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Serum/Protein-Free Cell Freezing Medium

1 Components

Components	HY-K1012
MCE Serum/Protein-Free Cell Freezing Medium	100 mL

2 General Information

MCE Serum/Protein-Free Cell Freezing Medium 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. In the process of cryopreservation, there is no need for time-consuming programmed cryopreservation steps and the cells can be directly frozen after resuspension.

3 General Protocol

Cryopreserving Cells

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

a. For adherent cells, wash with sterile PBS twice and gently detach cells from the substrate using trypsin. Resuspend cells in complete medium. During digestion, carefully handle the adherent cells to avoid cell damage. For suspension cells, proceed directly to step b.

b. 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.

c. 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 1×10^{6}-10^{7} cells/mL. The whole process is operated on ice to avoid damage to the cells by the protective agent.

d. Dispense aliquots of cell suspension into cryovials.

e. Directly place the cryovials containing the cell suspension in -80°C refrigerator, and move into liquid nitrogen for long-term storage after 24 h.

Thawing Cells

Before starting, warm the required amount of complete medium to 37°C.

a. Remove the cryovial from cryo-storage and rapidly thaw it in a 37°C water bath. Thaw the sample with gentle swirling of the sample until all visible ice melting.

b. Wipe down the outside of cryovials with 75% ethanol and add, dropwise, the appropriate pre-warmed complete medium to suspend cells. Transfer cell suspension to a centrifuge tube that already contains 5-10 mL of complete medium. Ensure complete mixing with regular gentle swirling.

c. Centrifuge cells for 3-5 minutes at 500 g at 4°C, carefully aspirate the supernatant.

d. Gently resuspend the cell pellet in an appropriate volume of pre-warmed complete medium. Transfer cell suspension to sterile culture vessel and place it into the recommended culture environment after microscopy.

4 Storage

4°C 1 year

5 Precautions

a. Wipe down the outside of the container with 70% ethanol before opening as the contents are sterile.

b. Use aseptic technique and a clean surface (such as a clean benchtop or biosafety cabinet) for all steps in this protocol.

c. 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°C to completely dissolve the ingredients.

Mix well and use it.

d. The cryopreserved cells can be stored at -80°C for at least one year. It is recommended to store the cryovial in liquid nitrogen for long-term storage.

e. 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.

f. For your safety and health, please wear a lab coat and gloves while handling.