Product description

Derived from well-differentiated keratinising squamous cell carcinoma of the buccal mucosa the TR146 cell line represents an *in vitro* model to study permeability, absorption and metabolism of various enzymatically labile drugs and substances including epithelial-mesenchymal transition (EMT) markers, tight junction proteins and aquaporins. Due to morphological similarities and comparable permeability, excised porcine buccal mucosa has been considered a reasonably good model of human buccal mucosa for drug delivery studies. However, for rapid and efficient screening of drug permeability, a cell line generally holds advantages over in vitro models of excised tissue. Closely resembling normal human buccal epithelium, the cell line functions as a reliable oral mucosa model. TR146 has been characterised for permeability of a number of substances of varying molecular weight and hydrophilicity over a range of pH and osmolarity. Activity of aminopeptidase, carboxypeptidase and esterase has also been studied and shown to be comparable with that of human buccal epithelium.

Name: TR146 cell line

Alternate name: Tr146; TR-146; TR 146

Cancer: Head and neck cancer

Cancers detailed: Human neck metastasis

Organism: Human

Gender: Female

Tissue: Buccal mucosa that had infiltrated a lymph node

Donor: 67-year-old female patient with previous radiotherapy (6,000 rads) and neck dissection

Growth properties: Adherent

Model: Tumourigenic cell line

Model description: TR146 cell line is tumourigenic in female (nu/nu) mice resulting in the production of rapidly progressing tumours.

CRISPR Edited: No

Production details: The TR146 cell line originates from a human neck metastasis of a buccal carcinoma, derived from neck node (primary tumour sited in buccal mucosa). Well-differentiated. Female patient, 67 years. Previous radiotherapy (6,000 rads) and neck dissection.

Biosafety level: 1

Histology: well-differentiated keratinising squamous cell carcinoma.

STR profiling: Amelogenin: X; CSF1PO: 11,13; D13S317: 11,14; D16S539: 13; D5S818: 10,11; D7S820: 10,12; THO1: 9; TPOX: 8,9; vWA: 15,18

Cellosaurus id: CVCL_2736

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Contributor(s)

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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 vapour, until ready for use.

Recommended medium: HAMS F12 + 2mM Glutamine + 10% Foetal Bovine Serum (FBS)

Cell Density: Cells can reach a maximum density of 7 x 10^4 cells/cm^2

Subculture: Split sub-confluent cultures (70-80%) seeding at approximately 1-2 x 10^4 cells/cm^2 using 0.05% trypsin or trypsin/EDTA; 5% CO2; 37°C.

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

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 to a 50 mL conical tube using a pipette.
5. Rinse the vial with 1 mL of medium and add it dropwise to the cells, while gently swirling the 50 mL tube.
6. Wash by adding 15 - 20 mL of medium **dropwise**, while gently swirling the tube.
7. Centrifuge the cell suspension at **250 x g for 5 minutes** at room temperature.
8. Carefully remove the supernatant with a pipette, leaving a small amount of medium to ensure the cell pellet is not disturbed. Resuspend the cell pellet by gently flicking the tube.
9. Gently add required volume of culture medium and transfer to a T25 flask or 10 cm culture dish.
10. Examine the cultures after 24 hours and subculture as required.

References

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Material Citation

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