

bioGenous™ T-Cell Expansion Medium (Serum-Free)

Catalog: SFM-T001

Product Description:

The bioGenous™ T-Cell Expansion Medium (Serum-Free) is a specially designed medium intended for the in vitro culture and efficient expansion of human T lymphocytes without the need for serum. This serum-free medium contains all the necessary nutrients for T cell growth, supporting the expansion of T cells from peripheral blood mononuclear cells (PBMCs) and is also suitable for the activation and expansion culture of T cells. The expanded T cells are suitable for various in vitro studies, including T cell or T cell-tumor organoid co-culture experiments used for drug activity testing and screening.

Product Information:

Component	Catalog#	Volume	Storage & Stability
bioGenous™ T-cell basal medium (serum-free)	SFM-T001-A100/A500	100mL/500mL	2-8°C, 12 months
bioGenous™ T-cell Activator B (serum-free) (200x)	SFM-T001-B100/B500	0.5mL/2.5mL	-20°C, avoid repeated freeze-thaw cycles, 12 months

Materials & Reagents Required But Not Included:

Manufacturer	Materials	Catalog#
bioGenous™	Organoid Cryopreservation Medium (Serum Free)	E238023
-	Fetal Bovine Serum (FBS)	-
-	DPBS (1X), liquid, contains no calcium or magnesium	-

Reconstitution of T-Cell Expansion Medium

To prepare T-Cell Expansion Medium, it is important to use a sterile technique. Depending on the experimental requirement, the protocol may be optimized accordingly. The following example outlines the preparation of a 10mL complete medium.

1. Thaw T-cell Activator B (SFM-T001-B) (200x) on ice. Mix thoroughly.

NOTE: Once thawed, use immediately or aliquot and store at -20°C for no more than 10 months. After thawing the aliquots, use them immediately. Do not refreeze.

2. Add 50µL of T-cell Activator B (SFM-T001-B) (200x) to 9.85mL of T-cell basal medium (SFM-T001-A). For robust T-cell expansion, we recommend adding 100µL FBS to the reconstituted T-cell expansion medium. Mix thoroughly.

NOTE: If not used immediately, store the complete T-cell expansion medium at 2-8°C for no more than 2 weeks.

Set up for T-cell expansion cultures using PBMCs

1. Isolate PBMCs from fresh blood or thaw previously frozen peripheral blood mononuclear cells.
2. Resuspended T cells of PBMCs in PBS and perform viable cell counts.
3. Centrifuged cells at 800g for 3 min and discard the supernatant.
4. Resuspended in viable cells in complete T-Cell Expansion Medium and adjust the cell concentration to 1x10⁶ cells/mL or as required by the experimental objective and inoculated into appropriate culture plates or Petri dishes.

5. Incubate plates at 37°C in a 5% CO₂ incubator.
6. After every 2-3 days, discard half of the supernatant and supplement with a fresh T-cell expansion medium.
NOTE: Do not maintain the same culture medium for longer than 3 days without supplementing with fresh medium.
7. T cells are generally harvested after 10 to 14 days of culture.
8. For long-term (> 15 days) expansion of T cells, T cells can be collected, resuspended in a fresh T cell expansion medium, and cell concentration adjusted to 1x10⁶ cells/mL. Seed the cells in a suitable culture plate or petridish and repeat Steps 7-8.