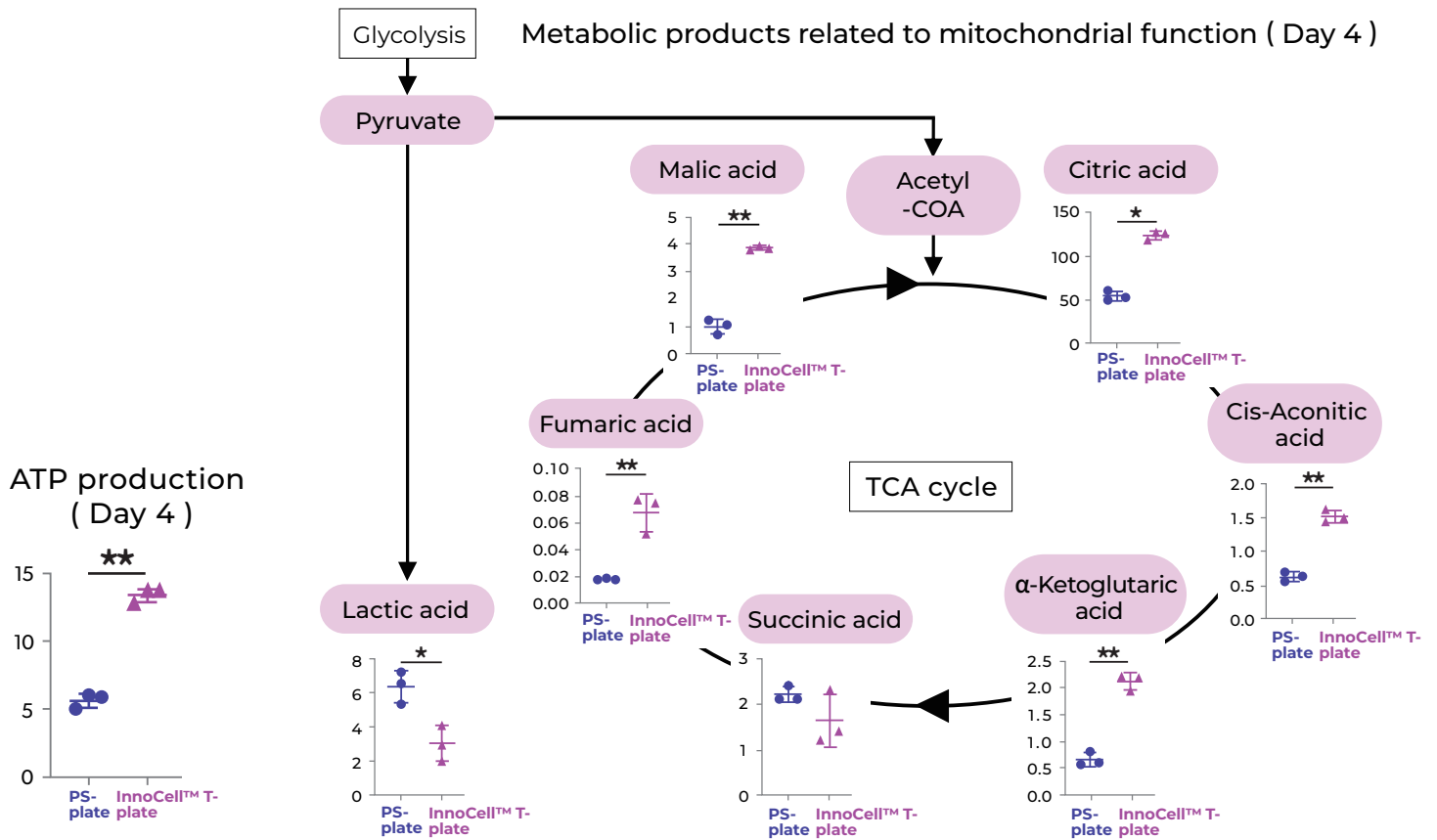
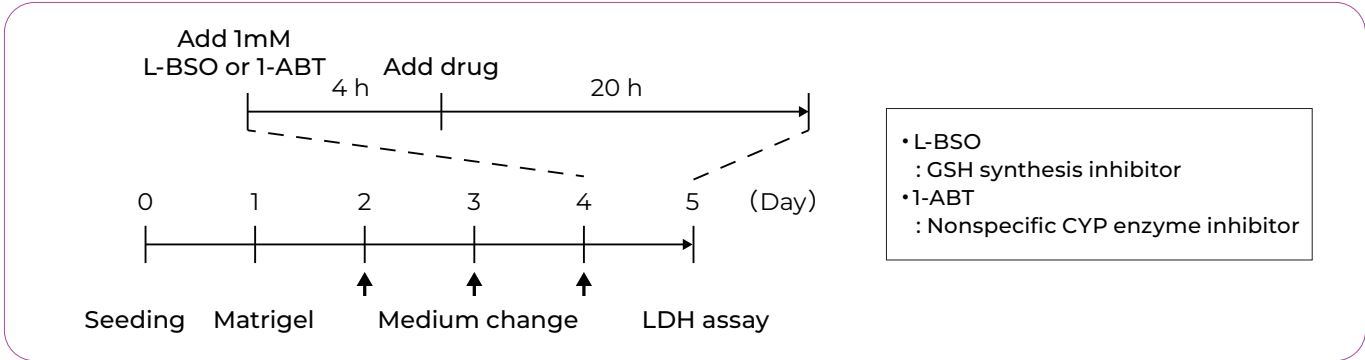


