

Ready-to-use Human iPSC-Derived Cardiac Organoids

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Cat. No. : CIPO-HWL002K

Description

Cardiac organoids are three-dimensional in vitro models with a cellular composition and structural organization that is representative of the human heart. Human iPSC-Derived Cardiac Organoids are differentiated from human iPSCs (ATCC-HYR0103) using Human iPSC-Derived Cardiac Organoid Differentiation Kit (Catalog No#: RIPO-HWM002K). Differentiation was carried out by forming EBs from PSC at an ultra-low attachment interface, and then changing the medium according to the instructions. A spontaneously beating cardiac organoid with a cavity can be seen between days 9 and 13 of the onset of differentiation. Cardiomyocytes, key cellular component of cardiac organoid, are responsible for the beating of the cardiac organoids. The beating rate of the formed cardiac organoids increases dramatically when stimulated with isoproterenol or forskolin, and there is a linear relationship between the concentration of the drug and the beating rate over a range of concentrations.

Product Specification

The live organoids are ready-to-use organoids that are delivered in shipping medium and must go through a 48-hour recovery process according to instruction.

| | |
|-----------------|-------------------------------|
| Origin | Human iPSC (ATCC-HYR0103) |
| Property | Suspension |
| Incubation | 37 °C with 5% CO ₂ |
| Biosafety Level | 1 |

Product Information

| Name | Shipment | Storage |
|----------------------------------|-----------|------------------------------------------------------------|
| Live cardiac organoids | 4 ~ 25 °C | Please recover the live organoid immediately upon receipt. |
| Cardiac organoid recovery medium | 4 ~ 25 °C | Please use immediately upon receipt. |

Materials Required for Organoid Culture

- Ultra-Low Adherent 6 Well plate
- Human iPSC-Derived Cardiac Organoid Maintenance Kit (Cat. RIPO-HWM004)

Equipment Required

- Incubator (37°C, 5% CO₂)
- Orbital shaker (20 mm shaking diameter)
- Biosafety cabinet

Recovery

- Add 5 ml cardiac organoid recovery medium to each well of 6 Well Ultra-Low Attachment Plate.
- Transfer the live cardiac organoid in the 6 Well Ultra-Low Attachment Plate with 24 organoids per well. Please try to avoid transferring the shipping medium along with the organoid into the well.
- Put the plate on an orbital shaker (as shown figures) with the speed of 100 rpm. Incubate at 37°C, 5% CO₂ for 48 h.



Culture

- After 48 h of recovery, change the recovery medium in each well to 5ml Cardiac organoid maintenance medium (Cat. RIPO-HWM004) per well
- Keep the plate an orbital shaker (as shown figures) with the speed of 100 rpm. Incubate at 37°C, 5% CO₂.
- Full-medium change every 3 days.

Note: Organoids cannot be passaged.

Related Products

| Product | Cat. No. |
|-----------------------------------------------------|-------------|
| Human iPSC-Derived Cardiac Organoid Maintenance Kit | RIPO-HWM004 |