Product description

The BATII cell line is an immortalized bovine alveolar epithelial type II-like cell line derived from primary ATII cells isolated from fresh bovine lungs. Immortalization was achieved using SV40 large T antigen and human telomerase reverse transcriptase (hTERT), enabling long-term proliferation while preserving key epithelial characteristics. BATII cells express markers such as prosurfactant protein C (pro-SPC) and E-cadherin, exhibit typical epithelial morphology, and can form polarized monolayers with tight junctions, particularly in air–liquid interface cultures. BATII cells are a valuable model for studying alveolar barrier function, host–pathogen interactions, and respiratory disease mechanisms in a bovine context.

Name: Bovine Alveolar Type II (BATII) cell line

Organism: Bos taurus (bovine)

Tissue: Alveolus

Growth properties: Adherent

Model: Immortalized cell line

Contributor(s)

Inventor: Diane Lee
Institute: University of Surrey

Properties

Product format: Frozen

Unpacking and storage:

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.

Recommended medium: Small Airway Growth Medium (Lonza) or Small Airway Epithelial Cell Medium (PromoCell), prepared fresh on the day of seeding. Any medium older than one month should be discarded.

Subculture: 0.25 % Trypsin/1 mM EDTA. Split 1:4 at 80-90% confluency to a minimum of 3 x 10,000/cm^2. Yield at subculture: ~5 x 10,000/cm2.; 5% CO_2; 37°C.

Culture conditions: 37.0°C ± 1.0°C incubator with 5.0% ± 1.0% CO_2

Cryopreservation: Cells are frozen at a controlled rate (–1 °C/min) in Recovery™ Cell Freezing Medium (Invitrogen, Cat. 12648010) at a density of 1 × 10^6 cells/mL.

Handling instructions

1. Please ensure that vials are frozen when received, and store at **<-130 °C long term**. When removing frozen cells from storage, it is important to minimize exposure to room temperature (15 - 25°C). If not

proceeding directly to thawing, place the cells on dry ice or in a liquid nitrogen container.

2. **Do not thaw at room temperature.** To thaw, swirl the vial quickly in a 37 °C water bath with O-ring and cap above the water to avoid contamination. Remove from the water bath with a small ice pellet remaining (this should not take more than 2 minutes) and wipe the exterior with 70% ethanol or isopropanol before transferring to a biosafety cabinet. Further steps should be conducted under aseptic conditions.
3. We strongly recommend that the volume of cell suspension is measured at this point, and a 20 uL aliquot be removed for a **viable cell count** using trypan blue or similar dye. This ensures that provided cells are viable, and the cell count can be used to determine volume of growth medium to be added to the cell suspension.
4. Transfer the remaining cell suspension dropwise to a tissue- culture treated T75 flask containing 9 mL of fresh, complete medium.
5. Rinse the vial with 1 mL of pre-warmed medium and add it dropwise to the cells.
6. Change cell culture medium after 24 hours to remove residual DMSO.

References

- Lee and Chambers 2019. F1000Res. 1:8:357. PMID:31448101
- Lee et al. 2018. Sci Rep. 8:11927. PMID: 30093682

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner Bovine Alveolar Type II (BATII) cell line, was invented by Diane Lee at the University of Surrey (CancerTools.org #157736).