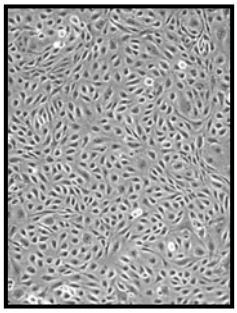
REF: P10691

SPLEEN CELL SYSTEM INNOPROFILE™

HUMAN SPLENIC ENDOTHELIAL CELLS



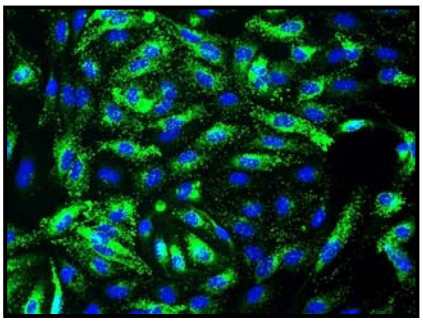
Product Type:	Cryo-preserved Endothelial Cells
Catalog Number:	P10691
Source:	Human Spleen
Number of Cells:	5 x 10^5 Cells / vial (1ml)
Storage:	Liquid Nitrogen

Human Splenic Endothelial Cells (HSEC) provided by Innoprot are isolated from human healthy Spleen. HSEC are cryopreserved after passage one and delivered frozen. HSEC are guaranteed to further expand for 15 population doublings in the conditions provided in the data sheet.

The spleen performs essential functions in the turnover of erythrocytes. The spleen also mounts a primary immune response to antigens in the blood and synthesizes antibodies in its white pulp. Human splenic endothelial cells (HSEC), similar to other endothelial cells, constitute the natural interface between the blood and the underlying tissue. Splenic endothelial cells have shown a supportive microenvironment for the development of dendritic cells. Furthermore, rapid destruction of young erythrocytes can occur in the spleen due to altered endothelial cell-macrophage interactions. These observations suggest that splenic endothelial cells may play a more compelling role in the mononuclear phagocyte system.

Recommended Medium

- Endothelial Cell Medium (Reference: P60104)



Product Characterization

Immunofluorescent method

- VWF/Factor VIII
- CD31 (P-CAM)

The cells test negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast and fungi

Product Use

THESE PRODUCTS ARE FOR RESEARCH USE ONLY. Not approved for human or veterinary use, for application to humans or animals, or for use in vitro diagnostic or clinical procedures

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INSTRUCTIONS FOR CULTURING CELLS

IMPORTANT: Cryopreserved cells are very delicate. Thaw the vial in a 37 °C waterbath and return them to culture as quickly as possible with minimal handling!

Set up culture after receiving the order:

1. Prepare a fibronectin-coated culture vessel (2 µg/cm^2, T-75 flask is recommended). Add 5 ml of sterile Dulbecco's phosphate buffered saline, Ca^{++}- and Mg^{++}free to a T-75 flask and then add 150 µl of fibronectin stock solution (Cat. #P8248). Leave the vessel in a 37°C incubator overnight.

2. Prepare complete medium. Decontaminate the external surfaces of medium bottle and medium supplement tubes with 70% ethanol and transfer them to a sterile field. Aseptically transfer supplement to the basal medium with a pipette. Rinse the supplement tube with medium to recover the entire volume.

3. Aspirate fibronectin solution and add 15 ml of complete medium to the culture vessel. The fibronectin solution can be used twice. Leave the vessel in the sterile field and proceed to thaw the cryopreserved cells.

4. Place the frozen vial in a 37°C water bath. Hold and rotate the vial gently until the contents completely thaw. Promptly remove the vial from the water bath, wipe it down with 70% ethanol, and transfer it to the sterile field.

5. Carefully remove the cap without touching the interior threads. Gently resuspend and dispense the contents of the vial into the equilibrated, fibronectin-coated culture vessel. A seeding density of 5,000-7,500 cells/cm2 is recommended.

   Note: Dilution and centrifugation of cells after thawing are not recommended since these actions are more harmful to the cells than the effect of residual DMSO in the culture. It is also important that cells are plated in fibronectin-coated culture vessels to promote cell attachment.

6. Replace the cap or lid of the culture vessel and gently rock the vessel to distribute the cells evenly. Loosen cap, if necessary, to allow gas exchange.

7. Return the culture vessel to the incubator.

8. For best results, do not disturb the culture for at least 16 hours after the culture has been initiated. Refresh culture medium the next day to remove residual DMSO and unattached cells..

Maintenance of Culture:

1. Refresh supplemented culture medium the next morning after establishing a culture from cryopreserved cells.

2. Change the medium every three days thereafter, until the culture is approximately 70% confluent.

3. Once the culture reaches 70% confluency, change medium every other day until the culture is approximately 90% confluent.

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Subculture:

1. Subculture when the culture reaches 90% confluency.

2. Prepare fibronectin-coated culture vessels (2 µg/cm^2) one day before subculture.

3. Warm complete medium, trypsin/EDTA solution (T/E Sol.), T/E neutralization solution (TNS), and DPBS (Ca^{++}- and Mg^{++}-free) to room temperature. We do not recommend warming reagents and medium in a 37°C water bath prior to use.

Note: *DPBS, trypsin/EDTA solution & trypsin neutralization solution are included in the "Primary Cells Detach Kit provided by Innoprot (Cat. Nº P60305).*

4. Rinse the cells with DPBS.

5. Add 10 ml of DPBS and then 1 ml of T/E solution into flask (in the case of a T-75 flask). Gently rock the flask to ensure complete coverage of cells by T/E solution. Incubate the flask in a 37°C incubator for 1 to 2 minutes or until cells completely round up. Use a microscope to monitor the change in cell morphology.

6. During incubation, prepare a 50 ml conical centrifuge tube with 5 ml of fetal bovine serum (FBS).

7. Transfer T/E solution from the flask to the 50 ml centrifuge tube (a small percent of cells may detach) and continue to incubate the flask at 37°C for another 1 minute (no solution in the flask at this moment).

8. At the end of incubation, gently tap the side of the flask to dislodge cells from the surface. Check under a microscope to make sure that all cells detach.

9. Add 5 ml of TNS solution to the flask and transfer detached cells to the 50 ml centrifuge tube. Rinse the flask with another 5 ml of TNS to collect the residual cells.

10. Examine the flask under a microscope for a successful cell harvest by looking at the number of cells being left behind; there should be less than 5%.

11. Centrifuge the 50 ml centrifuge tube at 1000 rpm for 5 minutes. Resuspend cells in culture medium.

12. Count and plate cells in a new fibronectin-coated culture vessel with the recommended cell density.

Caution: *Handling human derived products is potentially bioharzadous. Although each cell strain testes negative for HIV, HBV and HCV DNA, diagnostic tests are not necessarily 100% accurate, therefore, proper precautions mush be taken to avoid inadvertent exposure. Always wear gloves and safety glasses when working these materials. Never mouth pipette. We recommend following the universal procedures for handling products of human origin as the minimum precaution against contamination [1].*

[1]. Grizzle, W. E., and Polt, S. S. (1988) Guidelines to avoid personal contamination by infective agents in research laboratories that use human tissues. *J Tissue Culture Methods*. 11(4).

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