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Human Mammary Epithelial Cells (HMEpC)

Catalog Number	10HU-104	**Cell Number**	0.5 million cells/vial
Species	*Homo sapiens*	**Storage Temperature**	Liquid Nitrogen

Description

Human mammary epithelial cells (HMEpC) lie within the alveolar lumen of the breast lobules, which together with mammary ducts and adipose tissues, form a complex network in the mammary gland. HMEpC respond to various growth factors and hormonal cues and undergo changes in growth, invasion, and differentiation during pre- and postnatal stage, puberty, and pregnancy [1]. Aberrant levels of hormones and extracellular matrix composition, and other genetic factors have been shown to induce uncontrolled proliferation of HMEpC, resulting in breast cancer development [2, 3]. Therefore, understanding the cellular properties of HMEpC will help identify the disease mechanisms in breast cancer and the new targets for therapeutic development.

iXCells Biotechnologies offers high quality HMEpC, which are isolated from human breast and cryopreserved at P1, with >0.5 million cells in each vial. HMEpC express cytokeratine-14, -18, and -19. They are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi and can further expand for no more than 3 passages in Epithelial Cell Growth Medium (Cat# MD-0041) under the conditions suggested by iXCells Biotechnologies.

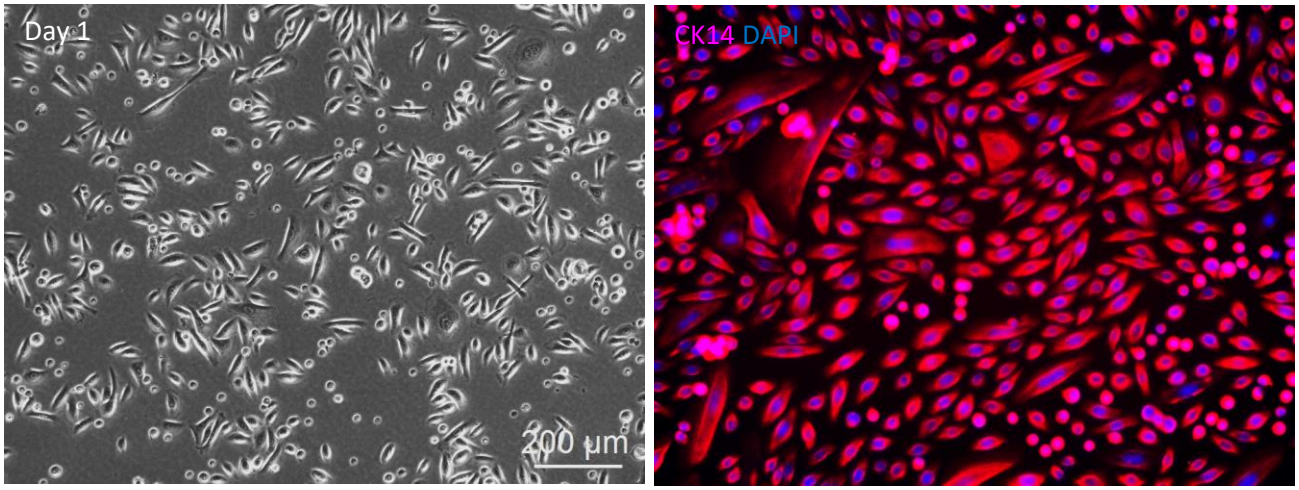

Figure 1: Phase contrast and cytokeratin-14 (CK14) staining of HMEpC post-recovery

Product Details

Tissue	Human breast
Package Size	0.5 million cells/vial
Passage Number	P1
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 mammary epithelial cells (HMEpC), 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 cell in the T75 flask. A seeding density of 5,000-10,000 cells/cm^2 is recommended. Change the medium every other day until cells are 80-90% confluent.

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 for one T75 flask).
2. 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.
3. Centrifuge at 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 vessel at a density of 5,000 cells/cm^2. Change the medium every other day until cells reach 80-90% confluence. HMEpC can be further expanded for 2-3 passages in iXCell's Epithelial Medium under the conditions suggested by iXCells Biotechnologies.

References

[1]. Topper, Y.J., Freeman, C.S. (1980) Multiple hormone interactions in the developmental biology of the mammary gland. Physiol Rev 60:1049-106.

[2]. Hennighausen, L., Robinson, G.W. (2001) Signaling pathways in mammary gland development. Dev Cell 1:467-475.

[3]. Provenzano, P. P., Inman, D. R., et.al (2008) Collagen density promotes mammary tumor initiation and progression. BMC medicine, 6, 11.

Disclaimers