Product sheet

SW-1736 Cells | 300453

General information

Description	SW-1736 is a human thyroid anaplastic carcinoma cell line, commonly used to study aggressive and poorly differentiated thyroid cancers. This cell line was initially derived from a patient with undifferentiated thyroid carcinoma, a rare but highly aggressive form of cancer characterized by its rapid progression and poor prognosis. The SW-1736 cell line has been employed extensively in cancer research due to its ability to replicate the highly malignant features of anaplastic thyroid cancer (ATC), including resistance to standard therapies such as chemotherapy and radiation. One prominent feature of the SW-1736 cell line is its frequent use in studies focusing on cell division abnormalities and tumor metastasis. Researchers have observed atypical cell division events, such as one-to-four cell divisions, which are indicative of the aggressive and uncontrollable growth patterns found in anaplastic thyroid carcinomas. Additionally, SW-1736 cells have been transfected with various reporter genes like-Luc, allowing for non-invasive in vivo imaging studies. These studies are often performed in mouse models to investigate the metastatic potential of thyroid cancer, particularly its spread to organs such as the lungs and bones. Moreover, SW-1736 has been used to explore potential treatment strategies, including the combined use of metformin with standard chemotherapy agents like etoposide and epirubicin. These studies suggest that metformin enhances the cytotoxic effects of these drugs, increasing the induction of apoptosis and necrosis in SW-1736 cells. This combination therapy has shown promise in reducing cancer cell migration and proliferation, potentially offering new therapeutic avenues for tackling aggressive thyroid cancers.
Organism	Human
Tissue	Thyroidea
Disease	Squamous cell carcinoma
Synonyms	SW1736, SW 1736

Characteristics

Age	77 years
Gender	Female
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Adherent

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Regulatory Data

Citation	SW-1736 (Cytion catalog number 300453)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_3883

Biomolecular Data

Mutational profile	V600E type BRAF Mutation

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
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.

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.