WPMY-1

305083

GENERAL INFORMATION

Description

WPMY-1 is a human prostatic myofibroblast cell line derived from the peripheral zone of the prostate. This cell line was established from the primary culture of prostatic fibroblasts of a 54-year-old Caucasian male patient. Notably, these cells are characterized by their spindle-shaped morphology and expression of smooth muscle actin, reflecting their myofibroblastic phenotype. WPMY-1 cells are an invaluable tool for studying the stromal-epithelial interactions in the prostate, particularly in the context of prostate cancer progression and development.
The WPMY-1 cell line has been utilized extensively in research focused on the paracrine and autocrine signaling mechanisms between prostate cancer cells and their microenvironment. These cells are known to secrete a range of cytokines and growth factors that can influence prostate cancer cell growth, invasion, and metastasis. The WPMY-1 line also serves as a robust model to investigate the effects of various pharmacological agents on the behavior of myofibroblasts within the tumor microenvironment. Furthermore, studies using WPMY-1 have contributed significantly to understanding the role of myofibroblasts in the pathophysiology of benign prostatic hyperplasia (BPH) and the fibrotic changes associated with this condition.
In addition to their use in cancer and fibrosis studies, WPMY-1 cells have also been employed in research exploring novel therapeutic targets and drug testing, providing insights into the complex interactions within the prostate gland that contribute to disease. This cell line retains several critical aspects of the parental cells' phenotype and function, making it a versatile and valuable resource in prostate disease research.

Tissue	Prostate, stroma

Synonyms

- WPMY1

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Myofibroblast
Tumourigenic	No

IDENTIFIERS

Citation

WPMY-1 (Cytion catalog number 305083)

NCBI TaxID	9606
Cellosaurus	CVCL_3814

EXPRESSION AND SUSCEPTIBILITY

Receptors expressed

Androgen receptor, expressed

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Protein expression

Fibronectin, Smooth Muscle Alpha-Actin, Vimentin

Antigen expression

Kallikrein 3, KLK3(prostate specific antigen, PSA), Homo sapiens

HANDLING AND CULTURE

Culture medium

DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

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

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

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

Donor age	54 years

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.

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