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Product Information

Human Bladder Epithelial Cells (HBlEpC)

Catalog Number	10HU-092	**Cell Number**	0.5 million cells/vial
Species	*Homo sapiens*	**Storage Temperature**	Liquid Nitrogen

Description

The mammalian urinary bladder epithelium (urothelium) performs the important function of storing urine for extended periods, while maintaining the urine composition similar to that delivered by the kidneys [1]. The importance of the barrier function of the urothelium is illustrated by infectious cystitis. The loss of the barrier function results in the movement of urinary constituents into the lamina propria and underlying muscle layers, resulting in suprapubic and lower back pain and frequent, urgent, and painful voiding [2].

iXCells Biotechnologies provides high quality HBIEpC, which are isolated from normal human bladder and cryopreserved at P2, with >0.5 million cells in each vial. HAEpC express cytokeratin-18 and are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. HBIEpc can further expand no more than 3 passages in Epithelial Cell Growth Medium (Cat# MD-0041) under the condition suggested by iXCells Biotechnologies.

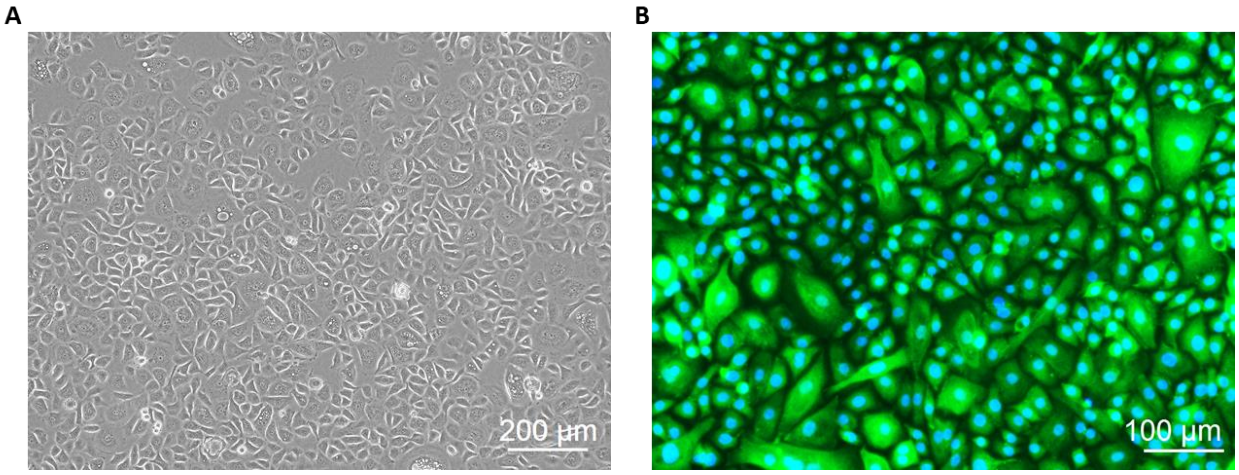

Figure 1. Human Bladder Epithelial Cells (HBlEpC). (**A**) Phase contrast image of HPRTEpC. (**B**) Immunofluorescence staining with antibody against ZO-1 (B).

Product Details

Tissue	Human bladder
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 Bladder Epithelial Cells (HBlEpC), 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 fresh Epithelial Cell Growth Medium.
6. Culture the cells in the T75 flask. 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.*

Standard Culture Procedure

1. HBIEpC can be cultured in **Epithelial Cell Growth Medium** (Cat# MD-0041).
2. When cells reach ~80-90% confluence, remove the medium, and wash once with sterile PBS (5 mL for one T75 flask).
3. Add 3 mL of 0.25% 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.
4. Centrifuge 1,000 rpm (~220 g) for 5 minutes and resuspend the cells in desired volume of medium.
5. Seed the cells in the new culture vessels at 5×10^3 cells/cm^2. Change the medium every other day until cells reach 80-90% confluence.

References

[1] Harry Horsley, Dhanuson Dharmasena, James Malone-Lee & Jennifer L. Rohn. (2018) “A urine-dependent human urothelial organoid offers a potential alternative to rodent models of infection”. Scientific Reports, 8:1238.

[2] Hattori, S., K. Kojima, K. Minoshima, M. Yamaha, M. Horie, T. Sawamura, A. Kikuchi, and T. Deguchi. 2014. Detection of Bladder Cancer by Measuring CD44v6 Expression in Urine With Real-time Quantitative Reverse Transcription Polymerase Chain Reaction. Urology, 83:1443.e9-1443.e15.

Disclaimers