Product sheet

TCCSUP Cells | 305073

General information

Description	The TCCSUP cell line was established from a Grade IV transitional cell carcinoma (TCC). The cell line was derived from a highly anaplastic carcinoma with characteristics of aggressive malignancy, including rapid proliferation and poor differentiation. Cytogenetic analysis revealed an abnormal karyotype with a lack of a clear modal number, and distinct marker chromosomes were observed throughout its in vitro passages. Morphologically, TCCSUP cells display epithelial-like and fibroblast-like features, consistent with the heterogeneity of aggressive TCC tumors. In vitro, TCCSUP cells exhibit robust growth in monolayer cultures. The cell line has been extensively used in cancer research, particularly in studies of bladder cancer biology and therapeutic response. Notably, TCCSUP cells retain tumor-associated antigens, making them a valuable model for immunological studies and for developing antigen-targeting therapies. Further molecular characterization has highlighted its utility in high-throughput drug screening and genetic studies. TCCSUP cells have been included in large-scale proteomic and genomic analyses, including reverse-phase protein array studies, revealing alterations in signaling pathways such as PI3K/AKT and MAPK. These findings align with the cell line's tumorigenic properties and its relevance as a model for understanding the molecular underpinnings of bladder cancer progression.
Organism	Human
Tissue	Urinary bladder
Disease	Bladder carcinoma
Synonyms	TCCSuP, TCC-SUP, TCC Sup

Characteristics

Age	67 years
Gender	Female
Ethnicity	European
Morphology	Epithelial
Growth properties	Adherent

Regulatory Data

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Citation	TCCSUP (Cytion catalog number 305073)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1738

Biomolecular Data

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
Doubling time	30 to 40 hours
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.

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% CO_2, 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

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.