ImmunoCult™-XF T Cell Expansion Medium

Serum-free and xeno-free medium for the expansion of human T cells

Catalog # 10981 500 mL

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

ImmunoCult™-XF T Cell Expansion Medium is a serum-free and xeno-free medium optimized for the in vitro culture and expansion of human T cells isolated from peripheral blood. Recombinant cytokines, required for the optimal growth and expansion of T cells, have not been added to ImmunoCult™-XF T Cell Expansion Medium. This allows users the flexibility to prepare medium that meets their requirements.

- No need to supplement the medium with serum
- Supports robust T cell expansion with high viability after 10 - 12 days of culture
- Expanded T cells are able to produce cytokines including IFN-gamma and IL-4 upon restimulation
- Use with ImmunoCult™ Human T Cell Activators (Catalog #10970 and 10971) for bead-free activation of T cells

Properties

Storage: Store at 2 - 8°C. Do not freeze.
Shelf Life: Stable until expiry date (EXP) on label.

This product contains material derived from human plasma. Donors have been tested and found negative for HIV-1 and -2, hepatitis B, and hepatitis C prior to donation. However, this product should be considered potentially infectious and treated in accordance with universal handling precautions.

Handling / Directions For Use

NOTE: If precipitate is observed in the medium, centrifuge or filter using a using a 0.2 - 0.22 µm low protein binding polyethersulfone (PES) filter unit (e.g. Fisher 09-741-04 [0.2 µm, 250 mL]; Fisher SCGP00525 [0.22 µm, 50 mL]). This will not affect performance of the medium.

The following protocol is for the expansion of activated human T cells using ImmunoCult™-XF T Cell Expansion Medium. Depending on the experimental objectives, the protocol may need to be optimized (e.g. cell seeding density or cytokine concentration).

1. Isolate human T cells from fresh or previously frozen peripheral blood mononuclear cells, or leukapheresis samples, using one of the following EasySep™ kits:
   - EasySep™ Release Human CD3 Positive Selection Kit (Catalog #17751)
   - EasySep™ Human T Cell Enrichment Kit (Catalog #19051)
   - EasySep™ Human T Cell Isolation Kit (Catalog #17951)

   NOTE: Isolated T cells can be cryopreserved using CryoStor® CS5 (Catalog # 07933) or CryoStor® CS10 (Catalog # 07930) and stored at -135°C.
2. Day 0:
   a. Prepare fresh complete ImmunoCult™-XF T Cell Expansion Medium as follows:
      Add cytokines (e.g. Human Recombinant IL-2; Catalog #78036) to ImmunoCult™-XF T Cell Expansion Medium. Mix thoroughly.
      NOTE: Complete ImmunoCult™-XF T Cell Expansion Medium must be prepared fresh on each day of use.
   b. Seed viable human T cells (prepared in step 1) in fresh complete ImmunoCult™-XF T Cell Expansion Medium (prepared in step 2a) at 1 x 10^6 cells/mL.
4. To activate T cells, add 25 µL/mL of ImmunoCult™ Human CD3/CD28/CD2 T Cell Activator (Catalog #10970) or ImmunoCult™ Human CD3/CD28 T Cell Activator (Catalog #10971) to the cell suspension. Incubate cells at 37°C and 5% CO_2 for 3 days.
5. Day 3: Mix the cell suspension thoroughly and perform a viable cell count. Increase the volume of the cell suspension 8-fold (adjust the viable cell density to ~1.0 - 2.5 x 10^5 cells/mL) by adding fresh complete ImmunoCult™-XF T Cell Expansion Medium. Incubate at 37°C and 5% CO_2 for 2 days.

6. Day 5: Mix the cell suspension thoroughly and perform a viable cell count. Increase the volume at least 4-fold (adjust the viable cell density to ~1.0 - 3.0 x 10^5 cells/mL) by adding fresh complete ImmunoCult™-XF T Cell Expansion Medium. Incubate at 37°C and 5% CO_2 for 2 days.
7. Day 7: Mix the cell suspension thoroughly and perform a viable cell count. Increase the volume at least 4-fold (adjust the viable cell density to ~1.0 - 6.0 x 10^5 cells/mL) by adding fresh complete ImmunoCult™-XF T Cell Expansion Medium. Incubate at 37°C and 5% CO_2 for 3 days.
8. Day 10: Harvest cells if the desired cell number is achieved.
   OPTIONAL: Perform a viable cell count and maintain cell density at 0.5 - 1.0 x 10^6 cells/mL by adding fresh complete ImmunoCult™-XF T Cell Expansion Medium. Incubate at 37°C and 5% CO_2 for 2 days, then harvest cells.
9. For longer-term expansion (> 12 days) of human T cells:
   a. Harvest and resuspend the expanded T cells at 1 x 10^6 cells/mL in fresh complete ImmunoCult™-XF T Cell Expansion Medium.
   b. Restimulate by adding 25 µL/mL of ImmunoCult™ Human CD3/CD28/CD2 T Cell Activator or ImmunoCult™ Human CD3/CD28 T Cell Activator.
   c. Incubate at 37°C and 5% CO_2. Every 2 - 3 days adjust cell density by adding fresh complete ImmunoCult™-XF T Cell Expansion Medium.

   NOTE: Ensure to add fresh complete medium every 2 - 3 days; do not wait more than 3 days between medium additions.

RELATED PRODUCTS

For related products, including specialized culture and storage media, supplements, antibodies, cytokines, and small molecules, visit www.stemcell.com/TCellEngineering or contact us at techsupport@stemcell.com.

STEMCELL TECHNOLOGIES INC.'S QUALITY MANAGEMENT SYSTEM IS CERTIFIED TO ISO 13485. PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2019 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, Scientists Helping Scientists, and ImmunoCult are trademarks of STEMCELL Technologies Canada Inc. All other trademarks are the property of their respective holders. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.