

SW-684 Cells | 300422

General information

Description The SW 684 cell line was initiated by A. Leibovitz in 1974 at the Scott and White Clinic, Temple, Texas from a fibrosarcoma removed from a 68 year old male Caucasian.

Organism Human

Tissue Connective tissue

Disease Fibrosarcoma

Synonyms SW684, SW 684

Characteristics

Age 68 years

Gender Male

Ethnicity Caucasian

Morphology Fibroblast-like

Growth properties Adherent

Regulatory Data

Citation SW-684 (Cytion catalog number 300422)

Biosafety level 1

NCBI_TaxID 9606

CellosaurusAccession CVCL_1726

Biomolecular Data

Isoenzymes G6PD, B, PGM1, 1-2, PGM3, 1, AK-1, 1-2, GLO-1, 2, Phenotype Frequency Product: 0.0055

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Tumorigenic Yes, produces tumors in nude mice consistent with fibrosarcoma

Karyotype Hypertriploid. Modal number = 73, range = 59 to 79. The rate of higher ploidies was 9.1%. Eleven markers were common to most cells. These include: der(2)t(2,6)(p13,q13), der(12)t(8,12)(q11,q24), t(15q21q), 19q+, t(8p21q?) and six others. Of these, the der(2) and t(8p21q?) were generally paired. A few cells had double minutes (DM)(one per cell when present). There were 4 copies of N1, N18, N20 and N22 in most cells. Normal 15 and Y were absent. The x was paired in all cells.

Handling

Culture Medium DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO₃, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

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.

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.

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.