Cell Preservation Medium

Product Name

English Name： Cell Preservation Medium

Product Performance

CatalogueNumber： AS-36
Specification: 100 mL/bottle
Storage Conditions: 2 - 8°C， Protect from light
Expiry Date: 12 months
Appearance: Liquid

Intended Use

This product is a colorless to light yellow transparent and viscous solution, containing 5% DMSO. It is suitable for the cryopreservation of immune cells such as PBMC, T lymphocytes, NK cells and mesenchymal stem cells. For research use only.

Instructions for Use

Cell Preparation

1.Prepare the cells to be frozen into cell suspension by mechanical or enzymatic dissociation.

2.Centrifuge the cell suspension to obtain the cell pellet.

3.Remove the supernatant. Note: Remove as much washing solution as possible to reduce the dilution of the cryopreservation medium.

Cell Cryopreservation

1.Add precooled (2 - 8°C) cryopreservation medium.

a. Cell density: The cell density should be 0.5 - 30×10^6 cells/mL according to the conventional cell culture protocol (it can be higher).

b. The cryopreservation medium already contains DMSO, and there is no need to add any other cryoprotectants.

2.Precooling: Incubate the cell/cryopreservation medium mixture at 2 - 8°C for about 10 minutes.

3.Programmed cooling:

a. If using a programmed cooling container, place the cryopreserved cell suspension in a pre-cooled (2 - 8°C) cooling container, and then put the programmed cooling container in an -80°C refrigerator. After 24 hours, transfer it to a liquid nitrogen tank (below -130°C) for long-term storage.

b. If using a programmed cooling device to cool the cryopreserved cell suspension at -1°C/min to -100°C, it should be immediately placed in a liquid nitrogen tank (below -130°C) for long-term storage.

c. The cryopreserved samples should be stored in a liquid nitrogen tank (below -130°C) for long-term. If placed in an -80°C refrigerator, only short-term storage (several weeks to months) is recommended.

Sample Thawing

1.Thawing and resuscitation: Quickly thaw the sample in a 37°C water bath or a similar mechanical thawing device.

a. Gently rotate the sample during thawing until all visible ice has melted. The thawing time for a 1 mL

cryopreserved sample is about 2 - 3 minutes.

b. The sample is not allowed to be heated above the freezing temperature (0 - 10°C). The cryopreservation tube should feel cold when taken out of the water bath. Passive thawing is not recommended.

2.Immediately dilute the cell/cryopreservation medium mixture with culture medium or equivalent isotonic medium.

a. The dilution procedure can be completed in one step.

b. The temperature of the dilution medium should be between 20°C and 37°C.

c. The recommended dilution ratio is 1:10 (sample to medium) or greater.

3.Culture the cells under suitable conditions or use them immediately.

Precautions

1.The cryopreservation medium already contains DMSO, and there is no need to add any other cryoprotectants.

2.The cryopreservation medium needs to be precooled (2 - 8°C) before use.

3.Gradient cooling is required for cell cryopreservation.

References

1.Kathryn A. Murray and Matthew I. Gibson, Chemical approaches to cryopreservation, Nat Rev Chem. 6(8)2022:579 - 593.

2.Michael J Taylor, Bradley P Weegman, Simona C Baicu, Sebastian E Giwa, New Approaches to Cryopreservation of Cells, Tissues, and Organs, Transfus Med Hemother. 2019 Jun;46(3):197 - 215.