MCA-205

305730

GENERAL INFORMATION

Description

MCA-205 is a murine fibrosarcoma cell line derived from C57BL/6 mice. It was originally established through methylcholanthrene-induced tumorigenesis, a classic chemical carcinogenesis approach widely used to generate transplantable tumor models in syngeneic mice. MCA-205 serves as an immunocompetent tumor model, meaning it can be implanted into immunocompetent C57BL/6 mice without rejection, making it highly suitable for preclinical studies of cancer immunotherapy and tumor immunology.
Biologically, MCA-205 tumors are classified as non-immunogenic or poorly immunogenic, a characteristic that reflects their low baseline antigenicity and reduced susceptibility to spontaneous immune-mediated rejection. This feature is particularly useful for evaluating the efficacy of checkpoint blockade therapies (such as anti-PD-1 or anti-CTLA-4) or tumor vaccines under conditions that mirror the immune-evasive nature of many human cancers. Despite their poor intrinsic immunogenicity, MCA-205 tumors can respond to immune modulation when combined with radiation therapy, oncolytic viruses, or TLR agonists, making them a versatile platform for combinatorial treatment testing.
MCA-205 cells grow rapidly both in vitro and in vivo, forming aggressive fibrosarcomas when injected subcutaneously. These tumors have a high degree of vascularization and support reproducible tumor growth kinetics, allowing for consistent measurement of tumor burden and treatment response. Due to their murine origin and syngeneicity with C57BL/6 mice, MCA-205 cells are not appropriate for human-specific assays but are indispensable for exploring immune mechanisms in a fully functional host immune system.

Disease	Mouse fibrosarcoma

Synonyms

- MCA 205
- MCA205

CLASSIFICATION

Organism	Mouse
Growth properties	Adherent
Biosafety level	1

IDENTIFIERS

Citation

MCA-205 (Cytion catalog number 305730)

NCBI TaxID	10090
Cellosaurus	CVCL_VR90

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

Supplement the medium with 10% FBS and 1% NEAA

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

Dissociation reagent	Accutase

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

Freeze medium	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

Storage conditions

For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

Shipping conditions

Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes