STEMdiff™ Cardiomyocyte Dissociation Kit

For dissociation of hPSC-derived cardiomyocytes

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Catalog #05025 1 Kit

Product Description

STEMdiff™ Cardiomyocyte Dissociation Kit includes STEMdiff™ Cardiomyocyte Dissociation Medium and STEMdiff™ Cardiomyocyte Support Medium. STEMdiff™ Cardiomyocyte Dissociation Medium can be used to harvest cardiomyocytes that have been differentiated from human pluripotent stem cells (hPSCs) using STEMdiff™ Cardiomyocyte Differentiation Kit (Catalog #05010) and maintained in STEMdiff™ Cardiomyocyte Maintenance Medium (Catalog #05010/05020). STEMdiff™ Cardiomyocyte Support Medium reduces stress on these cardiomyocytes during harvesting and replating, maintaining their viability and functional capacity for downstream applications and analyses.

Product Information

The following components are sold as a complete kit (Catalog #05025). STEMdiff™ Cardiomyocyte Support Medium (Catalog #05027) is also available for individual sale.

COMPONENT NAME	COMPONENT #	SIZE	STORAGE	SHELF LIFE
STEMdiff™ Cardiomyocyte Dissociation Medium	05026	50 mL	Store at -20°C.	Stable for 12 months from date of manufacture (MFG) on label.
STEMdiff™ Cardiomyocyte Support Medium	05027	250 mL	Store at -20°C.	Stable for 12 months from date of manufacture (MFG) on label.

Preparation of Media

Thaw STEMdiff™ Cardiomyocyte Dissociation Medium and Support Medium at room temperature (15 - 25°C) or overnight at 2 - 8°C. Mix thoroughly.

NOTE: If not used immediately, store at 2 - 8°C for up to 1 month.

Directions for Use

Please read the entire protocol before proceeding. Use sterile techniques when performing the following protocols.

The following instructions are for dissociation of hPSC-derived cardiomyocytes that have been maintained in STEMdiff™ Cardiomyocyte Maintenance Medium in one well of a 12-well plate. Dissociation can be performed as early as Day 15 of differentiation/maintenance.

1. Wash each well to be harvested with 1 mL of D-PBS (Without Ca++ and Mg++; Catalog #37350).
2. Aspirate the wash and add 1 mL/well of Cardiomyocyte Dissociation Medium.
3. Incubate at 37°C and 5% CO_2 for 10 - 12 minutes.
4. Add 2 mL of Cardiomyocyte Support Medium per well. Dislodge cells by pipetting up and down 2 - 4 times using a 10 mL pipette.
   Critical: Do not use a smaller-bore pipette tip at this step, as this may result in significant cell death.
5. Immediately transfer cells from one well to a tube containing 3 mL of Cardiomyocyte Support Medium.
6. Centrifuge at 300 x *g* for 5 minutes. Remove and discard supernatant.
7. Gently resuspend cell pellet with 1 - 2 mL Cardiomyocyte Support Medium.
8. Perform a cell count using Trypan Blue (Catalog #07050) and a hemocytometer.
9. Single-cell hPSC-derived cardiomyocytes are now ready for standard assays or replating. For further details, refer to the Product Information Sheet for STEMdiff™ Cardiomyocyte Support Medium (Document #DX21694).