Walker-256

500375

GENERAL INFORMATION

Description

The Walker-256 cell line is a rat carcinoma cell line that is widely used in cancer research, specifically in the study of tumor biology and chemotherapy. Originating from a mammary gland carcinoma of a rat, this cell line is particularly noted for its aggressive metastatic behavior, making it a valuable model for studying cancer progression and metastasis. It has been used extensively to investigate the mechanisms of tumor growth and the efficacy of anti-cancer drugs in vivo.
Walker-256 cells are adaptable to various environments, allowing them to be grown in a number of different animal models, which helps in the study of cancer biology in a systemic context. This cell line is instrumental in pharmacological studies, particularly those related to the development and testing of new chemotherapy agents. Researchers use Walker-256 to assess drug-induced cytotoxicity and to explore the potential mechanisms of action of novel therapeutic compounds. Its robust use in research provides critical insights into the dynamics of tumor growth and the systemic effects of tumors on host physiology.

Tissue	Mammary gland
Disease	Adenocarcinoma of the rat mammary gland

Synonyms

- LLC-WRC 256
- LLC-WRC256
- Walker/LLC-WRC 256
- Walker-Ca.256
- Walker 256
- W256
- Lilly Laboratories Culture-Walker Rat Culture 256

CLASSIFICATION

Organism	Rat
Sex	Female
Growth properties	Suspension
Biosafety level	1

IDENTIFIERS

Citation

Walker-256 (Cytion catalog number 500375)

NCBI TaxID	10116
Cellosaurus	CVCL_3537

HANDLING AND CULTURE

Culture medium

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

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

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Supplements

Supplement the medium with 10% heat-inactivated FBS, 0.01 mg/mL Insulin, 4.5 g/L glucose, 1 mM Sodium pyruvate and 10 mM HEPES

Subculturing

Maintain cultures by periodically adding or replacing the medium. Initiate cultures with a density of 5 x 10^5 cells/ml and keep the cell concentration within the range of 3 x 10^5 to 1 x 10^6 cells/ml for optimal growth.

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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.

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.

DONOR

Breed / subspecies	Wistar
Donor age	Unspecified

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes

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