STEMdiff™ Cardiomyocyte Support Medium

Medium for thawing and culturing hPSC-derived cardiomyocytes

STEMCELL™ TECHNOLOGIES
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Catalog #05027 250 mL

Product Description

STEMdiff™ Cardiomyocyte Support Medium is a versatile medium that limits stress on human pluripotent stem cell (hPSC)-derived cardiomyocytes when transitioning from cryopreservation to thawing and from harvesting to replating of hPSC-derived cardiomyocytes. After thawing or replating, the functional capacity of hPSC-derived cardiomyocytes is retained and cells can be used in various downstream applications and analyses. The hPSC-derived cardiomyocytes can be further maintained long-term using STEMdiff™ Cardiomyocyte Maintenance Kit (Catalog #05020).

Product Information

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

Materials Required But Not Included

PRODUCT NAME	CATALOG #
Corning® Matrigel® hESC-Qualified Matrix	Corning 354277
STEMdiff™ Cardiomyocyte Maintenance Kit • STEMdiff™ Cardiomyocyte Maintenance Basal Medium • STEMdiff™ Cardiomyocyte Maintenance Supplement (50X)	05020
Trypan Blue	07050

Directions for Use

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

A. THAWING hPSC-DERIVED CARDIOMYOCYTES

Frozen hPSC-derived cardiomyocytes should be thawed and plated onto Corning® Matrigel®-coated cultureware. For coating plates with Corning® Matrigel®, refer to the Technical Manual: Maintenance of Human Pluripotent Stem Cells in mTeSR™1 (Document #28315) or TeSR™-E8™ (Document #DX20809) available at www.stemcell.com or contact us to request a copy.

For storage, stability, and preparation instructions for STEMdiff™ Cardiomyocyte Maintenance Medium, refer to the corresponding Product Information Sheet (Document #DX21496), available at www.stemcell.com or contact us to request a copy.

1. Coat a 12-well tissue culture plate with Corning® Matrigel® hESC-Qualified Matrix and bring to room temperature (15 - 25°C) for at least 1 hour prior to use.
2. Thaw STEMdiff™ Cardiomyocyte Support Medium at room temperature (15 - 25°C) or overnight at 2 - 8°C. Warm to room temperature.
3. Thaw hPSC-derived cardiomyocytes in a 37°C water bath by gently shaking the cryovial continuously until only a small frozen cell pellet remains.
4. Add 5 - 7 mL of STEMdiff™ Cardiomyocyte Support Medium to a 15 mL conical tube (e.g. Catalog #38009).
5. Using a 2 mL pipette, gently transfer the contents of the cryovial to the tube from step 4.
6. Centrifuge the cells at 300 x *g* for 5 minutes at room temperature (15 - 25°C).

7. Aspirate the supernatant and gently add 1 - 2 mL of STEMdiff™ Cardiomyocyte Support Medium to resuspend cells.
8. Perform a cell count using Trypan Blue and a hemocytometer.

B. CULTURING hPSC-DERIVED CARDIOMYOCYTES

1. Aspirate Corning® Matrigel® from a pre-coated 12-well tissue culture plate (from section A step 1). Add 2 mL of STEMdiff™ Cardiomyocyte Support Medium per well.
2. Add cells at a density appropriate for downstream assays or other applications. Incubate at 37°C for 24 hours.
3. Remove medium and add 2 mL of STEMdiff™ Cardiomyocyte Maintenance Medium per well. Incubate at 37°C.
4. Every 2 days, perform a full medium change with 2 mL of STEMdiff™ Cardiomyocyte Maintenance Medium per well.