## Product description

MCF7/TAMR-4 cell line is a stable tamoxifen-resistant subline. This cell line was produced from the parental cell line MCF7/S0.5, as a model cell system to study the effects of tamoxifen resistant cancer growth. MCF7/TAMR-4 cells are oestrogen receptor positive and progesterone receptor negative, and are growth inhibited by the pure antioestrogen fulvestrant. MCF7/TAMR-4 enables identification of new hormone therapies and greater understanding of the signalling pathways/methods behind tamoxifen resistance. Additionally, this line can aid in identifying new predictive markers for response to hormonal therapy.

**Name:** MCF7/TAMR-4 Cell line

**Organism:** Human

**Disease:** Cancer

**Cancer type:** Breast cancer

**Tissue:** Breast

**Parent cell line:** MCF7/S0.5

**Growth properties:** Adherent

**Model:** Cancer cell line

**Donor:** Female, Caucasian, 69Y

**Production details:** The parental cell line for the MCF7/TAMR-4 cells is MCF7/S0.5, which was adapted to grow at low serum concentration in order to study the effect of estradiol and tamoxifen. MCF7/TAMR-4 has been established from a clone of cells that survived long term treatment with 1 uM tamoxifen. Tamoxifen-resistant cells are passaged continuously in presence of 1 uM tamoxifen, which is lethal for the parental MCF7/S0.5 cell line.

**Cellosaurus ID:** CVCL_1D42

**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:** DMEM:Ham's F-12 phenol red-free medium containing 1% foetal bovine serum, 2 mM Glutamax and 6 ng/ml insulin. To maintain high-level resistance, medium was supplemented with Tamoxifen (1 µM).

**Subculture routine:** Split sub-confluent cultures (70-80%) 1:3 to 1:6 i.e. seeding at 2-4x10⁴ cells/cm² using 0.05% trypsin/EDTA solution. Cells are passaged every 3 to 4 days

**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 5 mL medium each into T25 flasks to achieve a seeding density of 0.5-1.0 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. Subculture following instructions above.

## References

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### Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: MCF7/TAMR-4 Cell line was invented by Anne Lykkesfeldt (CancerTools.org #152088).