

YUMM1.7 Mouse Melanoma Cell Line

Cancer Cell Line

Cat. # SCC191

Pack size: $\geq 1 \times 10^6$

viable cells/vial

Store in liquid nitrogen

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THIS PRODUCT CONTAINS GENETICALLY MODIFIED ORGANISMS



Data Sheet

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Background

The great promise of immune-based therapies in cancer and recent progress in successful application of these approaches has brought to the fore the necessity of immune-competent models to evaluate immune system responses to cancer cells. Immunocompetent genetically-engineered mouse models harboring discrete genetic drivers of melanoma are essential for studying potential immunotherapies but are limited by the need to maintain colonies of multiple genotypes necessary to generate mouse models with appropriate genetic backgrounds.

The YUMM1.7 mouse melanoma cell line was developed as an immunocompetent cell line that recapitulates genetic drivers found in a significant proportion of human melanomas.¹ YUMM1.7 cells are syngeneic with the immunocompetent C57/B1/6 mouse background and retain genetic markers of the *Braf/Pten* mouse model, characterized by activation of *Braf* and inactivation of *Pten* and *Cdkn2a*, in which melanoma tumors develop with short latency.² YUMM1.7 cells are highly tumorigenic *in vivo*.¹ The YUMM1.7 mouse melanoma cell line represents a valuable tool for tumor immunology and cancer biology, especially tractable for the evaluation and generation of new immunotherapies.

Source

The YUMM1.7 mouse melanoma cell line was derived from a 4-hydroxytamoxifen-induced melanoma tumor in a male C57/B1/6 mouse into which mutations from the *Braf/Pten* genetically-engineered mouse model had been introduced via backcrossing. The YUMM1.7 cell line harbors the *Braf* V600E mutation and is homozygous negative for wild-type *Pten* and *Cdkn2a*.¹

Quality Control Testing

- Each vial contains $\geq 1 \times 10^6$ 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.

Storage and Handling

YUMM1.7 mouse melanoma 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.

Representative Data

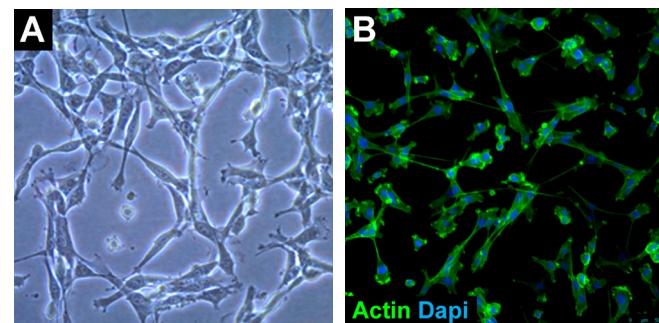


Figure 1. YUMM1.7 cells one day after thawing in a T75 flask (A). Cells express actin (B, P5282).

References

1. Meeth K et al. (2016) The YUMM lines: a series of congenic mouse melanoma cell lines with defined genetic alterations. *Pigment Cell Melanoma Res* 29(5): 590-597.
2. Dankort D et al. (2009) *Braf*(V600E) cooperates with *Pten* loss to induce metastatic melanoma. *Nat Genet.* 41(5): 544-552.

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.

YUMM1.7 Expansion Medium: Cells are thawed and expanded in DMEM/F12 medium (Cat. No. DF-042-B) supplemented with 10% FBS (Cat. No. ES-009-B) and 1X non-essential amino acids (Cat. No. TMS-001-C).

2. Remove the vial of frozen YUMM1.7 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 YUMM1.7 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 YUMM1.7 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% CO₂.

Subculturing Cells

Note: Cells form a confluent monolayer that easily detach and may be difficult to resuspend in liquid culture.

1. Carefully remove the medium from the T75 tissue culture flask containing the confluent layer of YUMM1.7 cells.

2. Rinse the flask with 10 mL 1X PBS. Aspirate after the rinse.

3. Apply 5-7 mL of Accutase or trypsin-EDTA solution 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 YUMM1.7 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 YUMM1.7 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

YUMM1.7 Mouse 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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