

# **PRODUCT INFORMATION**

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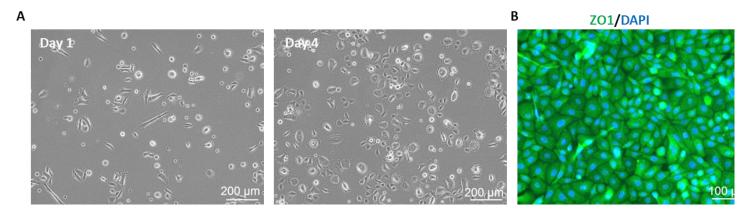
## Human Cervical Epithelial Cells (HCerEpC)

Catalog Number	10HU-094	Cell Number	0.5 million cells/vial
Species	Homo sapiens	Storage Temperature	Liquid Nitrogen

#### **Description**

The cervix is the lower portion of the uterus and functions to promote fertility and protect the female reproductive tract and fetus from potential pathogens. In addition, the cervix plays a critical role in childbirth by effacing and dilating to allow the baby to pass out of the uterus <sup>[1]</sup>. Human Cervical Epithelial Cells (HCerEpC) maintain structural integrity and limit the passage of molecular and cellular substances into the cervix using intercellular junctions <sup>[2,3]</sup>. Studies have shown that patients infected with human papillomavirus (HPV) causes inflammation of the epithelial cell layer which can lead to the development of cervical carcinoma <sup>[4]</sup>. Primary HCerEpC are a useful *in vitro* model for studying the pathophysiology of cervical polyps, HPV, and cervical cancer.

**iXCells Biotechnologies** provides high quality HCerEpC, which are isolated from normal human cervix and cryopreserved at P2, with  $\geq$  0.5 million cells in each vial. HCerEpC express cytokeratin-18 and ZO-1, and are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. They can be further expanded no more than 3 passages in Epithelial Cell Growth Medium (Cat# MD-0041) under the condition suggested by iXCells Biotechnologies. Further expansion may decrease the purity.



**Figure 1.** (A) Phase contrast image of HCerEpC on day 1 and day 3 post recovery. (B) Immunofluorescence staining of HCerEpC with antibody against ZO1 (Green).

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### **Product Details**

Tissue	Human cervix	
Package Size	0.5 million cells/vial	
Passage Number	P2	
Shipped	Cryopreserved	
Storage	Liquid nitrogen	
Growth Properties	Adherent	
Media	Epithelial Cell Growth Medium (Cat# MD-0041)	

### Protocols

#### **Thawing of Frozen Cells**

- 1. Upon receipt of the frozen Human Cervical Epithelial Cells (HCerEpC), 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 Epithelial Cell Growth Medium (Cat# MD-0041).
- **4.** Centrifuge at 1,000 rpm (~220 g) for 5 minutes under room temperature.
- 5. Remove the supernatant and resuspend the cells in desired volume of Endothelial Cell Growth Medium.
- Culture the cell in T75 flask or the desired culture vessel. Change the medium every other day until cells reach 80-90% confluence. We recommend seeding at 5,000-10,000 cells/cm<sup>2</sup>.

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

#### **Standard Culture Procedure**

- 1. When cells reach ~80-90% confluence, remove the medium, and wash once with sterile PBS (5 mL/T75 flask).
- Add ~2.5 mL of 0.05% Trypsin-EDTA to the flask and incubate for ~3 minutes at 37°C. Neutralize the enzyme by adding 2-3 volumes of cell culture medium.
- 3. Centrifuge at 1,000 rpm (~220 g) for 5 minutes and resuspend the cells in desired volume of medium.
- Seed in the new culture vessels at 5,000-10,000 cells/cm<sup>2</sup>. Change the medium every other day until cells reach 80-90% confluence.

#### Reference

[1] Kristin M. Myers, Helen Feltovich, Edoardo Mazza, Joy Vink, Michael Bajka, Ronald J. Wapner, Timothy J. Hall, Michael House (2016) The mechanical role of the cervix in pregnancy. J Biomech. 48(9): 1511–1523.

[2] Turyk M, Golub T, Wood N, Hawkins J, Wilbanks G. (1989) "Growth and characterization of epithelial cells from normal human uterine ectocervix and endocervix." In Vitro Cell Dev Biol. 25(6):544-556.

[3] Blaskewicz C, Pudney J, Anderson D. (2011) "Structure and function of intercellular junctions in human cervical and vaginal mucosal epithelia." Biol Reprod. 85(1): 97-104.

[4] McLaughlin-Drubin M, Meyers J, Munger K. (2012) "Cancer associated human papillomaviruses." Curr Opin Virol. 2(4): 459-466.

#### **Disclaimers**

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