Data Sheet

HPDE6c7 Human Pancreatic Ductal Epithelial Cell Line

Immortalized Cell Line

SCC442

Pack Size: ≥ 1x10^6 viable cells/vial

Store in liquid nitrogen.

FOR RESEARCH USE ONLY

Not for use in diagnostic procedures. Not for Human or Animal Consumption.

Background

Pancreatic cancer is the fourth commonest cause of cancer death in North America and has one of the worst prognoses. Greater than 90% of these tumors arise from the pancreatic duct epithelium.[1] Even when the primary tumor is small and localized, the prognosis remains poor and chemotherapy or radiotherapy has demonstrated limited effectiveness.[2] The availability of dynamic models remains crucial to the study and understanding of the biological significance of the genetic changes underlying pancreatic cancer, especially in the context of pancreatic duct epithelial cell carcinogenesis.

The immortalized HPDE6c7 cell line demonstrates a near normal genotype and phenotype of pancreatic duct epithelial cells.[3] HPDE6c7 cells retain normal Ki-ras, p53, C-myc, and p16INK4A genotypes but lack the p53 functional pathway.[3] The HPDE6c7 cell line is useful for studies on the molecular basis of pancreatic duct cell carcinogenesis and islet cell differentiation. HPDE6c7 cells are a versatile model for the pancreatic ductal epithelium, facilitating the development of strategies for the chemoprevention of human pancreatic cancers.

Source

HPDE6c7 cells originated from normal human pancreatic duct of a 63-year-old female, having been genotypically altered by infection with retrovirus vector expressing E6E7 genes of human papilloma virus (HPV)-16.[3]

Short Tandem Repeat

D3S1358: 16	D18S51: 13, 18	TPOX: 8, 10
D7S820: 9, 10	D5S818: 10, 12	CSF1PO: 11, 12
vWA: 14, 17	D13S317: 11, 12	Amel: X
FGA: 21, 22	D16S539: 11, 13	Penta D: 9, 12
D8S1179: 14, 16	TH01: 9.3	Penta E: 5, 10
D21S11: 30, 33		

Cancer cell lines are inherently genetically unstable. Instability may arise in the form of loss of heterozygosity of alleles at one or more genetic sites with increased passages.

Quality Control Testing

- Each vial contains ≥ $1x10^6$ viable cells.
- Cells are tested negative for infectious diseases by a Human Essential CLEAR Panel by Charles River Animal Diagnostic Services.
- Cells are verified to be of human origin and negative for inter-species contamination from rat, mouse, Chinese hamster, Golden Syrian hamster, and Non-human Primate (NHP) as assessed by a Contamination Clear panel by Charles River Animal Diagnostic Services.
- Cells are negative for mycoplasma contamination.

Storage and Handling

HPDE6c7 cells should be stored in liquid nitrogen. The cells can be cultured for at least 10 passages after initial thawing without significantly affecting functionality.

Representative Data

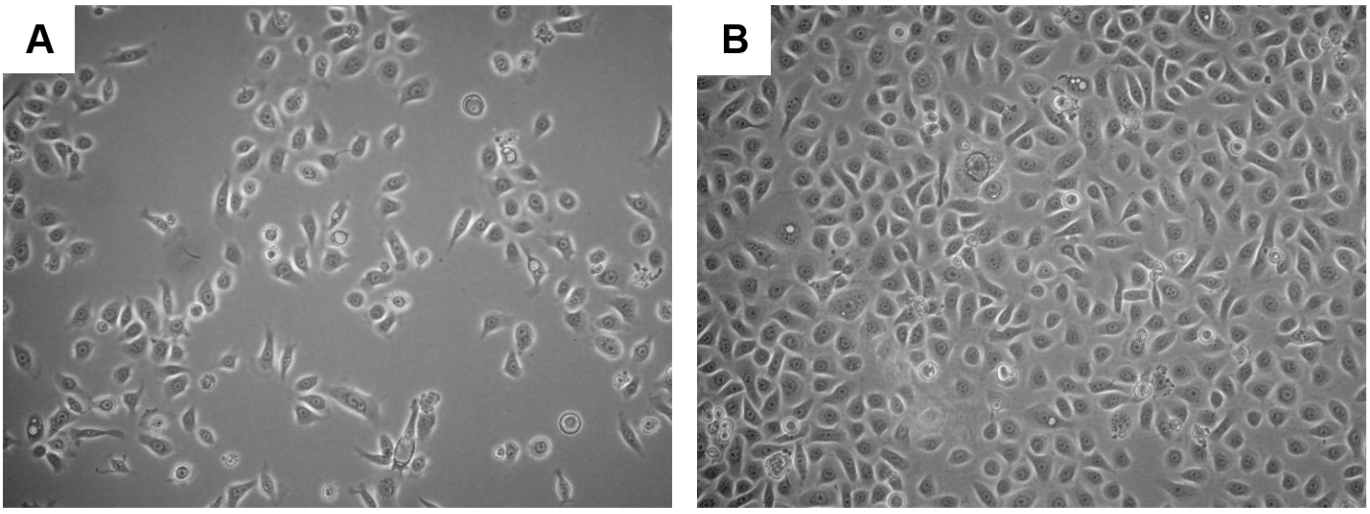

Figure 1. Bright-field images of HPDE6c7 cells one **(A)** and three **(B)** days after thaw in a T75 flask.