# Drug Discovery Research

## Example assay using primary rat hepatocytes (1/2)

• Data provided by Dr. Takemura, Chiba University

• Reference : New in vitro screening system to detect drug-induced liver injury using a culture plate with low drug sorption and high oxygen permeability. *Drug Metabolism and Pharmacokinetics*, 52: 100511, (2023).



**Conditions**

- [ Animal ] Male Sprague Dawley rat
- [ Seeding density ]  $1.25 \times 10^5$  cells / cm<sup>2</sup>
- [ Plate type ] InnoCell™ T-plate FP series ( flat bottom )
- Collagen-coated ( C type )

InnoCell™ T-plate has been shown to shift energy production of rat hepatocytes from the glycolytic system to the TCA cycle.

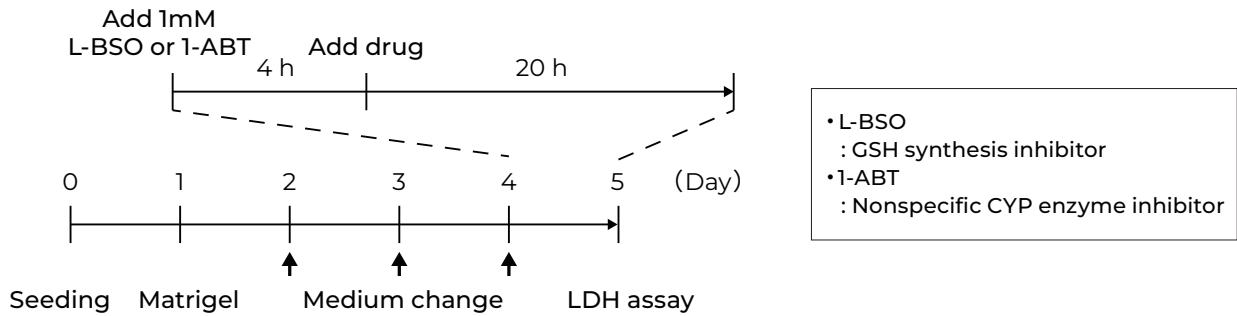
[ Abbreviation ] · PS : Polystyrene · PDMS : Poly ( dimethylsiloxane ) · FEP : Fluorinated ethylene-propylene

## Drug Discovery Research 2

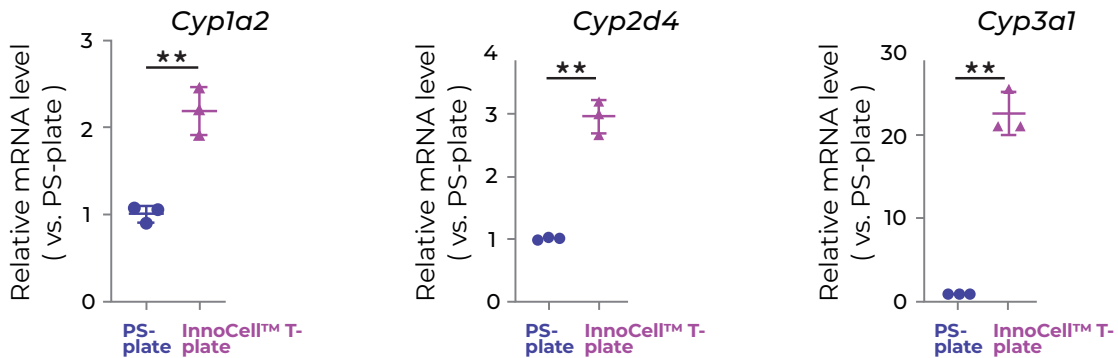
### Example assay using primary rat hepatocytes ( 2 / 2 )

