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Serum/Protein-Free Cell Freezing Medium (Low DMSO)

1 Packing list

Components	HY-K2012
Serum/Protein-Free Cell Freezing Medium (Low DMSO)	100 mL

2 Introduction

MCE Serum/Protein-Free Cell Freezing Medium (Low DMSO) is a complete ready-to-use cryopreservation medium. The product is a uniquely formulated, serum-free, protein-free and animal component-free, which can provide a safe, protective environment for cells during freezing, storage, and thawing process. The chemical composition of this product is clear, containing nutrients such as sugars, amino acids and various protective agents such as DMSO. It greatly weakens the crystallization process of water, protects cells from solute damage, and effectively improves viability and cell recovery after thawing.

The product is suitable for the cryopreservation of conventional mammalian cells and serum-free cultured cells. It is ready-to-use and doesn't require any additives.

3 General Protocol

Cryopreserving Cells

For optimum results, cells should be in the logarithmic growth phase at the time of freezing.

1. For adherent cells, wash with sterile PBS (MCE Cat No. HY-K3005) twice and gently detach cells from the substrate using trypsin (MCE Cat No. HY-K3007). Resuspend cells in complete medium. During digestion, carefully handle the adherent cells to avoid cell damage. For suspension cells, proceed directly to step b.
2. Obtain a cell suspension using a cell-specific protocol and centrifuge cells for 3-5 minutes at 500 g at 4°C, carefully aspirate the supernatant.

Note: Remove as much culture medium as possible to reduce dilution of the Serum/Protein-Free Cell Freezing Medium in the next step.

3. Determine the viable cell density and percent viability and calculate the required volume of MCE Serum/Protein-Free Cell Freezing Medium to give a final cell density of 1×106-107 cells/mL. The whole process is operated on ice to avoid damage to the cells by the protective agent.
4. Dispense aliquots of cell suspension into cryovials.
5. Cell Cryopreservation: Cryopreservation is conducted using either automatic or manually controlled rate freezing equipment, following a standard protocol. This process transfers cells to be stored in liquid nitrogen or at temperatures below -130°C.

Note: a. After 24 hours of storage in liquid nitrogen or at -130°C, remove one cryopreserved vial for resuscitation and check cell viability and other parameters.

b. If a programmed cryopreservation box is available, cells can be directly placed into a -80°C freezer for cooling. In the absence of a programmed cryopreservation box, cells can be stored at 4°C for 20-30 minutes, then at -20°C for 30 minutes to 2 hours, followed by -80°C overnight, before being transferred to a liquid nitrogen tank for long-term storage on the following day.

4 Storage

4°C, 1 years

5 Precautions

1. Wipe down the outside of the container with 70% ethanol before opening as the contents are sterile.
2. Use aseptic technique and a clean surface (such as a clean benchtop or biosafety cabinet) for all steps in this protocol.
3. The product may become slightly turbid after long term storage, this precipitate does not affect performance. Please dispense the required amount, warm the aliquot to 37℃ to completely dissolve the ingredients. Mix well and use it.
4. The cryopreserved cells can be stored at -80℃ for at least one year. It is recommended to store the cryovial in liquid nitrogen for long-term storage.
5. This product is for R&D use only, not for drug, house hold, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.
6. For your safety and health, please wear a lab coat and gloves while handling.