

Lonza Normal Human Intestinal Epithelial Cell Systems

InEpC

Introduction

Lonza's intestinal epithelial cell systems contain normal human intestinal epithelial cells (InEpC) and optimized media for their growth. These cells are of pivotal importance in the digestion and absorption of nutrients and the protection of the organism from bacteria and toxins found in the intestine.

Furthermore, intestinal polyps leading to colon cancer have been shown to arise from the transformation of colonic InEpC. The intestinal epithelium is a highly organized cellular system maintained in a dynamic steady state by cells in proliferation and differentiation, which die and exfoliate into the lumen. Intestinal epithelial cell systems are convenient and easy to use, allowing the researcher to focus on results. Cryopreserved InEpC are truly primary cells representing both villi (enterocytes, goblet, and enteroendocrine cells) and crypts structures. In combination with human intestinal myofibroblasts (InMyoFib), InEpC are able to form very tight cell monolayer, representing a unique *in vitro* system to model human intestinal homeostasis.

Lonza's cells, medium and reagents are quality tested together and guaranteed to give optimum performance as a complete cell system.

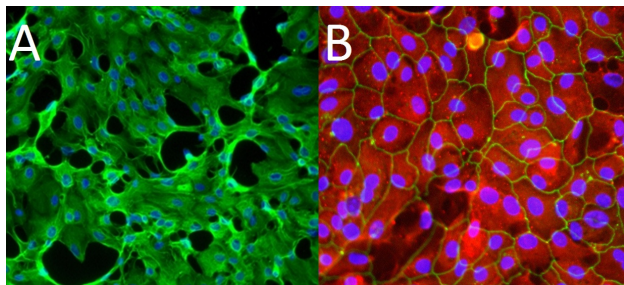


Figure 1A. InEpC stained for cytokeratin 8 and cytokeratin 18.
Figure 1B. InEpC stained for ZO-1 (green) for tight junctions and carbonic anhydrase II (red).

Cell system components (need to be purchased separately)

- One or more intestinal epithelial cell products (cryopreserved or freshly plated)
- One Smooth Muscle Cell Medium BulletKit® (CC-3182) - contains one 500 mL bottle of smooth muscle cell basal medium and the following growth supplements: insulin, 0.5 mL; hFGF-B, 1 mL; hEGF, 0.5 mL; FBS, 25 mL; GA-1000, 0.5 mL.

Additional components necessary for co-culture of InEpC with InMyoFib

- One intestinal myofibroblast cell product (cryopreserved or proliferating)
- One ReagentPack® (CC-5034) containing:

Trypsin/EDTA	100 mL
Trypsin neutralizing solution	100 mL
HEPES buffered saline solution	100 mL

Characterization of cells

Routine characterization of InEpC includes immunofluorescent staining, cell attachment and spreading. Cells stain positive for cytokeratins 8 and 18 and are practically free of myofibroblasts.

Performance

Recommended seeding density for tissue culture dishes	150,000 cells/cm ²
Recommended seeding density for 24-well transwell	100,000 cells/insert
Typical time from plating to confluent monolayer at 33°C	5-7 days

Quality control

All cells are performance assayed and test negative for HIV-1, mycoplasma, hepatitis-B, hepatitis-C, bacteria, yeast and fungi. Cell viability, attachment and morphology are measured after recovery from cryopreservation. Lonza's media are formulated for optimal growth of specific types of normal human cells. Each lot of medium is tested for the support of cell viability and proliferative capacity. A certificate of analysis (COA) for each lot is shipped with each order. A COA for all other products are available upon request.

Ordering information

Cryopreserved cells

CC-2931	Human intestinal epithelial cells	≥ 800,000 viable cells
CC-4540	Human intestinal cell co-culture combo	Contains one ampule of InEpC (≥ 800,000 viable cells) and one ampule of InMyoFib (≥ 500,000 cells)

Freshly plated cells are also available for purchase by calling customer service.

CC-3182	SmGM [®] -2 BulletKit [®]	Kit which contains a 500 mL bottle of SmBM (CC-3181), and SmGM [®] -2 SingleQuots [®] (CC-4149).
CC-3181	SmBM-2 [®] Media	SmBM smooth muscle cell basal medium (no growth factors) (500 mL)
CC-4149	SmGM [®] -2 SingleQuots [®] formulates SmBM [®] -2 Media to SmGM [®] -2 Media	Supplements and growth factors (insulin, hFGF-B, hEGF, FBS and gentamicin/ amphotericin-B)
FBS	US origin	100 mL
CC-2902	InMyoFib	≥ 500,000 cells
CC-5034	ReagentPack [®] , contains 100 mL each of Trypsin/EDTA, trypsin neutralizing solution and HEPES buffered saline solution	Kit

When placing an order or for technical service, please refer to the product numbers and descriptions listed above. For a complete listing of all Lonza products, refer to the Lonza website or the current Lonza catalog. To obtain a catalog, additional information or technical service you may contact Lonza by web, e-mail, telephone, fax or mail.

Product warranty

CULTURES HAVE A FINITE LIFESPAN *IN VITRO*. Lonza guarantees the performance of its cells only if Lonza media and reagents are used exclusively, and the recommend protocols are followed. The performance of cells is not guaranteed if any modifications are made to the complete cell system. Cryopreserved InEpC are assured to be viable and functional when thawed and maintained properly.

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

WARNING: Lonza PRODUCTS CONTAIN HUMAN SOURCE MATERIAL, TREAT AS POTENTIALLY INFECTIOUS. Each donor is tested and found non-reactive by an FDA approved method for the presence of HIV-1, hepatitis B virus and hepatitis C virus. Where donor testing is not possible, cell products are tested for the presence of viral nucleic acid from HIV, hepatitis B virus, and hepatitis C virus. Testing can not offer complete assurance that HIV-1, hepatitis B virus, and hepatitis C virus are absent. All human sourced products should be handled at the biological safety level 2 to minimize exposure of potentially infectious products, as recommended in the CDC-NIH manual, Biosafety in Microbiological and Biomedical Laboratories, 5th edition. If you require further information, please contact your site safety officer or Scientific Support.