

J82 Cells | 305055

General information

Description

The J82 cell line is derived from a human bladder transitional cell carcinoma, offering a robust in vitro model for studying urothelial cancer. These cells exhibit epithelial morphology and are adherent in culture, making them suitable for a variety of experimental applications, including cancer biology research, drug screening, and molecular analysis. J82 cells are known to express markers characteristic of bladder carcinoma, including cytokeratins, which are valuable for understanding the molecular pathways involved in bladder cancer progression and for identifying potential therapeutic targets.

The J82 cell line is particularly useful for studies focusing on the mechanisms of drug resistance, metastasis, and the role of genetic mutations in bladder cancer. Researchers have utilized this cell line to explore the effects of chemotherapeutic agents and to identify novel compounds that may inhibit cancer cell growth. Additionally, J82 cells are frequently used in gene expression studies to investigate the regulation of oncogenes and tumor suppressor genes within the context of bladder cancer. As with all cancer cell lines, J82 should be handled under strict laboratory conditions, ensuring its use is restricted to research applications and not for any therapeutic or in vivo purposes.

Organism

Human

Tissue

Urinary bladder

Disease

Bladder carcinoma

Synonyms

J-82, J 82, J82COT, J82 COT

Characteristics

Age

58 years

Gender

Male

Ethnicity

European

Morphology

Epithelial

Growth properties

Adherent

Regulatory Data

Citation

J82 (Cytion catalog number 305055)

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Biosafety level 1**NCBI_TaxID** 9606**CellosaurusAccession** CVCL_0359**Biomolecular Data****Antigen expression** HLA A2, Aw32, B5, B12, Cw5, Blood Type A**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 $300 \times g$ 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% CO_2 , humidified atmosphere.

Flask Coating

None

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.