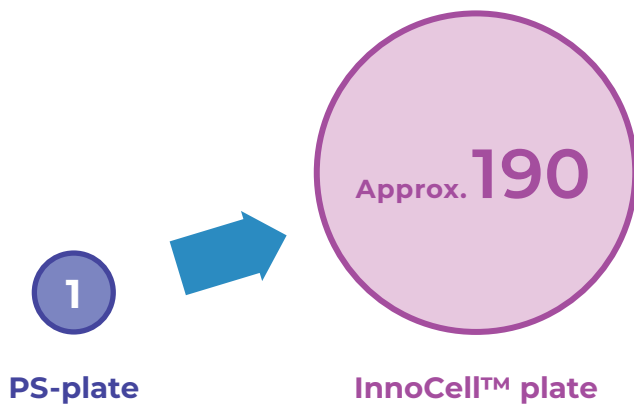


Oxygen Permeability Control

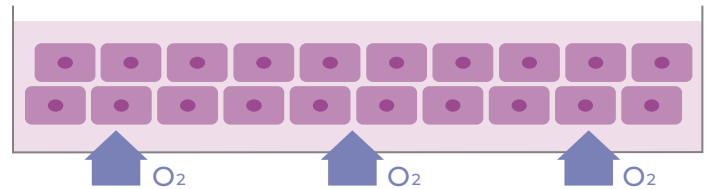
Mitsui Chemicals' original material × Precision processing technology

• Data obtained by Mitsui Chemicals

Relative Comparison of Oxygen Permeability



Efficient oxygen supply from the culture bottom



Conditions

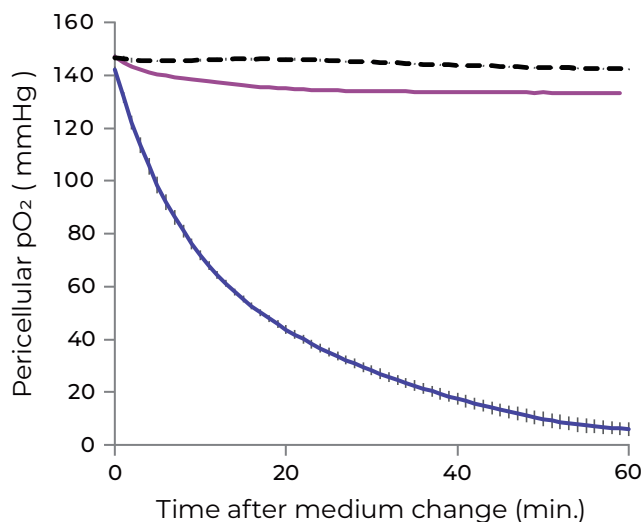
[Plate type] InnoCell™ plate FP series (flat bottom)

Utilizing Mitsui Chemicals' original material × precision processing technology, InnoCell™ plate can supply approximately 190 times more oxygen to cells compared to conventional polystyrene plates.

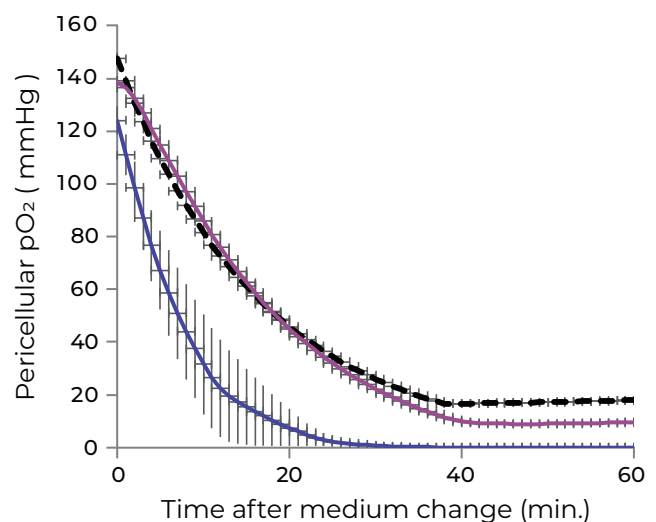
Changes in oxygen concentration near cells

• Data obtained by Mitsui Chemicals

20% O₂ concentration in incubator



3% O₂ concentration in incubator



■ PS-plate ■ InnoCell™ plate ■ Medium only (without cells)

Conditions

[Cell] Frozen rat hepatocytes
 [Number of seedings] 1.0×10^5 cells / cm²
 [Culture period] 1 day
 [Plate type] InnoCell™ plate FP series (flat bottom)
 Collagen-coated (C type)

InnoCell™ plate can precisely reflect the setting oxygen concentration of the incubator.

