**Description**

**Organism:** Homo sapiens, human  
**Tissue:** eye, retina  
**Disease:** retinoblastoma  
**Cell Type:** retinoblastoma  
**Age:** 1 year  
**Gender:** female  
**Morphology:** grape-like clusters of round cells  
**Growth Properties:** suspension  

**Isoenzymes:**  
ES-D, 1  
G6PD, B  
GLO-I, 2  
PGM1, 1  
PGM3, 0  

**Cytogenetic Analysis:** This is a near diploid line. The modal chromosome number is 47 occurring at 38%, and the rate of polyploidy is 9%. Fifteen to sixteen marker chromosomes are present in all cells. They are t(1,?), t(3p,5q), der(3)t(?q29;?), t(3q,?), 5q+, i(6p), t(7q,?), 9q+, t(10q,21q), 16q+ and five to six others. Normal chromosomes 3, 10, 13 and 16 are absent. There are two copies of the X chromosome. No Y chromosomes were detected in QM stained preparations.

**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 ATCC-formulated RPMI-1640 Medium, ATCC 30-2001. To make the complete growth medium, add the following components to the base medium: fetal bovine serum (ATCC 30-2020) to a final concentration of 10%.

**Citation of Strain**

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: WERI-Rb-1 (ATCC® HTB-169™)

**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 submersed 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.

**Unpacking & Storage Instructions**

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.

**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 at -70°C. Storage at -70°C will result in loss of viability.

1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 minutes).  
2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions.  
3. Transfer the vial contents to a 75 cm² tissue culture flask and dilute with the recommended complete culture medium (see the specific batch information for the recommended dilution ratio). 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).  
4. 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.

If it is desired that the cryoprotective agent be removed immediately, or that a more concentrated cell suspension be obtained, centrifuge the cell suspension at approximately 125 xg for 5 to 10 minutes. Discard the supernatant and resuspend the cells with fresh growth medium at the dilution ratio recommended in the specific batch information.

**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.
2. Incubate the flask in an upright position for several hours at 37°C. After the temperature has equilibrated, aseptically remove the entire contents of the flask and centrifuge at 125 x g for 5 to 10 minutes. Remove shipping medium and save for reuse. Resuspend the cell pellet in 10 mL of this medium.
3. From this cell suspension remove a sample for a cell count and viability. Adjust the cell density of the suspension to 3-5 x 10⁵ viable cells/mL in the shipping medium.
4. Incubate the culture, horizontally, at 37°C in a 5% CO₂ in air atmosphere. Maintain the cell density of the culture as suggested under the subculture procedure.

**Subculturing Procedure**

Cultures can be maintained by addition of fresh medium or replacement of medium. Alternatively, cultures can be established by centrifugation with subsequent resuspension in fresh medium at 2 - 3 x 10⁵ viable cells/mL. Maintain cell density between 1 x 10⁶ and 1 to 2 x 10⁶ viable cells/mL.

**Medium Renewal:** Every 3 to 4 days

**Cryopreservation Medium**

Complete culture medium described above supplemented with 5% (v/v) DMSO. Cell culture tested DMSO is available as ATCC Catalog No. 4-X.

**Comments**

The cells survive culturing in Difco Bacto-Agar but do not form colonies. Scanning electron microscopy reveals some variation in the number and frequency of surface blebs, lamellipodia and microvilli. The line is of interest in studies of cell differentiation, animal models of tumor therapy and biochemical evaluations.

**References**

References and other information relating to this product are available online at [www.atcc.org](http://www.atcc.org).

**Biosafety Level: 1**

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.

**ATCC Warranty**

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**Disclaimers**

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Additional information on this culture is available on the ATCC web site at www.atcc.org.

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