Organism: Homo sapiens, human

Tissue: prostate

Disease: normal

Cell Type: epithelial

Age: 54 years adult

Gender: male

Morphology: epithelial

Growth Properties: adherent

Virus Susceptibility:

Viral Testing: ATCC confirmed this cell line is positive for the presence of HPV viral DNA sequences via PCR.

Isoenzymes:

AK-1, 1
ES-D, 2
G6PD, B
GLO-I, 1-2
Me-2, 0
PGM1, 2
PGM3, 1

DNA Profile:

Amelogenin: X,Y
CSF1PO: 13
D13S317: 8,14
D16S539: 9,11
D5S818: 12,15
D7S820: 10,11
TH01: 8,9,3
TPOX: 8,11
vWA: 14,18

Cytogenetic Analysis: At passage 32, a majority of the cells were in the diploid range (45-51) with two main populations: 45, X,-Y and 51, XY.

Intended Use

This product is intended for research use only. It is not intended for any animal or human therapeutic or diagnostic use.

Complete Growth Medium

The base medium for this cell line is provided by Invitrogen (GIBCO) as part of a kit: Keratinocyte Serum Free Medium (K-SFM), Kit Catalog Number 17005-042. This kit is supplied with each of the two additives required to grow this cell line (bovine pituitary extract (BPE) and human recombinant epidermal growth factor (EGF). To make the complete growth medium, you will need to add the following components to the base medium:

- 0.05 mg/ml BPE - provided with the K-SFM kit
- 5 ng/ml EGF - provided with the K-SFM kit. NOTE: Do not filter complete medium.

Citation of Strain

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: RWPE-1 (ATCC® CRL-11609™)

SAFETY PRECAUTION

ATCC highly recommends that protective gloves and clothing always be used and a full face mask always be worn when handling frozen vials. It is important to note that some vials leak when submerged in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vessel exploding or blowing off its cap with dangerous force creating flying debris.

Handling Procedure for Frozen Cells

To insure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not -70°C. Storage at -70°C will result in loss of viability.

1. Check all containers for leakage or breakage.
2. Remove the frozen cells from the dry ice packaging and immediately place the cells at a temperature below -130°C, preferably in liquid nitrogen vapor, until ready for use.
Transfer the cells to an appropriate size vessel. It is important to avoid excessive alkalinity of the medium during recovery of the cells. It is suggested that, prior to the addition of the vial contents, the culture vessel containing the growth medium be placed into the incubator for at least 15 minutes to allow the medium to reach its normal pH (7.0 to 7.6).

5. Incubate the culture at 37°C in a suitable incubator. A 5% CO₂ in air atmosphere is recommended if using the medium described on this product sheet.

### Handling Procedure for Flask Cultures

The flask was seeded with cells (see specific batch information) grown and completely filled with medium at ATCC to prevent loss of cells during shipping.

1. Upon receipt visually examine the culture for macroscopic evidence of any microbial contamination. Using an inverted microscope (preferably equipped with phase-contrast optics), carefully check for any evidence of microbial contamination. Also check to determine if the majority of cells are still attached to the bottom of the flask; during shipping the cultures are sometimes handled roughly and many of the cells often detach and become suspended in the culture medium (but are still viable).

2. **If the cells are still attached,** aseptically remove all but 5 to 10 mL of the shipping medium. The shipping medium can be saved for reuse. Incubate the cells at 37°C in a 5% CO₂ in air atmosphere until they are ready to be subcultured.

3. **If the cells are not attached,** aseptically remove the entire contents of the flask and centrifuge at 125 x g for 5 to 10 minutes. Remove shipping medium and save. Resuspend the pelleted cells in 5 mL of this medium and add to 25 cm² flask. Incubate at 37°C in a 5% CO₂ in air atmosphere until cells are ready to be subcultured.

### Subculturing Procedure

Volumes are given for a 75 cm² flask. Increase or decrease the amount of dissociation medium needed proportionally for culture vessels of other sizes.

1. Remove and discard culture medium.

2. Briefly rinse the cell layer with Ca++/Mg++ free Dulbecco's phosphate-buffered saline (D-PBS).

3. Add 2.0 to 3.0 mL (to a T-25 flask) or 3.0 to 4.0 mL (to a T-75 flask) of 0.05% Trypsin - 0.53mM EDTA solution, diluted 1:1 with D-PBS, and place flask in a 37°C incubator for 5 to 8 minutes. Observe cells under an inverted microscope until cell layer is dispersed (usually within 5 to 10 minutes).

   Note: To avoid clumping do not agitate the cells by hitting or shaking the flask while waiting for the cells to detach.

4. Add 6.0 to 8.0 mL of 0.1% Soybean Trypsin Inhibitor (ATCC® 30-2014™) or 2% fetal bovine serum in D-PBS, as appropriate, and aspirate cells by gently pipetting.

5. Transfer cell suspension to centrifuge tube and spin at approximately 125 x g for 5 to 7 minutes.

6. Discard supernatant and resuspend cells in fresh serum-free growth medium. Add appropriate aliquots of cell suspension to new culture vessels. An inoculum of 2 X 10⁴ to 4 X 10⁴ viable cells/cm² is recommended.

7. Incubate cultures at 37°C. We recommend that you maintain cultures at a cell concentration between 4 X 10⁴ and 7 X 10⁴ cells/cm².

Cells grown under serum-free or reduced serum conditions may not attach strongly during the 24 hours after subculture and should be disturbed as little as possible during that period.

**Subcultivation Ratio:** A subcultivation ratio of 1:3 to 1:5 is recommended

**Medium Renewal:** Every 2 days

### Cryopreservation Medium

Complete growth medium supplemented with 10% (v/v) DMSO and 7% FBS. Lots produced prior to May 2019 may have used a different cryopreservation medium (complete growth medium supplemented with 10% (v/v) DMSO and 15% FBS), contact Technical Support for further details.

### Comments

In 3-dimensional Matrigel culture, RWPE-1 cells organize into acini and secrete PSA into the lumen when exposed to androgen. ref

When injected with Matrigel or with stromal cells, into male athymic rodents, RWPE-1 cells also organize into acini ref and produce PSA.

Cells from the RWPE-1 cell line were further transformed by Ki-ras using the Kirstin murine sarcoma virus (Ki-MuSV) to establish the tumorigenic RWPE-2 cell line (ATCC CRL-11610) ref and the RWPE2-W99 (ATCC CRL-2853) cell line.
Further, a family of tumorigenic cell lines, that mimics multiple steps in prostate cancer progression, was also derived from RWPE-1 cells by exposure to N-methyl-N-nitrosourea (MNU). See the WPE1-NA22 (ATCC CRL-2849), WPE1-NB14 (ATCC CRL-2850), WPE1-NB11 (ATCC CRL-2851) and WPE1-NB26 (ATCC CRL-2852) cell lines.

The depositor reports that the RWPE-1 cell line (ATCC CRL-11609) was screened, and found negative for, Hepatitis B virus, Hepatitis C virus and Human immunodeficiency virus. ATCC confirmed this cell line is positive for the presence of HPV viral DNA sequences via PCR.

References and other information relating to this product are available online at www.atcc.org.

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the current publication of the Biosafety in Microbiological and Biomedical Laboratories from the U.S. Department of Health and Human Services Centers for Disease Control and Prevention and National Institutes for Health.

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