Protocols

Thawing Cells

1. Do not thaw the cells until the recommended medium is on hand. Cells can grow on normal tissue cultureware surfaces without any additional coating.
   Cells are thawed and expanded in HPDE6c7 Expansion Medium comprised of Keratinocyte Serum-Free Growth Medium (Cell Biologics, M6621SF) with 50 µg/mL bovine pituitary extract (02-103), 5 ng/mL EGF (GF316) and 1X penicillin/streptomycin (P4333, optional).
2. Remove the vial of frozen HPDE6c7 cells from liquid nitrogen and incubate in a 37 °C water bath. Closely monitor until the cells are completely thawed. Maximum cell viability is dependent on the rapid and complete thawing of frozen cells.
   IMPORTANT: Do not vortex the cells.
3. As soon as the cells are completely thawed, disinfect the outside of the vial with 70% ethanol. Proceed immediately to the next step.
4. In a laminar flow hood, use a 1- or 2-mL pipette to transfer the cells to a sterile 50 mL conical tube. Be careful not to introduce any bubbles during the transfer process.

5. Using a 10 mL pipette, slowly add dropwise 9 mL of HPDE6c7 Expansion Medium (Step 1 above) to the 15 mL conical tube.

   IMPORTANT: Do not add the entire volume of media all at once to the cells. This may result in decreased cell viability due to osmotic shock.
6. Gently mix the cell suspension by slowly pipetting up and down twice. Be careful not to introduce any bubbles.

   IMPORTANT: Do not vortex the cells.
7. Centrifuge the tube at 300 *x g* for 2-3 minutes to pellet the cells.
8. Decant as much of the supernatant as possible. Steps 5-8 are necessary to remove residual cryopreservative (DMSO).
9. Resuspend the cells in 15 mL of HPDE6c7 Expansion Medium.
10. Transfer the cell mixture to a T75 tissue culture flask.
11. Incubate the cells at 37 °C in a humidified incubator with 5% CO_2.

Subculturing Cells

Cells are strongly adherent. HPDE6c7 cells are sensitive to trypsin treatment and thus it is essential to neutralize the trypsin with the same volume of 1% soybean trypsin inhibitor. Cell should not be split too thinly. We recommend split ratio of 1:3-1:4.

1. HPDE6c7 cells should be passaged at ~80-85% confluency. Do not allow the cells to grow over 85% confluency.
2. Carefully remove the medium from the T75 tissue culture flask containing the 80% confluent layer of HPDE6c7 cells.
3. Rinse the flask with 10 mL 1X PBS. Aspirate after the rinse.
4. Apply 6 mL of 0.25% Trypsin/EDTA and incubate in a 37 °C incubator for 7-10 minutes.

   Note: If cells do not detach, add a bit more trypsin and wait a little longer.
5. Inspect the flask and ensure the complete detachment of cells by gently tapping the side of the flask with the palm of your hand.
6. Neutralize the trypsin by adding the same volume of 1% soybean trypsin inhibitor (Cat. No. 10109886001).
7. Add 10-30 mL of HPDE6c7 Expansion Medium to the flask.
8. Gently rotate the flask to mix the cell suspension. Transfer the dissociated cells to a 50 mL conical tube.
9. Centrifuge the tube at 300 *x g* for 3-5 minutes to pellet the cells.
10. Discard the supernatant, then loosen the cell pellet by tapping the tip of the tube with a finger.
11. Apply 2-5 mL of HPDE6c7 Expansion Medium to the conical tube and resuspend the cells thoroughly.

    IMPORTANT: Do not vortex the cells.
12. Count the number of cells using a hemocytometer.
13. Plate the cells to the desired density. Typical split ratio should not exceed 1:3-1:4. The medium should be replaced every 2-3 days. HPDE6c7 cells should not be split too thinly.

Cryopreservation of Cells

HPDE6c7 cells may be frozen in HPDE6c7 Expansion Medium and 10% DMSO using a Nalgene® slow freeze Mr. Frosty® container.

References

1. Am J Pathol 1996, 148(6): 1763-1770.
2. Am J Pathol 1998, 153(1): 263-269.
3. Am J Pathol 2000, 157(5): 1623-1631.

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