Human Colonic Epithelial Cells (HCoEpC)

SKU: 10HU-096

PRODUCT SHEET

Product Description

The colorectum is a major organ in both malignant and nonmalignant diseases. Cells that line the colonic mucosal surface form a major mechanical barrier that separates the host's internal milieu from the external environment. In addition to the well-established role of epithelial cells in ion transport, these cells appear to function as an integral component of the mucosal immune system. Human colonic epithelial cells (HCoEpC) can process and present antigens to T cells in vitro, and can be stimulated to express HLA class II and intercellular adhesion molecules in vivo [1]. They also respond to a broad array of cytokines with altered gene expression and growth characteristics [2]. In addition, normal colonic epithelial cells were found to express the α3, α5, α6, β1 and β4 integrin [3].

Product Details

Catalog Number: 10HU-096
Organism: *Homo Sapiens*, Human
Cell Type: Epithelial Cell
Tissue: Human Colon
Disease: Normal
Package Size: 0.5 million cells/vial
Passage Number: P1
Growth Properties: Adherent

Storage Conditions & Shipment

Product Format/Shipped: Cryopreserved
Storage: Liquid Nitrogen

For Research Use Only

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Overview of Human Colonic Epithelial Cells (HCoEpC)

iXCells Biotechnologies provides high quality HCoEpC, which are isolated from human colonic tissue and cryopreserved at P1, with >0.5 million cells in each vial. HCoEpC express cytokeratin-18 and -19. They are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi and can further expand for 2 additional passages in Epithelial Cell Growth Medium (Cat# MD-0041) under the condition suggested by iXCells Biotechnologies.

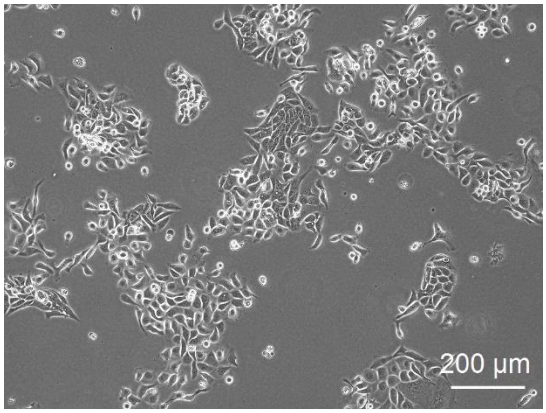

Figure 1. Representative phase contrast images of Human Colonic Epithelial Cells (HCoEpC) (10HU-096). One vial of 10HU-096 product was recovered and cultured using Epithelial Cell Growth Medium (MD-0041) by following iXCells' Protocol. Phase contrast images were taken at day 6 post recovery.

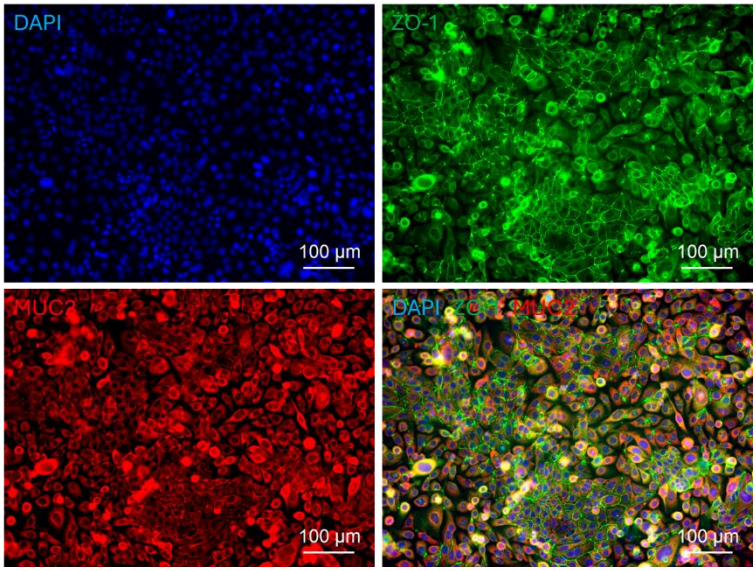

Figure 2. Immunofluorescence staining of HCoEpC with antibodies against ZO-1 (Green) and MUC2 (Red). Nuclei were counterstained by DAPI (Blue).

