Product sheet

WEHI-164 Cells | 400438

General information

Description	The WEHI-164 cell line was originally established from a fibrosarcoma that developed in a BALB/c mouse following subcutaneous injections of 3-methylcholanthrene. This cell line is derived from mesenchymal tissue and demonstrates characteristics typical of fibroblast-like cells. WEHI-164 has been a critical tool in the study of cancer, providing insights particularly in the fields of tumor immunology and the cellular mechanisms of apoptosis. WEHI-164 cells are especially valued in research due to their responsiveness to cytokine-induced apoptosis, making them an important model for studying the interaction between cytokines and cancer cells. This sensitivity to cytokines like tumor necrosis factor (TNF) and TRAIL (TNF-related apoptosis-inducing ligand) positions the WEHI-164 cell line as a useful resource for exploring signaling pathways that mediate cell death and for screening potential anticancer therapies that could manipulate these pathways. Additionally, the cell line's fibroblast-like properties allow for studies on cell morphology, growth characteristics, and the tumor microenvironment, providing a more comprehensive understanding of tumor dynamics and interactions within the cellular matrix. Despite its extensive use in research, the WEHI-164 cell line exhibits several chromosomal aberrations, which is common among cells transformed by chemical carcinogenesis. These genetic instabilities are crucial for studies focused on understanding how genetic variations can influence cancer progression and response to treatments. The ongoing use of WEHI-164 in various research setups underscores its utility in advancing the knowledge of cancer biology and in the development of novel therapeutic approaches.
Organism	Mouse
Disease	Fibrosarcoma
Synonyms	WEHI 164, WEHI164, WEHI 164 TC

Characteristics

Breed/Subspecies	BALB/c
Morphology	Fibroblast-like
Cell type	Fibroblast
Growth properties	Adherent

Regulatory Data

Citation	WEHI-164 (Cytion catalog number 400438)

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Biosafety level	1
NCBI_TaxID	10090
CellosaurusAccession	CVCL_2251

Biomolecular Data

Tumorigenic	Yes, in Balb/c mice

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.
Seeding density	1 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 48 hours.
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% 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.