LOX-IMVI Human Melanoma Cell Line

Cancer Cell Line

Cat. # SCC201

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

Malignant melanoma is highly treatable when diagnosed early, but can spread rapidly if undetected, resulting in the highest mortality among skin cancer types. Lymph nodes and lungs are the most common sites of melanoma metastases,[1] and because of the poor prognosis and limited efficacy of current treatments, metastatic melanoma has generated intense interest as a target for therapeutic intervention. The LOX-IMVI human melanoma cell line is widely used as an *in vitro* model system to study tumor metastasis and to test for chemosensitivity to potential anti-cancer compounds. LOX-IMVI cells exhibit a tendency to form lung metastases in nude mice independent of the inoculation site,[2] and mortality of experimental animals is observed within 3-5 weeks of injection.[3] LOX-IMVI cells are genetically characterized by lack of the Y chromosome and trisomy 7,[2] and are heterozygous for the *BRAF* V600E melanoma driver mutation.[4] LOX-IMVI cells are amelanotic and express the human melanoma marker GD3 ganglioside, a factor in metastatic potential of malignant melanoma.[5] The LOX-IMVI human melanoma cell line is an excellent proven model for probing mechanisms of metastasis and for evaluation of chemotherapies.

Source

The LOX-IMVI human melanoma cell line was established from a subcutaneous xenograft in nude mice from a lymph node metastasis of a 58-year-old Caucasian male patient with malignant amelanotic melanoma.[2]

Short tandem repeat (STR) Profile

D3S1358: 15	D16S539: 10, 12
TH01: 7, 9.3	CSF1PO: 10, 12, 13
D21S11: 28, 31	Penta D: 9, 11
D18S51: 15,18	vWA: 14, 17
Penta E: 5, 7	D8S1179: 11, 13
D5S818: 11, 13	TPOX: 9, 11
D13S317: 11	FGA: 21, 22
D7S820: 9, 11	Amelogenin: X

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

Store 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

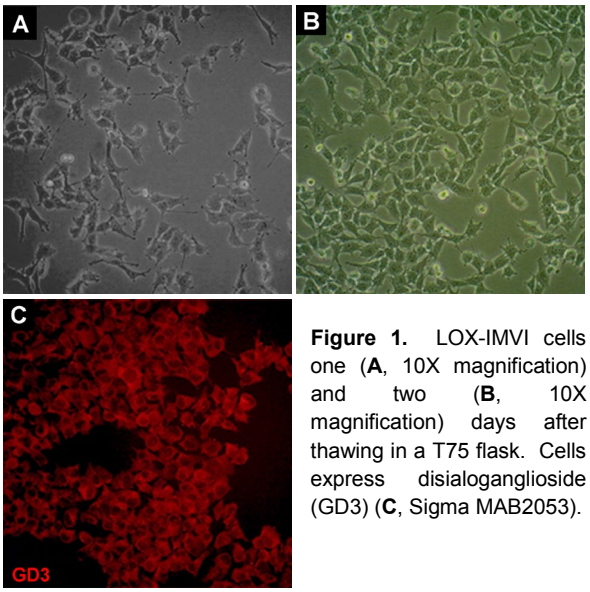

Figure 1. LOX-IMVI cells one (**A**, 10X magnification) and two (**B**, 10X magnification) days after thawing in a T75 flask. Cells express disialoganglioside (GD3) (**C**, Sigma MAB2053).

References

1. Tas F (2012). *J Oncol* 2012: 647684
2. Fodstad O, Aamdal S, McMenamin M, Nesland JM, Pihl A (1988) *Int J Cancer* 41(3): 442-449.
3. KjØnniksen I, Storeng R, Pihl A, McLemore TL, Fodstad O (1989) *Cancer Res* 49(18): 5148-5152.
4. Ikediobi ON et al., (2006) *Mol Cancer Ther* 5(11): 2606-2612.
5. Hamamura K et al., (2005) *PNAS* 102(31): 11041-11046.

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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.

   LOX-IMVI Expansion Medium: Cells are thawed and expanded in RPMI-1640 (Sigma Cat. No. R0883) supplemented with 2 mM L-Glutamine (Cat. No. TMS-002-C), and 10% FBS (Cat. No. ES-009-B).
2. Remove the vial of frozen LOX-IMVI 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 LOX-IMVI 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 LOX-IMVI 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. LOX-IMVI cells should be passaged at ~80-85% confluence at a split ratio of 1:3 to 1:4.
2. Carefully remove the medium from the T75 tissue culture flask containing the LOX-IMVI 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 LOX-IMVI 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 LOX-IMVI 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 1:4.

Cryopreservation of Cells

LOX-IMVI human melanoma cell line may be frozen in the expansion medium plus 10% DMSO using a Nalgene slow freeze Mr. Frosty container.

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