

FS-C57BL Cells | 400420

General information

Description

FS-C57BL is a fibrosarcoma cell line derived from C57BL mice, commonly utilized in cancer research. The origin of this cell line traces back to spontaneous tumor formations in these mice, which are genetically modified to be predisposed to cancer. The FS-C57BL cell line is significant for its robust growth and reproducibility in experimental settings, making it a valuable tool for studying cancer biology, especially in the context of fibrosarcoma. The cell line exhibits characteristics typical of sarcomas, including high mitotic index and the ability to form tumors when inoculated into compatible hosts.

In research, FS-C57BL is often used to explore the cellular mechanisms underlying fibrosarcoma progression and metastasis. It serves as a model to assess the efficacy of chemotherapeutic agents and to study the genetic and molecular pathways involved in tumor growth and response to treatment. Researchers also leverage this cell line to investigate immune responses in cancer, benefiting from the C57BL mouse's well-documented immune profile. Thus, FS-C57BL aids in bridging in vitro experiments with in vivo outcomes, enhancing the translational relevance of the research conducted with these cells.

Organism Mouse

Tissue Skin

Disease Sarcoma

Characteristics

Breed/Subspecies C57BL/6J

Gender Female

Cell type Fibroblast

Growth properties Adherent

Regulatory Data

Citation FS-C57BL (Cytion catalog number 400420)

Biosafety level 1

NCBI_TaxID 10090

CellosaurusAccession CVCL_5756

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Biomolecular Data

Handling

Culture MediumRPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO₃ (Cytion article number 820700a)**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.

Seeding density 1×10^4 cells/cm² will yield in a confluent layer in about 2 to 3 days**Fluid renewal**

2 to 3 times per week

Post-Thaw Recovery

After thawing, plate the cells at 5×10^4 cells/cm² and allow the cells to recover from the freezing process and to adhere for at least 24 hours.

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.

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Thawing and Culturing Cells

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.

Incubation Atmosphere

37°C, 5% CO₂, humidified atmosphere.

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.

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.

Quality Control & Molecular Analysis

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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.