OECM-1 Human Oral Squamous Carcinoma Cell Line

Cancer Cell Line

Cat. # SCC180

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

Squamous cell carcinoma (SCC) is a common cancer type, developing in epithelial cells. Nearly all cancers of the oral cavity are squamous cell carcinomas, and the high recurrence rate among oral SCCs make these challenging targets for therapies. Established models of this cancer type continue to yield significant insights into the properties and potential treatments of head and neck cancers.[1]

The OECM-1 human oral cavity squamous cell carcinoma cell line is a well-established model for squamous cell carcinoma. The OECM-1 cell line harbors a missense mutation in the *p53* tumor suppressor,[2] displays low EGFR expression,[3] and is tumorigenic in nude mice.[4] OECM-1 cells proliferate with a doubling time of 30-38 hours and are capable of anchorage-independent growth, forming spheroid colonies.[4] OECM-1 cells have been intensively characterized in the literature for morphology, biomarker expression and drug response,[5,6] and are widely utilized in studies of cancer cell signaling, epithelial-mesenchymal transition, metastasis and invasion, and cancer cell stemness.[7]

Source

The OECM-1 human oral cavity squamous cell carcinoma cell line was derived from surgical resection of a primary tumor of a Taiwanese male patient.[4]

Short tandem repeat (STR) Profile

D3S1358: 15, 18	D16S539: 10, 12
TH01: 9	CSF1PO: 12
D21S11: 29, 32.2	Penta D: 9, 10
D18S51: 16	vWA: 14, 16
Penta E: 20	D8S1179: 15
D5S818: 10, 11	TPOX: 8
D13S317: 10	FGA: 22, 27
D7S820: 8, 11	Amelogenin: X, Y

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

Storage & Handling

OECM-1 human oral cavity squamous carcinoma 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 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.

Representative Data

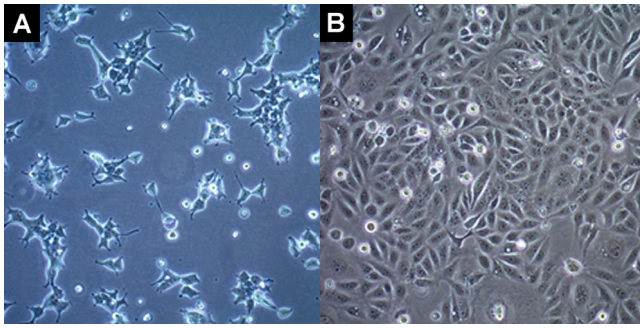

Figure 1. OECM-1 cells one (**A**, 10X magnification) and two (**B**, 10X magnification) days after thawing in a T75 flask.

References

1. Méry B et al., (2017) *Oral Oncol* 65: 51-56.
2. Lin SC et al., (2004) *J Oral Pathol Med* 33(2): 79-86.
3. Lee CH, Hung HW, Hung PH, Shieh YS (2010) *Mol Cancer* 9:64.
4. Yang CY, Meng CL (1994) *J Dent Res* 73(8): 1407-1415.
5. Huang GC, Liu SY, Lin MH, Kuo YY, Liu YC (2004) *Jpn J Clin Oncol* 34(9): 499-504.
6. Meng CL, Yang CY, Shen KL, Wong PY, Lee HK (1998) *Arch Oral Biol* 43(12): 979-986.
7. Chang CW et al., (2018) *Cell Death Dis* 9(2): 194.

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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.

   OECM-1 Expansion Medium: Cells are thawed and expanded in RPMI-1640 (Sigma Cat. No. R8758) supplemented with 10% FBS (Cat. No. ES-009-B).
2. Remove the vial of frozen OECM-1 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 OECM-1 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 OECM-1 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. OECM-1 cells should be passaged at ~80-85% confluence at a split ratio of 1:3 to 1:6.
2. Carefully remove the medium from the T75 tissue culture flask containing the OECM-1 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 OECM-1 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 OECM-1 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 1:3 to 1:6.

Cryopreservation of Cells

OECM-1 human oral cavity squamous carcinoma cell line may be frozen in the expansion medium plus 10% DMSO using a Nalgene slow freeze Mr. Frosty container.

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