QuickStart Guide – Protocols

NOTE: IXCELLS CELLS ARE CULTURED IN 37°C, 5% CO_2 INCUBATOR. CELLS ARE ONLY WARRANTED IF IXCELLS RECOMMENDED MEDIA AND REAGENTS ARE USED AND IF THE PROVIDED PROTOCOLS ARE FOLLOWED.

Cell Culture Reagents

1. Complete culture medium: Epithelial Cell Growth Medium (Cat# MD-0041), iXCells.
2. Trypsin: 0.05% Trypsin, Cytiva, Cat# SH30236.02.
3. DPBS: DPBS without Calcium, Magnesium, Cytiva, Cat# SH30028.02.
4. Collagen I, Rat Tail: Corning, Cat# 354236.

Plate Coating

1. Coat the culture vessel with Collagen I (100 µg/mL) in a 37°C incubator for one hour.
2. Wash the vessel 3 times with DPBS. The vessel is now ready for cell culture.

Cell Thawing – Frozen Cells

1. Upon receipt of the frozen cells, it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. To thaw the cells, put the vial in 37°C water bath with gentle agitation for 1-2 minutes. Keep the cap out of water to minimize the risk of contamination.
3. Pipette the cells into a 15 mL conical tube with 5 mL fresh Complete Culture Medium.
   ***Note**: please prepare the Complete culture medium following the manufacturer's instruction.*
4. Centrifuge at 350 *g* for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in fresh complete culture medium.
6. Seed the cells in desired pre-coated culture vessel at 5,000-10,000 cells/cm^2. Change the medium every other day until cells reach 80-90% confluence.

Safety Precaution: It is highly recommended that protective gloves and clothing should be used when handling frozen vials.

Subculture Procedure

1. When cells reach ~80-90% confluence, remove the medium, and wash once with sterile DPBS (e.g. 5 mL for one T75 flask).
2. Add 3 mL of 0.05% Trypsin-EDTA to the flask and incubate for 5 minutes at 37°C. Neutralize the enzyme by adding 2-3 volumes of cell culture medium.
3. Centrifuge 1,000 rpm (~220 g) for 5 minutes and resuspend the cells in desired volume of medium.
4. Seed the cells in the new culture vessels at 5,000-10,000 cells/cm^2. Change the medium every other day until cells reach 80-90% confluence.

***Note:** Penicillin-Streptomycin, Antibiotics and antimycotics, or other antibiotics are optional in the culture media. iXCells in house tests were performed under antibiotics-free condition for >=3 days by following the recommended protocol, and no bacterial or fungi contamination were observed during the culture period.*

References

[1] Mayer, L., Eisenhardt, D., Salomon, P., Bauer, W., Plous, R. and Piccinini, L. (1991) Expression of class II molecules on intestinal epithelial cells in humans. Differences between normal and inflammatory bowel disease. Gastroenterology. 100:3-12.

[2] Eckmann, L., Jung H.-C., Schuerer-Maly, C.-C., Panja, A., Morzycka-Wroblewska, E., and Kagnoff, M. F. (1993) Differential cytokine expression by human intestinal epithelial cell lines: regulated expression of interleukin-8. Gastroenterology. 105:1689-1697.

[3] Stallmach, A., v Lampe, B., Matthes, H., Bornhoft, B., and Riecken, E. O. (1992) Diminished expression of integrin adhesion molecules on human colonic epithelial cells during the benign to malign tumor. Gut 33:342-346.

Disclaimers

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