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



Oxygen Permeability Control 2

High-density culture of frozen rat hepatocytes

• Data obtained by Mitsui Chemicals

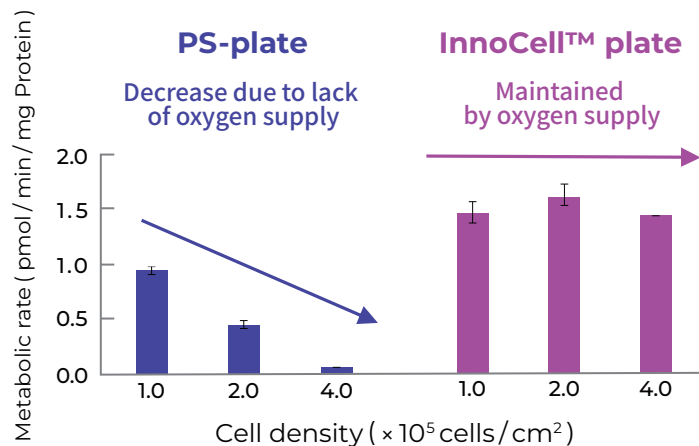
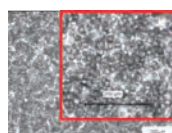
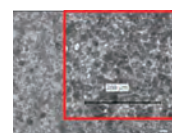


Image (4.0×10^5 cells/cm²)



PS-plate



InnoCell™ plate

Conditions

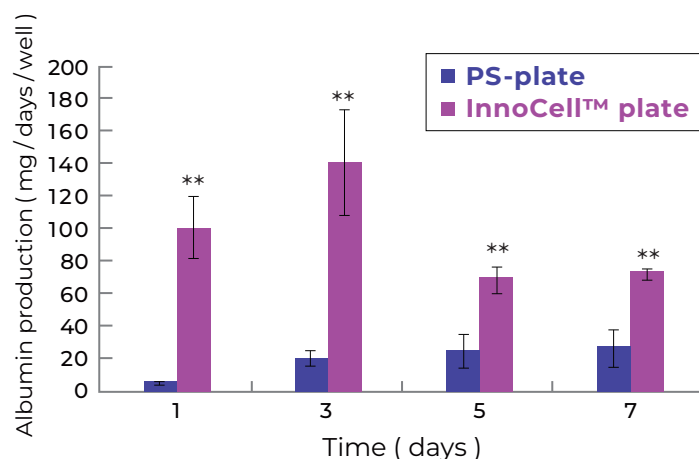
[Cell] Frozen rat hepatocytes
[Culture period] 1 day
[Plate type] InnoCell™ plate FP series (flat bottom)
Collagen-coated (C type)

InnoCell™ plate can be cultured hepatocyte at high density while maintaining metabolic activity.

Culture of primary rat hepatocytes

• Data provided by Dr. Sakai, Dr. Nishikawa, The University of Tokyo

• Reference: Accurate Evaluation of Hepatocyte Metabolisms on a Noble Oxygen-Permeable Material With Low Sorption Characteristics. *Front. Toxicol.*, 4: 810478, (2022).



Conditions

[Cell] Primary rat hepatocytes
[Seeding density] 1.0×10^5 cells/cm²
[Plate type] InnoCell™ plate FP series (flat bottom)
Collagen-coated (C type)
[Incubator oxygen concentration]
PS-plate : 20% InnoCell™ : 10%

InnoCell™ plate enables primary rat hepatocytes to maintain a high albumin production capacity for an extended period of time.



Oxygen Permeability Control 3

Culture of PXB-mouse® liver slices

• Data provided by PhoenixBio Co., Ltd.

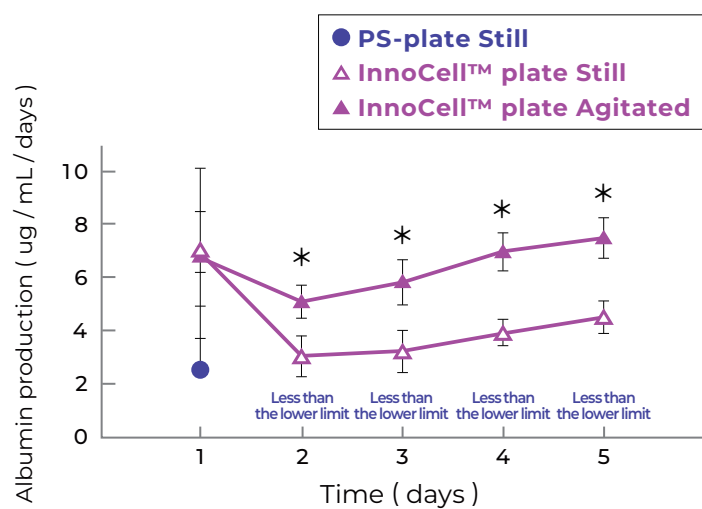
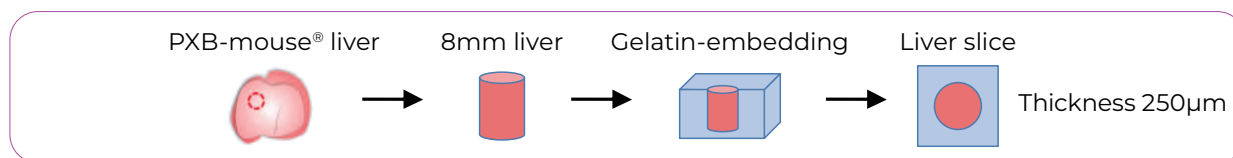


Image of liver slice in the plate



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.