

FaDu Cells | 305033

General information

Description

FaDu is a human cell line derived from a squamous cell carcinoma of the hypopharynx. Established from a tumor in an adult patient, FaDu cells are frequently used in medical research focusing on cancer biology, particularly in studies related to head and neck cancers. These cells exhibit epithelial morphology and are adherent in culture conditions. FaDu is known for its robust growth and is often employed in assays to understand cancer cell proliferation, response to therapeutic agents, and gene expression related to cancer progression and metastasis.

In scientific research, FaDu cells have been instrumental in examining the efficacy of radiotherapy and chemotherapy treatments, providing insights into cellular responses to DNA damage and repair mechanisms. The cell line has also been utilized in studies exploring molecular pathways involved in cancer, such as the EGFR signaling pathway, which is often altered in head and neck cancers. The versatility and relevance of FaDu cells make them a valuable model for oncology research, contributing to the development of targeted therapies and understanding cancer cell biology at a molecular level.

Organism

Human

Tissue

Pharynx

Disease

Hypopharyngeal squamous cell carcinoma

Synonyms

FaDU, FADU

Characteristics

Age

56 years

Gender

Male

Ethnicity

Asian

Morphology

Epithelial

Growth properties

Adherent

Regulatory Data

Citation

FaDu (Cytion catalog number 305033)

Biosafety level

1

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NCBI_TaxID 9606**CellosaurusAccession** CVCL_1218**Biomolecular Data****Tumorigenic** Yes**Handling****Culture Medium** EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO₃, w: EBSS (Cytion article number 820100a)**Supplements** Supplement the medium with 10% FBS and 1% NEAA**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

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.