T-47D are epithelial cells isolated from a pleural effusion obtained from a 54-year-old female patient with an infiltrating ductal carcinoma of the breast. Use these cells in your breast cancer research.

- **Organism** *Homo sapiens*, human
- **Cell Type** epithelial cell
- **Tissue** Breast; Mammary gland
- **Age** 54 years
- **Gender** Female
- **Morphology** epithelial
- **Growth properties** Adherent
- **Disease** Carcinoma; Ductal

### Storage Conditions

- **Product format** Frozen
- **Storage conditions** Vapor phase of liquid nitrogen

### Intended Use

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

### BSL 1

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to understand the hazards associated with the material per your organization’s policies and procedures as well as any other applicable regulations as enforced by your local or national agencies.
ATCC highly recommends that appropriate personal protective equipment is always used when handling vials. For cultures that require storage in liquid nitrogen, it is important to note that some vials may 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 vial exploding or blowing off its cap with dangerous force creating flying debris. Unless necessary, ATCC recommends that these cultures be stored in the vapor phase of liquid nitrogen rather than submerged in liquid nitrogen.

Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at www.atcc.org.

Growth Conditions

- **Temperature** 37°C
- **Atmosphere** 95% Air, 5% CO₂

Handling Procedures

- **Unpacking and 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.

- **Complete medium** The base medium for this cell line is ATCC-formulated RPMI-1640 Medium, Catalog No. 30-2001. To make the complete growth medium, add the following components to the base medium: 0.2 Units/ml bovine insulin; fetal bovine serum to a final concentration of 10%. Human insulin may also be used (Life Technologies, Catalog No. 12585-014).

- **Handling Procedure**

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 centrifuge tube containing 9.0 mL complete culture medium.
and spin at approximately 125 x g for 5 to 7 minutes.
4. Resuspend cell pellet with the recommended complete medium (see the specific batch
information for the culture recommended dilution ratio), and dispense into a 25 cm² or a 75
cm² culture flask. 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 complete 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.

**Subculturing Procedure**

1. Remove and discard culture medium.
2. Briefly rinse the cell layer with 0.25% (w/v) Trypsin- 0.53 mM EDTA solution to remove all
 traces of serum that contains trypsin inhibitor.
3. Add 2.0 to 3.0 mL of Trypsin-EDTA solution to flask and observe cells under an inverted
microscope until cell layer is dispersed (usually within 5 to 15 minutes).
   Note: To avoid clumping do not agitate the cells by hitting or shaking the flask while waiting
   for the cells to detach. Cells that are difficult to detach may be placed at 37°C to facilitate
   dispersal.
4. Add 6.0 to 8.0 mL of complete growth medium and aspirate cells by gently pipetting.
5. Add appropriate aliquots of the cell suspension to new culture vessels.
6. Incubate cultures at 37°C.

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

**Medium Renewal:** 2 to 3 times per week

**Reagents for cryopreservation** Complete growth medium supplemented with 5% (v/v) DMSO
(ATCC 4-X)

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**Material Citation**

If use of this material results in a scientific publication, please cite the material in the following
manner: T-47D (ATCC HTB-133)

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**References**

References and other information relating to this material are available at www.atcc.org.
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Revision

This information on this document was last updated on 2022-12-22

Contact Information

ATCC
10801 University Boulevard
Manassas, VA 20110-2209
USA
US telephone: 800-638-6597
Worldwide telephone: +1-703-365-2700
Email: tech@atcc.org or contact your local distributor