B16-F10

305157

GENERAL INFORMATION

Description

The B16-F10 cell line is a subline of the murine B16 melanoma cell line, derived from a spontaneous skin tumor in a mouse. These cells are characterized by their aggressive metastatic potential, particularly to the lungs, making them a valuable model for studying melanoma progression and metastasis. The B16-F10 cells exhibit high melanin content, which contributes to their pigmentation and is used as a marker in various assays to track cell proliferation and tumor growth. B16-F10 was obtained through a ten-time selective procedure using Fidler's method, enhancing its metastatic capability compared to its parent line, B16-F0, and the B16-F1 subline, which underwent a one-time selective procedure.
B16-F10 cells are widely used in cancer research due to their ability to form tumors in syngeneic C57BL/6 mice, providing a consistent and reproducible model for in vivo studies. These cells express various melanoma-associated antigens, which are crucial for investigating immune responses and developing immunotherapies. Additionally, B16-F10 cells are used to evaluate the efficacy of chemotherapeutic agents and the molecular mechanisms underlying drug resistance in melanoma. The cell line's genetic profile and behavior under different experimental conditions offer insights into the pathways involved in melanoma metastasis, aiding in the development of targeted therapeutic strategies. It is noteworthy that B16-F10's derivative, B16-BL6, exhibits even greater invasive activity, making the B16 series a comprehensive model system for studying different aspects of melanoma biology and therapy.

Tissue	Skin
Disease	Mouse melanoma

Synonyms

- B16/F10
- B16 F10
- B16F10
- B16 melanoma F10

CLASSIFICATION

Organism	Mouse
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Mixture of spindle-shaped and epithelial-like cells

IDENTIFIERS

Citation

B16-F10 (Cytion catalog number 305157)

NCBI TaxID	10090
Cellosaurus	CVCL_0159

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EXPRESSION AND SUSCEPTIBILITY

Products

Melanin

HANDLING AND CULTURE

Culture medium

DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

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

Supplements

Supplement the medium with 10% FBS

Dissociation reagent	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.

Fluid renewal	2 to 3 times per week

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.

DONOR

Breed / subspecies	C57BL/6

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.

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