Human iPSC-Derived Liver Organoid Expansion and Maintenance Kit

Human iPSC-Derived Liver Organoid Expansion and Maintenance Kit
Cat. No. : RIPO-RWM010

Product Description

Liver organoids are three-dimensional *in vitro* models with a cellular composition and structural organization that are representative to the human liver. Human iPSC-Derived Liver Organoid Expansion and Maintenance Kit (Cat. No. RIPO-RWM010) allows long-term expansion and maintenance of the liver organoids.

Product Specification

The basic medium of this kit is a serum-free, well-defined medium with minimal batch variation to which differentiation factors are added. This medium does not contain antibiotics, the addition of which may affect organoid maintenance.

Product Information

Name	Component #	Size	Storage	Shelf Life
Liver organoid Basal medium MM	RIPO-RWM010-C01	225 ml	4°C	Stable for 1 years from date of manufacture (MFG) on label
Liver organoid Supplement MM-1	RIPO-RWM010-1-C01	20 ml	-20°C	Stable for 1 years from date of manufacture (MFG) on label
Liver organoid Supplement MM-2	RIPO-RWM010-1-C02	5 ml	-20°C	Stable for 1 years from date of manufacture (MFG) on label

Materials Required but Not Included

- Ultra-Low Adherent 96-well Plate
- Ultra-Low Adherent 6-well Plate

Equipment Required

- Incubator (37°C, 5% CO_2)
- Low-speed Centrifuge (with a swinging bucket rotor and an adaptor for plate holders)
- Orbital Shaker (any brand, 2 cm shaking dimeter)
- Biosafety Cabinet

Protocol Diagram

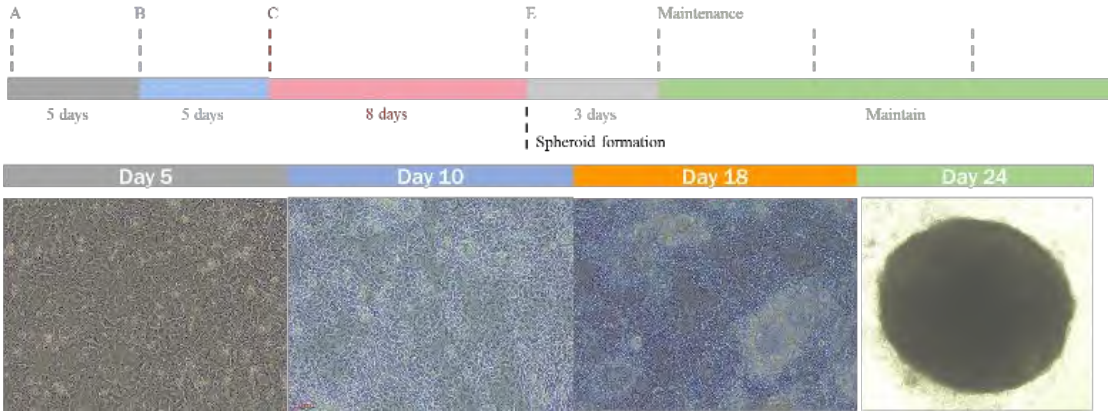


Figure 1. Liver Organoid Differentiation Process

The color differs for each component of the differentiation kit. The dashed line represents the time of medium changes. Morphology of liver organoid at each stage of differentiation could be observed.

Media Preparation

Use sterile technique when performing the following manipulations:

Medium	Component	Volume	IN-USE STORAGE/STABILITY
Liver Medium MM (250 ml)	Liver organoid Basal medium MM	225 ml	Mix completely the Liver organoid Basal medium MM, Liver organoid Supplement MM-1, and Liver organoid Supplement MM-2 to get Liver Medium MM. Store at 2 – 8 °C for up to 2 weeks or aliquot as desired.
	Liver organoid Supplement MM-1	20 ml	
	Liver organoid Supplement MM-2	5 ml	

Note: Please do not heat the complete medium (mixture of basal medium and supplement). Use it directly as cold as 2-8 °C.

Directions for Use

Please read the entire protocol before proceeding.

Use sterile technique when performing the following protocols.

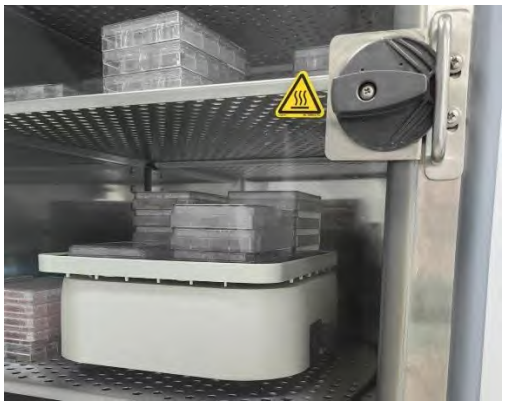
Note: This kit only serves for the expansion and maintenance of liver organoids. For the differentiation of liver organoid, please use Human iPSC-Derived Liver Organoid Differentiation Kit (Cat. No. RIPO-RWM009K).

Liver Organoid Expansion and Maintenance

Case A: If you are using this kit following the differentiation kit.

1. Make sure that all liver organoids are transferred into ultra-low adherent 6-well plate (can put 2-4 organoids per well depending on the size of organoid).

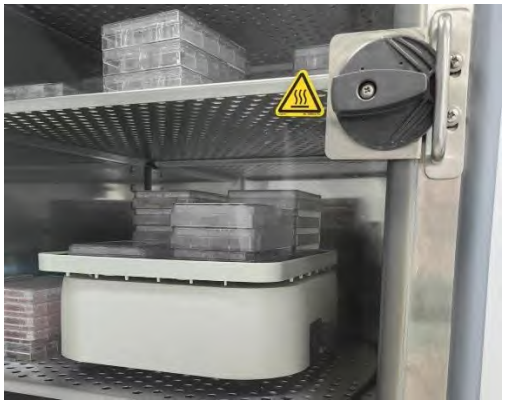
2. Make sure the plates are placed on an orbital shaker (as shown in the figure), which is placed inside the incubator (37 °C, 5% CO_2) with the speed of 100 rpm.



3. Aspirate all medium in the wells and add 5 ml **Liver Medium MM** per well.
4. Change the **Liver Medium MM** fully every 3 days with the volume of 5 ml.

Case B: If you are using this kit for purchased live liver organoids.

1. Make sure that all liver organoids are transferred into ultra-low adherent 6-well plate (can put 2-4 organoids per well depending on the size of organoid).
2. Make sure the plates are placed on an orbital shaker (as shown in the figure), which is placed inside the incubator (37°C, 5% CO_2) with the speed of 100 rpm.



3. Aspirate all medium in the wells and add 5 ml **Liver Medium MM** per well.
4. Change the **Liver Medium MM** fully every 3 days with the volume of 5 ml.

Related Products

Product	Cat. No.
Human iPSC-Derived Liver Organoid Differentiation Kit	**RIPO-RWM009K**
Ready-to-use Human iPSC-Derived Liver Organoids	**CIPO-RWL005K**