

ExCell Bio

OptiVibro[®] 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-N032
 TE000-N031
 TE000-N031S
 TE000-N071
 TE000-N072
 TE000-N073



Product description

OptiVibro® 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® T cell Basal SF Medium (phenol red-free) and OptiVibro® 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-N032	OptiVibro® T Cell Serum-free Medium (phenol red-free)	1 kit	-	-
BA0042	OptiVibro® T Cell Basal SF Medium (phenol red-free)	1000 mL (bottle)	2-8 °C Protect from light	12 months
BA0052	OptiVibro® T Cell SF Medium Supplement	8 mL	2-8 °C Protect from light	18 months
TE000-N031	OptiVibro® T Cell Serum-free Medium (phenol red-free)	1 kit	-	-
BA0041	OptiVibro® T Cell Basal SF Medium (phenol red-free)	500 mL (bottle)	2-8 °C Protect from light	12 months
BA0051	OptiVibro® T Cell SF Medium Supplement	4 mL	2-8 °C Protect from light	18 months
TE000-N031S	OptiVibro® T Cell Serum-free Medium (phenol red-free) (Sample)	1 kit	-	-
BA0041S	OptiVibro® T Cell Basal SF Medium (phenol red-free) (Sample)	100 mL (bottle)	2-8 °C Protect from light	12 months
BA0051S	OptiVibro® T Cell SF Medium Supplement (Sample)	0.8 mL	2-8 °C Protect from light	18 months
TE000-N071	OptiVibro® T Cell Serum-free Medium (phenol red-free)	1 L (bag)	-	-
BA0161	OptiVibro® T Cell Basal SF Medium (phenol red-free)	1 L (bag)	2-8 °C Protect from light	12 months
BA0171	OptiVibro® T Cell SF Medium Supplement	8 mL	2-8 °C Protect from light	18 months

Catalog No.	Product name	Amount	Storage	Shelf life ^[1]
TE000-N072	OptiVibro® T Cell Serum-free Medium (phenol red-free)	2 L (bag)	-	-
BA0162	OptiVibro® T Cell Basal SF Medium (phenol red-free)	2 L (bag)	2-8 °C Protect from light	12 months
BA0172	OptiVibro® T Cell SF Medium Supplement	16 mL	2-8 °C Protect from light	18 months
TE000-N073	OptiVibro® T Cell Serum-free Medium (phenol red-free)	5 L (bag)	-	-
BA0163	OptiVibro® T Cell Basal SF Medium (phenol red-free)	5 L (bag)	2-8 °C Protect from light	12 months
BA0173	OptiVibro® T Cell SF Medium Supplement	40 mL	2-8 °C Protect from light	18 months

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

| Instructions for use

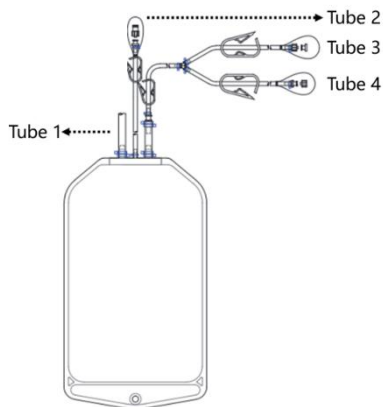
Prepare media

● **Bottle format:**

1. Place OptiVibro® T Cell Basal SF Medium (phenol red-free) and OptiVibro® T Cell SF Medium Supplement in a sterile laminar flow hood.
2. Add 4 mL of OptiVibro® T Cell SF Medium Supplement to 500 mL of OptiVibro® T Cell Basal SF Medium (phenol red-free), or 8 mL of OptiVibro® T Cell SF Medium Supplement to 1000 mL of OptiVibro® T Cell Basal SF Medium (phenol red-free).
3. Tighten the cap and mix the OptiVibro® T Cell Serum-free Medium (phenol red-free) thoroughly.
4. The complete OptiVibro® 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.

● **Bag format:**

1. Place OptiVibro® T Cell Basal SF Medium (phenol red-free) and OptiVibro® T Cell SF Medium Supplement in a sterile laminar flow hood.
2. Open the cap of OptiVibro® T Cell SF Medium Supplement and draw the liquid using a sterile syringe.
3. Inject the liquid into the bag of OptiVibro® T Cell Basal SF Medium (phenol red-free) through the needle sampling port of Tube 2 (refer to the diagram below), or through the Male Luer taper of Tube 3.
4. Mix the contents thoroughly by shaking the bag.
5. The complete OptiVibro® 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.



Tube	Description	Remark
Tube 1	C-flex tubing, sealed end	/
Tube 2	Silicone tubing with needle sampling port	For sterile sampling
Tube 3	0.122"ID x 0.161"OD PVC tubing with Male Luer taper and Female cap	For connecting culture bags through Luer taper or PVC welding
Tube 4	0.122"ID x 0.161"OD PVC tubing with Female Luer taper and Male cap	

- **Note:** It is recommended to use complete OptiVibro® 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® 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® T Cell Serum-free Medium (phenol red-free) to room temperature. Resuspend PBMCs at a concentration of $0.5-1 \times 10^6$ cells/mL in complete OptiVibro® 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 $0.5-1 \times 10^6$ cells/mL with complete OptiVibro® 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.