

BMEM Cryopreservation

Ships at room temperature

Catalog number: 1005

100 mL



Product Description

BMEM Cryopreservation is a ready-to-use, highly optimized, chemically defined, animal component-free, cryopreservation solution for freezing human induced pluripotent stem cells (hiPSCs) and hiPSC-derived cells such as cardiomyocytes.

BMEM Cryopreservation contains an optimized concentration of cryopreservation agents and a BMEM-based buffered solution for optimal cell survival during cryopreservation. BMEM Cryopreservation has been extensively tested for compatibility with hiPSC and hiPSC-derived cells.

BMEM Cryopreservation is recommend for use with hiPSC cultured in BMEM Human Primed Pluripotent (1001) and BMEM Max Pluripotent (1004), and hiPSC-derived cardiomyocytes cultured in BMEM Protein-Free Cardiomyocyte Differentiation Kit (1003).

BMEM Cryopreservation is compatible with thawing on to a variety of culture matrices, including: Corning® Matrigel® GFR, Gibco™ Geltrex™ GFR, R&D Systems™ Cultrex™ UltiMatrix GFR, SigmaAldrich® ECMatrix™-511 E8 Laminin, Gibco™ Recombinant Vitronectin, Corning® Synthemax II-SC, Acro Biosystems™ Human Laminin 521 Protein.

Each lot of BMEM Cryopreservation is performance tested on hiPSC.

Component Name	Size	Storage
BMEM Cryopreservation	100 mL	Store at 4 °C

Instructions for Use

BMEM Cryopreservation should be stored at 4 °C and does not need to be warmed prior to use.

Directions for Use – hiPSC

Freezing

- **Step 1**
Dissociate cells using normal dissociation solution (such as BMEM Dissociation, 1002) or TrypLE.
- **Step 2**
Transfer ~1 million cells (or 1 well of a 6-well plate) to a 15 mL conical tube and pellet.
- **Step 3**
Resuspend pelleted cells in 1 mL of BMEM Cryopreservation and transfer to a cryovial.
- **Step 4**
Place cryovials in a Corning CoolCell and place in a -80 °C freezer. After >2 hours transfer the vials to liquid nitrogen storage.

NOTE: Vials should remain at -80 °C for a maximum of 24 h to prevent reduction in viability after thaw.

Thawing

- **Step 1**
Add 5 mL of BMEM + ROCK inhibitor to a 15 mL conical tube.
- **Step 2**
Thaw the vial of hiPSCs in 37 °C water bath until only a sliver of ice remains.
- **Step 3**
Using a 5 mL serological pipette gently transfer the thawed cells to the conical tube, washing the vial using BMEM + ROCK inhibitor.
- **Step 4**
Gently mix the cells and solution then seed into a coated 6-well plate, placing 3 mL, 2 mL, and 1 mL (to which an additional 0, 1 mL, and 2 mL of BMEM + ROCK inhibitor should be added).

NOTE: This protocol is designed minimize mechanical damage to the cells post thaw. We do not recommend centrifuging the cells as this is unnecessary.

After 24 h, change the media to BMEM.

Directions for Use – hiPSC-derived Cardiomyocytes

Freezing

- **Step 1**
Dissociate cells using normal dissociation solution. Transfer the cells to a conical tube, count, and pellet.
- **Step 2**
Resuspend the cells to the desired concentration (typically 10-25 million per mL) in BMEM Cryopreservation and transfer to a cryovial.
- **Step 3**
Place cryovials in a Corning CoolCell and place in a -80 °C freezer. After >2 hours transfer the vials to liquid nitrogen storage.

NOTE: Vials should remain at -80 °C for a maximum of 24 h to prevent reduction in viability after thaw.

Thawing

- **Step 1**
For every 2 million cells place 1 mL of BMEM Cardiomyocyte Plating (1006) solution to a conical tube.
- **Step 2**
Thaw the vial of cardiomyocytes in 37 °C water bath until only a sliver of ice remains.
- **Step 3**
Using a 5 mL serological pipette gently transfer the thawed cells to the conical tube.
- **Step 4**
Gently mix the cells and solution then seed into coated 6-wells plates at 4 million cells per well.

NOTE: This protocol is designed minimize mechanical damage to the cells post thaw. We do not recommend centrifuging the cells as this is unnecessary.

After 48 h, change the media to BMEM Cardiomyocyte Maintenance Media supplemented with Insulin (5 µg/mL) and sodium selenite (20 ng/mL).

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Product Use

For Research Use Only.

Not for diagnostic procedures.