Product sheet

WPMY-1 Cells | 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.
Organism	Human
Tissue	Prostate, stroma
Synonyms	WPMY1

Characteristics

Age	54 years
Gender	Male
Morphology	Myofibroblast
Growth properties	Adherent

Regulatory Data

Citation	WPMY-1 (Cytion catalog number 305083)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_3814

Biomolecular Data

Receptors expressed	Androgen receptor, expressed
Protein expression	Fibronectin, Smooth Muscle Alpha-Actin, Vimentin
Antigen expression	Kallikrein 3, KLK3(prostate specific antigen, PSA), Homo sapiens
Tumorigenic	No

Handling

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)
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.

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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

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.