

OptiVitro® Serum-free Cell Cryopreservation Medium UC04

Ready-to-use, defined protection for ultra-low-temperature cell cryopreservation

Serum-free | Protein-free | Animal-component-free | 7.5% DMSO

Product overview

OptiVitro® Serum-free Cell Cryopreservation Medium UC04 is a ready-to-use medium for cryopreservation of mammalian cells at ultra-low temperatures from -80 °C to -196 °C. It provides a protective environment during freezing, storage, and thawing to support cell viability and functionality.

UC04 is serum-free, protein-free, and free of animal-derived components. It contains 7.5% (v/v) DMSO and has been shown to support high post-thaw viability for multiple cell types, including PBMCs, T cells, NK cells, and mesenchymal stem cells (MSCs).

Key features

- Ready to use - no additional preparation required.
- Defined, serum-free, protein-free, animal-component-free formulation.
- Contains 7.5% (v/v) DMSO for cryoprotection.
- Suitable for immune cells and a broad range of mammalian cell lines.

Typical applications

Cryopreservation of PBMCs, T cells, NK cells, MSCs, and other suitable mammalian cells in research, process development, and commercial manufacturing workflows. Additional cell types may require user verification.

GENERAL USE GUIDANCE Use cold (2-8 °C) UC04 when preparing cells for freezing. Optimize cryopreservation density and controlled-rate freezing conditions for the specific cell type and process.

General product characteristics

Parameter	General characteristic
Classification	Defined, serum-free, protein-free, animal-component-free cryopreservation medium
Product type	Ready-to-use cell cryopreservation medium
Cryoprotectant	7.5% (v/v) DMSO
Compatible applications	PBMCs, T cells, NK cells, MSCs, and other suitable mammalian cells
Temperature range	-80 °C to -196 °C
Storage	2-8 °C; protect from light
Transport	Below 25 °C; protect from light
Shelf life	24 months when stored as directed; see product label for expiry

Note: General information is shown. Product label and lot-specific Certificate of Analysis govern release.

PRODUCT INFORMATION**Ordering, storage and use****Ordering information**

Catalog No.	Product name	Size
UC000-N056	OptiVibro® Serum-free Cell Cryopreservation Medium UC04	100 mL
UC000-N056S	OptiVibro® Serum-free Cell Cryopreservation Medium UC04 (Trial Size)	8 mL

Catalog availability and pack sizes should be confirmed at the time of order.

Storage, transport and handling

Storage. Store at 2-8 °C and protect from light. Avoid exposure to fluorescent lamps and other light sources; opaque packaging is recommended for refrigerator or warehouse storage.

Transport. Transport below 25 °C and protect from light. Avoid sunlight or other light exposure, which may affect product appearance and cause discoloration.

Clean-area transfer. When moving the product into a clean area, use disinfectant wiping only. Do not use ultraviolet sterilization. Switch off UV lamps when passing through a transfer window equipped with UV light.

Shelf life. 24 months when stored as directed. Confirm the labeled expiration date before use.

Starter cryopreservation guidance

1. Collect cells in good growth condition. Centrifuge at 300-500 × g for 5 minutes and retain the cell pellet. For best results, use cells in logarithmic growth phase with viability above 95%.
2. Optionally wash cells with PBS, then centrifuge at 300-500 × g for 5 minutes and discard the supernatant.
3. Add cold (2-8 °C) UC04 at the required cryopreservation density. Gently pipette 4-5 times, transfer the suspension to cryovials, and secure caps. Recommended density: adherent cells, 0.5×10^6 to 1.0×10^7 cells/mL; suspension cells such as T cells, 1.0×10^6 to 1.0×10^8 cells/mL.
4. Freeze at approximately -1 °C/min using a controlled-rate freezer, or use an isopropanol freezing container at -80 °C overnight (or at least 6 hours). Transfer cryovials to liquid nitrogen for long-term storage. Long-term storage at -80 °C is not recommended.

Starter thawing guidance

Rapidly thaw cryovials in a 37 °C water bath for approximately 1-3 minutes. When nearly thawed, disinfect the external surface with 75% ethanol, transfer to a biosafety cabinet, and gently mix into pre-warmed culture medium. Centrifuge at 300-500 × g for 5 minutes, resuspend cells in suitable culture medium, count, and seed at an appropriate density.

INTENDED USE For research and commercial manufacturing use only. Not intended for diagnostic or therapeutic use. This general datasheet does not replace the product label, user manual, Certificate of Analysis, or Safety Data Sheet.