

ExCell Bio

OptiVitro[®] UniEx T Cell Serum-free Medium (phenol red-free)

For Research and Manufacturing Use
Not Intended for Diagnostic and Therapeutic Use

User Manual

Catalog Number TE000-N042
TE000-N041
TE000-N041S



| Product description

OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free) is a serum-free, xeno-free medium that has been specifically designed to expand human T lymphocytes *in vitro*. The medium consists of two components: OptiVibro® UniEx T Cell Basal SF Medium (phenol red-free) and OptiVibro® UniEx T Cell SF Medium Supplement, both of which are sterile and manufactured in compliance with GMP regulations. The product is free of cytokines and antibiotics.

| Contents and storage

Catalog No.	Product name	Amount	Storage	Shelf life ^[1]
TE000-N042	OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free)	1 kit	-	-
BA0062	OptiVibro® UniEx T Cell Basal SF Medium (phenol red-free)	1000 mL	2-8 °C Protect from light	12 months
BA0082	OptiVibro® UniEx T Cell SF Medium Supplement	8 mL	2-8 °C Protect from light	18 months
TE000-N041	OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free)	1 kit	-	-
BA0061	OptiVibro® UniEx T Cell Basal SF Medium (phenol red-free)	500 mL	2-8 °C Protect from light	12 months
BA0081	OptiVibro® UniEx T Cell SF Medium Supplement	4 mL	2-8 °C Protect from light	18 months
TE000-N041S	OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free) (Sample)	1 kit	-	-
BA0061S	OptiVibro® UniEx T Cell Basal SF Medium (phenol red-free) (Sample)	100 mL	2-8 °C Protect from light	12 months
BA0081S	OptiVibro® UniEx T Cell SF Medium Supplement (Sample)	0.8 mL	2-8 °C Protect from light	18 months

^[1] The Shelf-Life may be extended after strict validation by QC.

| Instructions for use

Prepare media

1. Place OptiVibro® UniEx T Cell Basal SF Medium (phenol red-free) and OptiVibro® UniEx T Cell SF Medium Supplement in a sterile laminar flow hood.
2. Add 4 mL of OptiVibro® UniEx T Cell SF Medium Supplement to 500 mL of OptiVibro® UniEx T Cell Basal SF Medium (phenol red-free), or 8 mL of OptiVibro® UniEx T Cell SF Medium Supplement to 1000 mL of OptiVibro® UniEx T Cell Basal SF Medium (phenol red-free).
3. Tighten the cap and mix the OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free) thoroughly.
4. The complete OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free) can be supplemented with cytokines like IL-2, IL-7, or IL-15 to support T-cell expansion.

Note: It is recommended to use complete OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free) within four weeks after mixed.

Culture T-cells from PBMCs

1. Prepare fresh peripheral blood mononuclear cells (PBMCs) according to standard separation protocols, or rapidly thaw (<1 minute) frozen vials of PBMC cells in a 37°C water bath.
2. If using freshly prepared PBMCs, they can be directly used after washing with sterile DPBS. For frozen cells, it is recommended to thaw them one day prior to T-cell activation, and incubate them in complete OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free) without extra cytokines at a concentration of approximately 2×10^6 cells/mL, in a humidified 37°C incubator with an atmosphere of 5% CO₂ for 16-24 hours.
3. Centrifuge the cells at 400×g for 10 minutes and remove the supernatant.
4. Before use, equilibrate complete OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free) to room temperature. Resuspend PBMCs at a concentration of 0.5-1×10⁶ cells/mL in complete OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free) supplemented with cytokines such as IL-2, IL-7, or IL-15.
5. Transfer the cells to culture plates that are pre-coated with anti-human CD3/CD28 antibodies for activating T-cells to initiate the culture, or use commercially available beads according to the manufacturer's protocol.
6. Incubate the cells in a humidified 37°C incubator with an atmosphere of 5% CO₂.
7. Feed and adjust the cell concentration to 0.5-1×10⁶ cells/mL with complete OptiVibro® UniEx T Cell Serum-free Medium (phenol red-free) supplemented with cytokines every 2-3 days. The cells can be transferred to bioreactors for further expansion at around Day 7 after T-cell activation.