C57MG Mouse Mammary Epithelial Cell Line

Immortalized Cell Line

Cat. # SCC273

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.

Data Sheet

Background:

Carcinomas arising from epithelial cells lining the mammary glands comprise the overwhelming majority of breast cancer cases.[1] Transformation of mammary epithelial cells from their normal non-proliferative condition to an immortal state enabling hyperproliferation and malignancy occurs via bypass of senescence checkpoints. Cellular models that allow study of the mechanisms giving rise to malignancy are of paramount importance to the identification of therapeutic targets for breast cancer treatment.

The C57MG immortalized mammary epithelial cell line is an established model for mammary epithelial malignancy. C57MG cells are syngeneic with the C57BL/6 mouse model and have demonstrated potential of transformation with many proto-oncogenic factors. The C57MG cell line is widely used in studies of the role of Wnt signaling in malignant transformation.[4] C57MG cells have been shown to upregulate expression of proto-oncogenic β-catenin in response to Wnt proteins.[5] The features of the C57MG cell line make it a highly relevant model system for studies of breast cancer malignancy.

Source

The C57MG cell line was established from mammary epithelial tissue of a C57BL/6 mouse.[2]

Storage and Handling

C57MG Mouse Mammary Epithelial Cell Line should be stored in liquid nitrogen. The cells can be cultured for at least 10 passages after initial thawing without significantly affecting the cell marker expression and functionality.

Quality Control Testing

- Each vial contains ≥ $1X10^6$ viable cells.
- Cells are tested negative for infectious diseases by a Mouse Essential CLEAR panel by Charles River Animal Diagnostic Services.
- Cells are verified to be of mouse origin and negative for inter-species contamination from rat, chinese hamster, Golden Syrian hamster, human and non-human primate (NHP) as assessed by a Contamination Clear panel by Charles River Animal Diagnostic Services
- Cells are negative for mycoplasma contamination.

Representative Data

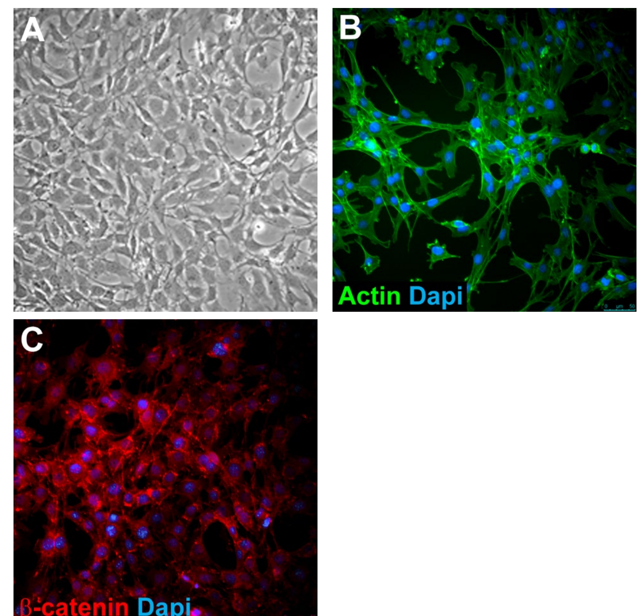

Figure 1. Bright-field image of cells two days after thaw (A). Cells express Actin (**B**, Sigma P5282) and β-catenin (C, Millipore ABE208).

References

1. *Breast Cancer Res.* 2005; 7(4): 171-179.
2. *Virology.* 1978; 90(1): 12-22.
3. *Mol Cell Biol.* 1992; 12(1): 321-328.
4. *BMC Dev Biol.* 2004; 4: 6.
5. *Cell Growth Differ.* 1997; 8(12): 1349-1358.

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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.

   C57MG Expansion Medium: Cells are thawed and expanded in DMEM-High Glucose (Sigma Cat. No. D5796), 10% FBS (Cat. No. ES-009-B), and 1 μg/mL insulin (Cat. No. 407709).
2. Remove the vial of frozen C57MG 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 15 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 C57MG 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 C57MG 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

1. Do not allow the cells to grow to confluency. C57MG should be passaged at ~80-85% confluence.
2. Carefully remove the medium from the T75 tissue culture flask containing the 80% confluent layer of C57MG cells.
3. Rinse the flask with 10 mL 1X PBS. Aspirate after the rinse.
3. Apply 5-7 mL of Accutase and incubate in a 37°C incubator for 3-5 minutes.
4. Inspect the flask and ensure the complete detachment of cells by gently tapping the side of the flask with the palm of your hand.
5. Add 5-7 mL of C57MG Expansion Medium to the plate.
6. Gently rotate the flask to mix the cell suspension. Transfer the dissociated cells to a 15 mL conical tube.
7. Centrifuge the tube at 300 x g for 3-5 minutes to pellet the cells.
8. Discard the supernatant, then loosen the cell pellet by tapping the tip of the tube with a finger.
9. Apply 2-5 mL of C57MG Expansion Medium to the conical tube and resuspend the cells thoroughly.

   IMPORTANT: Do not vortex the cells.
10. Count the number of cells using a hemocytometer.
11. Plate the cells to the desired density. Typical split ratio is 1:6.

Cryopreservation of Cells

C57MG Immortalized Mouse Mammary Epithelial Cell Line may be frozen in C57MG Expansion Medium and 10% DMSO using a Nalgene slow freeze Mr. Frosty container.

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