

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

Identifiers / Biosafety / Citation

Citation FaDu (Cytion catalog number 305033)

Biosafety level 1

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Expression / Mutation

Tumorigenic	Yes
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Handling

Culture Medium	EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO ₃ , w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c)
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Medium supplements	Supplement the medium with 10% FBS
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Passaging solution	Accutase
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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.
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Split ratio	1:2 to 1:4
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Fluid renewal	2 to 3 times per week
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Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)
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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 $300 \times g$ for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

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STR profile

CSF1PO: 12
D13S317: 8,9
D16S539: 11
D5S818: 12
D7S820: 11,12
TH01: 8
TPOX: 11
vWA: 15,17
D3S1358: 17,18
D21S11: 31.2
D18S51: 16
Penta E: 17,19
Penta D: 11
D8S1179: 13
FGA: 25
D1S1656: 16,16.3
D6S1043: 11,12
D2S1338: 19
D12S391: 17,21
D19S433: 14,16