Product sheet

SW-1463 Cells | 300623

General information

Description	The SW-1463 cell line is derived from a human adenocarcinoma of the rectum. It is part of the extensive SW series of cancer cell lines, which have been characterized for their unique genetic and molecular profiles. SW-1463 is notable for its epithelial morphology and tumorigenic potential in immunocompromised mice. The cell line displays a stable growth pattern under standard culture conditions and has been extensively used in cancer biology and drug development studies. Genomic profiling of SW-1463 has revealed several mutations associated with oncogenesis, including alterations in the KRAS pathway. This makes the cell line a valuable tool for studying colorectal cancer and testing therapies targeting RAS/RAF/MEK/ERK signaling. Additionally, transcriptomic analyses have highlighted dysregulated expression of genes involved in cell cycle regulation and apoptosis, further emphasizing its utility in cancer research. SW-1463 has also been integrated into high-throughput drug screening programs, where it has shown diverse responses to chemotherapeutic agents and targeted therapies. These studies provide insights into the mechanisms of drug resistance and sensitivity, aiding in the development of personalized medicine strategies.
Organism	Human
Tissue	Rectum
Disease	Rectal adenocarcinoma
Applications	3D culture, Cancer research
Synonyms	SW1463, SW 1463

Characteristics

Age	66 years
Gender	Female
Ethnicity	European
Morphology	Epithelial
Growth properties	Adherent

Regulatory Data

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Citation	SW-1463 (Cytion catalog number 300623)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1718

Biomolecular Data

Surface antigens	Blood type A, Rh +
Protein expression	Keratin
Antigen expression	Carcinoembryonic antigen (CEA)
Isoenzymes	ES-D, 1, G6PD, B, PEP-D, 1, PGD, A, PGM1, 1, PGM3, 1-2
Tumorigenic	Yes, in nude mice
Ploidy status	Hypertriploid
Karyotype	2n=46

Handling

Culture Medium	DMEM:Ham's F12 (1:1), w: 3.1 g/L Glucose, w: 2.5 mM L-Glutamine, w: 15 mM HEPES, w: 0.5 mM Sodium pyruvate, w: 1.2 g/L NaHCO3 (Cytion article number 820400a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	TrypLE Express (Life Technologies)

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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.
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.