Product sheet

SW48 Cells | 305235

General information

Description	The SW48 cell line is a human colorectal adenocarcinoma cell line derived from an adult patient. This cell line is characterized by its epithelial morphology and adherent growth properties, making it a valuable model for studying colorectal cancer biology and therapeutic responses. SW48 cells exhibit several genetic alterations commonly associated with colorectal cancer, including mutations in the APC, KRAS, and TP53 genes. These genetic features make SW48 cells particularly useful for research focused on the molecular mechanisms of colorectal tumorigenesis and the development of targeted therapies. In addition to their genetic profile, SW48 cells express carcinoembryonic antigen (CEA), a glycoprotein often used as a tumor marker in colorectal cancer. This expression further enhances the utility of the SW48 cell line in cancer research, allowing for studies on tumor marker expression and its implications in cancer diagnostics and treatment monitoring. The SW48 cell line is also used in drug screening and cancer immunotherapy research, providing a robust in vitro model to evaluate the efficacy and safety of new therapeutic agents. Overall, the SW48 cell line is an essential tool in colorectal cancer research, contributing to our understanding of cancer biology and the development of effective treatments.
Organism	Human
Tissue	Colon
Disease	Adenocarcinoma
Synonyms	SW-48, SW 48

Characteristics

Age	83 years
Gender	Female
Ethnicity	European
Morphology	Epithelial
Growth properties	Adherent

Regulatory Data

Citation	SW48 (Cytion catalog number 305235)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1724

Biomolecular Data

Tumorigenic	Yes, in nude mice

Handling

Culture Medium	Leibovitz's L-15, w: 2.0 mM L-Glutamine, 0.55 g/L NaHCO3 (We do not supply this product; please consider other suppliers. Please let us know if you need further assistance)
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.
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

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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.