

# 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<sub>2</sub> 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).

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