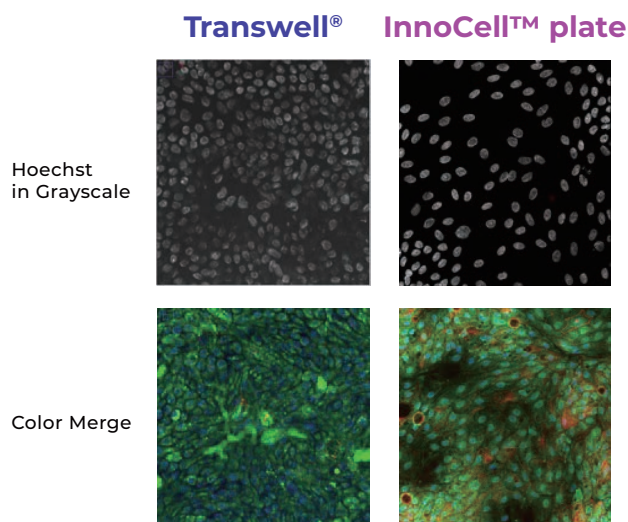
InnoCell™ plate maintains oxygen concentration within Matrigel® domes by efficient oxygen supply. This is expected to support the study of organoids and other Matrigel-based 3D culture systems.

Additional Data 6

High-content Imaging

• Data provided by Dr. Sexton, University of Michigan Medical School

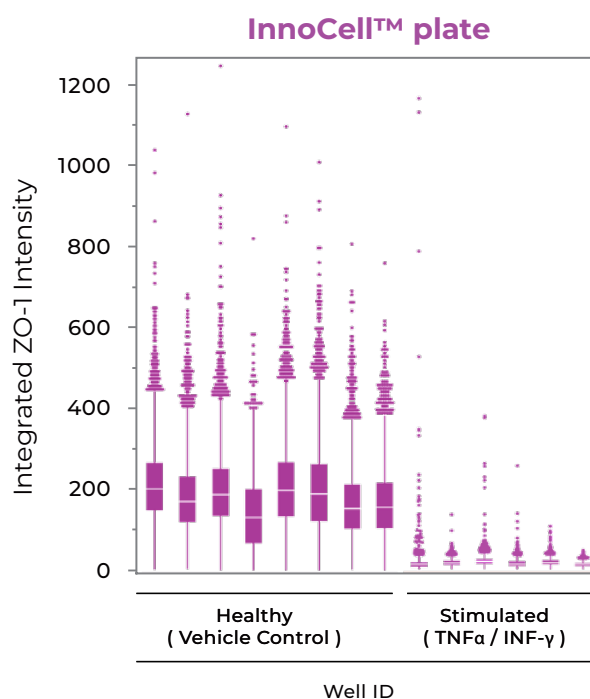
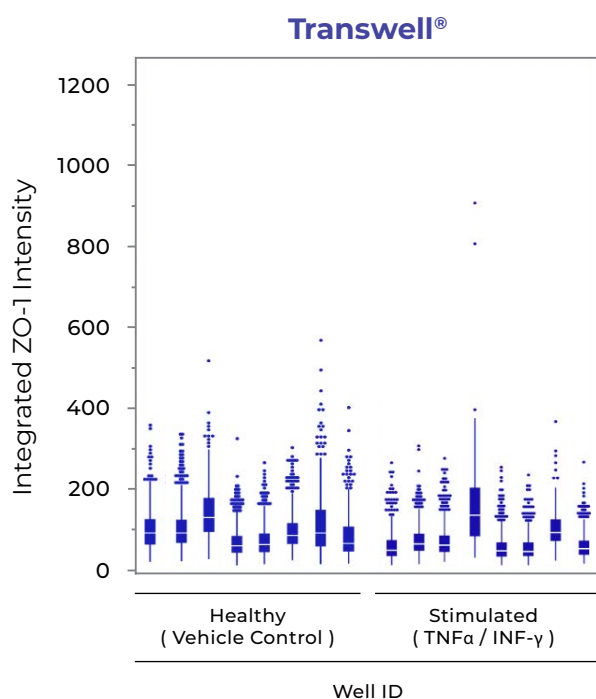
Image quality



Nucleus : Hoechst (Blue)
Tight junction : ZO-1 (Red)
Entire Cell : HCS CellMask™ (Green)

InnoCell™ plate supports robust cell-cell tight junction formation to provide gut barrier model. Low autofluorescence of InnoCell™ plate enables clear delineation of nuclei for high-content imaging.

Gut barrier inflammation response



Conditions

[Equipment] CellVoyager™ CV8000
[Cells] Primary human colonoids
[Culture period] 6 days
[Plate type] InnoCell™ plate FP series (flat bottom)
treated (P type)

InnoCell™ plates enable in vitro gut barrier formation and high-content imaging of clear response for modeling of inflammatory cytokine-induced gut barrier disruption.

[Abbreviation] · PS : Polystyrene · FEP : Fluorinated Ethylene Propylene copolymer · PDMS : Poly (dimethylsiloxane) · COC : Cyclic Olefin Copolymer