Product sheet

MFC Cells | 300652

General information

Description	The Mouse Forestomach Carcinoma (MFC) cell line is an invaluable tool in cancer research, particularly in the study of tumor metastasis. This cell line was established in vitro and has been subcultured for over 132 passages. MFC cells are characterized by their lack of contact inhibition and display a variety of morphologies, including round, polygonal, and spindle shapes. Ultrastructurally, MFC cells exhibit abundant microvilli on their surfaces and extensive filopodia in the cytoplasm. The nuclei of these cells are irregularly shaped with an increased nucleus-cytoplasm ratio. Additionally, desmosomes, hemidesmosomes, and a small number of tonofibrils are present. The MFC cell line has a population doubling time of 24.7 hours, with an average mitotic index of 32.9%, reaching up to a maximum of 62% with a modal range of 70-76. The homotransplant efficiency of these cells is 100%, indicating their high viability and consistency in experimental settings. Tumors induced by MFC cells are morphologically similar to the original forestomach carcinoma from which they were derived, with 81.8% of induced tumors spontaneously metastasizing to the lungs. This high propensity for blood-borne lung metastasis makes the MFC cell line particularly useful for studying the mechanisms of tumor metastasis and for testing experimental treatments. The retention of the primary tumor's metastatic features underscores the relevance of this cell line in ongoing cancer research.
Organism	Mouse
Tissue	Stomach
Disease	Mouse gastric carcinoma
Applications	Cancer research
Synonyms	Mouse Forestomach Carcinoma

Characteristics

Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	MFC (Cytion catalog number 300652)

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
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.
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.