



EIV42025E

ExCell Bio

OptiVitro[®] Serum-free Cell Cryopreservation Medium UC04

For Research and Manufacturing Use

Not Intended for Diagnostic and Therapeutic Use

User Manual

Catalog Number	UC000-N056
	UC000-N056S



PRODUCT DESCRIPTION

OptiVibro® Serum-free Cell Cryopreservation Medium UC04 is a ready-to-use cell cryopreservation medium that is widely used for cryopreservation of various mammalian cells in low-temperature environment (-80°C to -196°C). OptiVibro® Serum-free Cell Cryopreservation Medium UC04 has been proven to be suitable for cryopreservation of various cell types, including peripheral blood mononuclear cells (PBMCs), T cells, NK cells, mesenchymal stem cells (MSCs), etc. OptiVibro® Serum-free Cell Cryopreservation Medium UC04 is serum-free, protein-free, and free of animal-derived components, with clear components and can maintain the viability of multiple cells at over 90% after thawing.

Key Features:

- Security:** Contains 7.5% (v/v) DMSO and is free from serum, protein, and heterologous components. Its simple and clear composition simplifies the evaluation process and enhances its suitability for clinical research applications.
- Efficiency:** Suitable for cryopreservation of T cells, NK cells, and PBMCs. The cell viability after thawing can reach over 90%.
- Broad spectrum:** It is also applicable to many other types of cell lines (such as MSCs, iPSCs, HEK293, Vero, CHO, K562, 3T3, Jurkat, THP-1 cells, etc.), more cell lines need to be verified before use.
- Convenience:** Ready to use, no additional preparation required.

SPECIFICATION, STORAGE AND TRANSPORTATION

REQUIREMENT

Product Name	Cat. #	Specification	Storage	Transportation	Shelf Life
OptiVibro® Serum-free Cell Cryopreservation Medium UC04	UC000-N056	100 mL	2-8°C Protect From Light.	< 25°C Protect From Light.	24 months
	UC000-N056S	8 mL			

HANDLING RECOMMENDATIONS

- Please make sure to store the cell culture medium in a light-protected environment, avoid fluorescent lamps or other lamplight exposure, and better to use colored packaging bags in the refrigerator or warehouse.
- During the transportation of the product, it should be kept away from light. This is to prevent the product from being affected by the irradiation of fluorescent lamps or other light sources, which may lead to discoloration.

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3. During the transportation of the product to the clean area, it is essential to carry out a cleaning process. The cleaning method may involve disinfectant wiping, and not utilize UV irradiation.

***Note:** When passing through transfer windows equipped with UV lamp, remember to proactively turn off the UV lamp inside the transfer window.*

| INSTRUCTION FOR USE

Cryopreservation

1. Observe and record the cell growth condition and cell viability before cryopreservation. Collect cells with good growth condition, centrifuge at 300-500×g for 5 min, discard the supernatant, and retain the cell pellet.

***Note:** The condition of cells before cryopreservation directly affects the cell viability and growth after cryopreservation and recovery. Keeping the cell viability above 95% before freezing and in the logarithmic phase of expansion is important for obtaining good cryopreservation effects.*

2. Add an appropriate volume of PBS to resuspend the cells, centrifuge at 300-500×g for 5 min to collect the cells, and discard the supernatant.

***Note:** Cell washing is an optional step and can be performed according to cell culture process requirements. OptiVibro® Serum-free Cell Cryopreservation Medium UC04 can also be used for resuspending and rinsing. When rinsing cells with OptiVibro® Serum-free Cell Cryopreservation Medium UC04, low-temperature centrifugation is recommended during centrifugation.*

3. Add an appropriate amount of cold (2-8°C) OptiVibro® Serum-free Cell Cryopreservation Medium UC04 according to the required cryopreservation density. Pipette the cells up and down 4-5 times to disperse them evenly, then transfer the cell suspension to cryopreservation tubes and tighten the tube caps.

***Note:** The cryopreservation density can be adjusted as needed. The recommended cryopreservation density for adherent cells is 0.5×10^6 cells/mL- 1.0×10^7 cells/mL, and for suspension cells such as T cells, it is recommended to be 1.0×10^6 cells/mL- 1.0×10^8 cells/mL. For cryopreservation of cells at higher densities, please verify before use.*

4. Use a programmable controlled-rate freezer to cool the cells at a standard rate (approximately -1°C/min) or place the cryopreservation tubes in an isopropanol freezing container and store them in a -80°C freezer overnight (or for more than 6 hours). Then transfer the cryopreservation tubes to a liquid nitrogen tank for long-term storage.

***Note:** Long-term storage at -80°C is not recommended.*

Thawing

1. Preparation for thawing: preheat the water bath to 37°C and prewarm the cell culture medium to 37°C or room temperature.
2. Take out the cryotubes, and quickly transfer to the 37°C water bath. Gently shake the cryotubes and observe the thawing of the ice in cryotubes (about 1-3 min).
3. Once nearly completely thawed, remove the tube from the water bath, sterilize the outer surface with 75% ethanol, then transfer to a biosafety cabinet.

***Note:** Avoid immersing the cryotube cap in the water bath when shaking. Try to shorten the thawing time to avoid high post-thaw temperature.*

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4. Use 75% ethanol to wipe the cryotube cap again. Open the cryotube and gently mix the contents. Transfer the cell suspension into the pre-warmed culture medium. Pipette gently to ensure uniform mixing.

***Note:** Operate gently, and it is recommended to add 1 mL of cryopreservation solution to 5-10 mL of culture medium.*

5. Centrifuge at 300-500×g for 5 min, collect the cells, and discard the supernatant.
6. Resuspend the cell pellet in appropriate amount of culture medium again, count the cells, and calculate the cell density.
7. According to cell type or research needs, seed the appropriate density of cells into the appropriate culture vessel. Gently distribute cells and incubate in an incubator.

| DISCLAIMER

1. Use the product according to the manual instructions. Deviations from these instructions are at the user's risk, and our company will not be responsible for any resulting product performance deviations.
2. This product is for scientific research and commercial production only and is not intended for clinical diagnosis or treatment. Users assume all risks for unauthorized use, and our company shall not be responsible for any consequences.