Product sheet

MADB106 Cells | 305205

General information

Description	The MADB106 cell line is a mammary adenocarcinoma cell line derived from the Fischer 344 rat, commonly used in cancer research, particularly in studies investigating metastasis and the immune response to tumors. This cell line is syngeneic to the Fischer 344 rat strain, meaning it is genetically compatible, which allows for the study of tumor growth and metastasis in an immunocompetent environment, closely mimicking physiological conditions. MADB106 cells primarily seed and colonize the lungs when introduced intravenously, making them a valuable model for studying lung metastasis. Research using MADB106 cells has highlighted the crucial role of natural killer (NK) cells in controlling metastasis. Specifically, NK cells are active during the early stages of metastasis, particularly within the first few hours following tumor cell inoculation. Studies have demonstrated that the depletion of NK cells leads to a significant increase in tumor cell retention and metastasis, underscoring the importance of NK cell activity in resisting tumor spread. Additionally, age-related differences in NK cell activity have been observed, with younger animals showing reduced NK cell-mediated cytotoxicity, resulting in higher susceptibility to metastasis. These findings make MADB106 a pivotal model for exploring the interactions between the immune system and cancer, particularly the mechanisms underlying NK cell-mediated tumor control.
Organism	Rat
Disease	Adenocarcinoma of the rat mammary gland
Synonyms	MADB-106, MADB 106

Characteristics

Gender	Female
Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	MADB106 (Cytion catalog number 305205)

Expression / Mutation

Handling

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Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Medium supplements	Supplement the medium with 10% FBS, 1 mM sodium pyruvate, 1% NEAA
Passaging solution	Accutase
Subculturing	Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.
Split ratio	1: 2 to 1: 4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100)

Handling of cryopreserved cultures

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. Upon receipt, either store the cryovial immediately at temperatures below -150°C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
3. For immediate culturing, swiftly thaw the vial by immersing it in a 37°C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
7. Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

Quality control / Genetic profile / HLA

Sterility

Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.

To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.