Product description

T47D-182R-1 is an adherent human breast cancer cell line that exhibits resistance to fulvestrant (Faslodex). It was developed from the parental T47D/S5 cell line through long-term exposure to 100 nM fulvestrant. The cells retain an epithelial morphology. As resistance to fulvestrant—a common second-line endocrine therapy—is a clinical challenge, T47D-182R-1 represents a valuable model for studying acquired resistance mechanisms. It serves as a robust tool for identifying targeted therapies against resistant tumor cells, as well as for evaluating strategies to prevent or delay resistance emergence.

Name: T47D-182R-1 cell line

Organism: Human

Disease: Cancer

Cancer detailed: Breast cancer

Tissue: Breast

Parent cell line: T47D/S5

Growth properties: Adherent

Model: Cancer cell line

Donor: Female, Caucasian, 54Y

Production details: Human breast cancer cell line derived from T47D/S5 by long term treatment with 100 nM fulvestrant.

Cellosaurus ID: (CVCL_1D34)

Biosafety level: 1

Contributor(s)

Inventor: Anne Lykkesfeldt
Institute: Danish Cancer Society

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: Phenol red free RPMI 1640 + 5% FCS + glutamax + 8ug Insulin/ml + 100 nM fulvestrant. Fetal Calf Serum (FCS) typically contains less estrogen than Fetal Bovine Serum (FBS) and is the preferred supplement for this cell line.

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

Cryopreservation medium: 10% DMSO in FCS

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, and a 20 uL aliquot be set aside at this point for a viable cell count using trypan blue or similar dye.
9. Dilute the cell suspension with sufficient medium and distribute 5 mL each into T25 flasks to achieve a seeding density of 1.8 - 2.0 x 10^4 / cm^2. Place in 37°C, 5% CO_2 incubator.
10. Change medium after 24 hours to remove residual DMSO and then every 2-3 days.
11. Subculture routine: Split 1:7 weekly (slow growing cell line) with Trypsin-EDTA for detachment at 37 °C for 5 minutes.

References

- Larsen et al. 2015. PLoS One. 10(2):e0118346. PMID: 25706943.
- Larsen et al. 2015. BMC Cancer. 15(1):1-15. PMID: 25885472.
- Kirkegaard et al. 2014. Cancer Lett. 344(1):90-100. PMID: 24513268.

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: T47D-182R-1 cell line, was invented by Anne Lykkesfeldt (CancerTools.org #151891).