

bioGenous™ NK Cell Expansion Medium (Serum-Free)

Catalog: SFM-NK001

Product Description:

bioGenous™ NK cell expansion medium is an optimized medium for the rapid expansion of NK cells. This medium contains complete nutrients required for NK cell growth, supporting the expansion of NK cells in peripheral blood mononuclear cells (PBMCs) or already purified NK cells. This NK medium is compatible with NK cell activation systems. The expanded NK cells can support a variety of downstream in vitro studies.

Product Information:

| Component | Catalog# | Volume | Storage & Stability |
|--------------------------------------|---------------------|-------------|---|
| bioGenous™ NK cell basal medium | SFM-NK001-A100/A500 | 100mL/500mL | 2-8°C, 12 months |
| bioGenous™ NK cell Activator B (50x) | SFM-NK001-B100/B500 | 2mL/10mL | -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 | - |

Preparation of NK cell expansion culture

Reconstitute the NK cell Expansion Medium under aseptic conditions. Depending on the experimental requirement, the protocol may be optimized accordingly. The following example outlines the preparation of a 10mL complete medium.

1. Thaw NK cell Activator B (50x) 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 1ml of NK cell Activator B (50x) to 49ml of bioGenous™ NK cell basal medium, mixed it thoroughly to prepare 50ml NK cells complete expansion medium. Depending on experimental requirement and for a rapid NK cell expansion, we recommend adding 1-2% FBS to the reconstituted expansion medium. Mix thoroughly.

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

Set up for NK cell expansion cultures using PBMCs

1. Isolate PBMCs from fresh blood or thaw previously frozen peripheral blood mononuclear cells.
2. Resuspended NK 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 NK Cell Expansion Medium and adjust the cell concentration to 1×10^6 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 NK Cell Expansion Medium.
NOTE: Do not maintain the same culture medium for longer than 3 days without supplementing with fresh medium.
7. The NK cells are can be harvested after 10 to 14 days of culture.
8. For long-term (> 15 days) expansion of NK cells, cells can be collected, resuspended in a fresh NK Cell Expansion Medium, and cell concentration adjusted to 1×10^6 cells/mL. Seed the cells in a suitable culture plate or petri dish and repeat Steps 7-8.