

**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

**Identifiers / Biosafety / Citation**

**Citation** WPMY-1 (Cytion catalog number 305083)

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**Biosafety level** 1

**Expression / Mutation**

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

**Handling**

<b>Culture Medium</b>	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 1.5 g/L NaHCO <sub>3</sub> , w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
<b>Medium supplements</b>	Supplement the medium with 10% FBS
<b>Passaging solution</b>	Accutase
<b>Subculturing</b>	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.
<b>Split ratio</b>	1:2 to 1:4
<b>Fluid renewal</b>	2 to 3 times per week
<b>Freeze medium</b>	CM-1 (Cytion catalog number 800100)

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#### Handling of cryopreserved cultures

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  $-150^{\circ}\text{C}$  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  $37^{\circ}\text{C}$  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  $300 \times g$  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.

### Quality control / Genetic profile / HLA

#### 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.

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**STR profile**

**Amelogenin:** x,x  
**CSF1PO:** 13  
**D13S317:** 8,14  
**D16S539:** 9  
**D5S818:** 12,15  
**D7S820:** 10,11  
**TH01:** 8,9.3  
**TPOX:** 8,11  
**vWA:** 14,18  
**D3S1358:** 15,16  
**D21S11:** 29,31  
**D18S51:** 14,16  
**Penta E:** 5  
**Penta D:** 10,13  
**D8S1179:** 10,14  
**FGA:** 24,25  
**D6S1043:** 18,19  
**D2S1338:** 17,2  
**D12S391:** 20,23  
**D19S433:** 13