DMSO (>99.5% for TC)

#GTC25.0550 (5x 5ml)
(FOR RESEARCH ONLY)

Product: DMSO (dimethyl sulfoxide), cell culture grade, is a sterile and endotoxin-free polar solvent, ideal for the cryopreservation of cells, tissues, and organs. DMSO is used in cell freezing media to protect cells from the formation of ice crystals that may induce mechanical injury. It is also frequently being used for the dissolution of therapeutic and toxic molecules that are not soluble in water.

Quantity: #GTC25.0550 comprises 5 vials of each 5ml of Cell Culture Grade DMSO

Applications: Cryopreservation, Drug Delivery, PCR of GC-rich targets

Storage: Store at room temperature.

Prior to Cryopreservation

In cryopreservation, the freezing point of the medium is reduced due to the presence of DMSO and the cooling rate is slowed down, reducing the risk of ice crystal formation, which may cause cell damage and death. DMSO is typically used at a 10% concentration, often in combination with BSA or Fetal Bovine Serum (FBS), however, it is highly recommended to determine the best conditions for your specific cell line. For media with serum this typically constitutes of complete medium with 10% DMSO or 40-50% cell-conditioned medium mixed with 40-50% fresh medium and 10% DMSO (final concentration). The cells are then frozen in liquid nitrogen. Cells may also be preserved in serum-free medium, typically with a lower concentration of DMSO. Before proceeding, cells should be checked for contamination, and the procedure should be carried out with cells growing in log phase at a high concentration and high viability. Store the freezing medium at +4ºC until use.

Typical Protocol

1. (Adherent cells): Detach cells from the tissue culture vessel according to normal procedure, as gently as possible to minimize damage to the cells, and resuspend the detached cells in the complete growth medium.
2. Determine total cell number and viability percentage, and according to the desired viable cell density, determine the required volume of freezing medium.
3. Centrifuge the cell suspension at approximately 100g–400g for 5-10 minutes (optimum centrifugation speed and duration depends on the cell type). Aseptically withdraw the supernatant (pipet) to the smallest volume without disturbing the cell pellet and discard.
4. Resuspend the cell pellet in cold freezing medium at the recommended viable cell density for the specific cell type.
5. Prepare aliquots of the cell suspension into sterile cryogenic storage vials. Whilst preparing aliquots, mix often but gently the cells to maintain a homogeneous cell suspension.
6. Freeze the cells slowly by reducing the temperature at approximately 1°C per minute using a controlled rate cryo-freezer. Alternatively, place the cryovials containing the cells in an isopropanol chamber and store them at –80°C overnight. Next day, store frozen cells in liquid nitrogen at –135°C.