• Data provided by Dr. Takemura, Chiba University

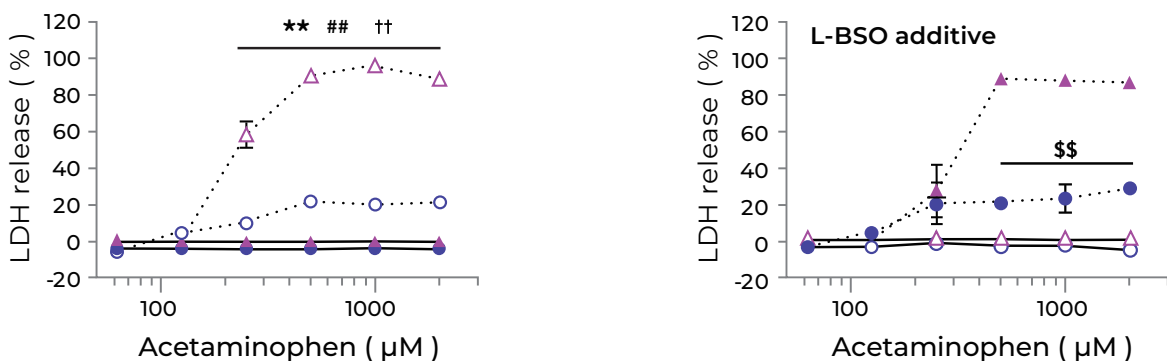
• Reference : New in vitro screening system to detect drug-induced liver injury using a culture plate with low drug sorption and high oxygen permeability. *Drug Metabolism and Pharmacokinetics*, 52: 100511, (2023).



### CYP gene expression ( Day 4 )



### Hepatocellular damage ( Acetaminophen )



L-BSO not added : ● PS-plate | ▲ InnoCell™ T-plate  
 L-BSO Added : ○ PS-plate | △ InnoCell™ T-plate

1-ABT not added : ● PS-plate | ▲ InnoCell™ T-plate  
 1-ABT Added : ○ PS-plate | △ InnoCell™ T-plate

Using InnoCell™ T-plate, hepatocellular cytotoxicity due to acetaminophen was increased in the presence of L-BSO and attenuated by adding 1-ABT. Hepatocellular cytotoxicity caused by reactive metabolites may be detected with high sensitivity.

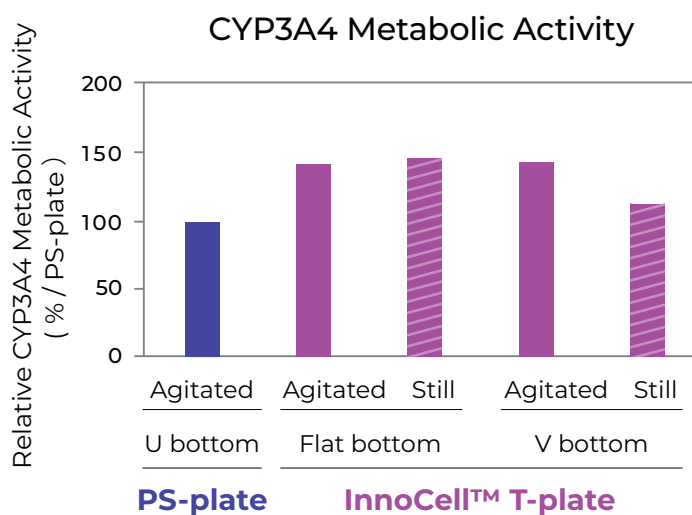
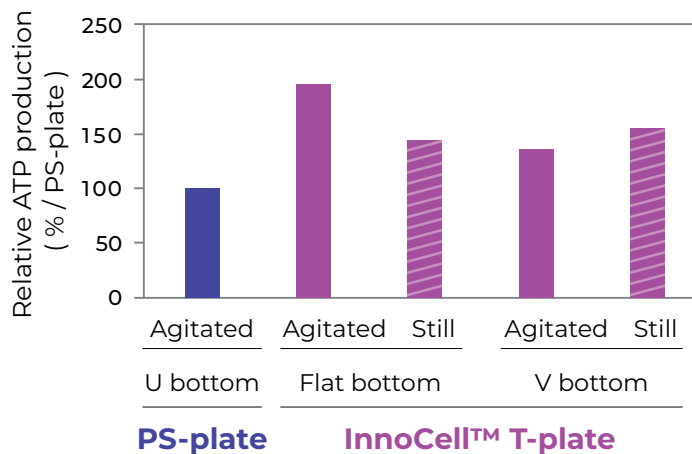
[ Abbreviation ] · PS : Polystyrene · PDMS : Poly ( dimethylsiloxane ) · FEP : Fluorinated ethylene-propylene

### Drug Discovery Research 3

#### Example assay using human 3D liver buds

• Data provided by Cyfuse Biomedical K.K.

#### ATP production amount



#### Conditions

[ Cell ] Same company Human 3D liver buds

[ Culture period ] 6 days

[ Plate type ]

- InnoCell™ T-plate FP series ( flat bottom )  
Non-treated ( N type )
- InnoCell™ T-plate FV series ( V bottom for 3D culture )

InnoCell™ T-plate maintained higher ATP production and CYP3A4 metabolism in human 3D liver buds.

[ Abbreviation ] · PS : Polystyrene · PDMS : Poly ( dimethylsiloxane ) · FEP : Fluorinated ethylene-propylene