

# MCF7/ExeR-3 Cell Line

**Catalogue number:** 152557

**Sub-type:** Continuous

**Images:**

## Contributor

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**Images:**

## Tool details

**\*FOR RESEARCH USE ONLY**

**Name:** MCF7/ExeR-3 Cell Line

**Alternate name:** MCF-7/ExeR-3; ExeR-3

**Class:**

**Conjugate:**

**Description:** MCF7/ExeR-3 is a cell culture model mimicking acquired resistance of aromatase inhibitors (AIs) - an anti-cancer therapy. This breast cancer cell line was established from MCF7 cells. The cellular classification is epithelial, and their shape is polygonal. The MCF7/ExeR-3 cell line is resistant to the third generation AI - exemestane (Aromasin). Third generation AIs have proven to be effective treatment for estrogen receptor positive (ER+) breast cancer and as such are recommended as first line endocrine therapy for postmenopausal ER+ breast cancer patients. However, a major problem is development of resistance against AIs. Previous applications of this cell line include western blot analysis of protein expression. Since molecular mechanisms of AI resistance are largely undisclosed, the development of cell lines resistant to the non-steroidal AI exemestane allows the study of the molecular basis for AI resistance to find new targets for treatment.

**Purpose:**

**Parental cell:** MCF7

**Organism:** Human

**Tissue:** Breast

**Model:**

**Gender:** Female

**Isotype:**

**Reactivity:**

**Selectivity:**

**Host:**

**Immunogen:**

**Immunogen UNIPROT ID:**

**Sequence:**

**Growth properties:** Breast cancer cell line resistant to the aromatase inhibitor exemestane. Estrogen receptor positive.

**Production details:** Exemestane-resistant cell lines were established from MCF-7 cells grown in medium with 10% NCS and 10<sup>-7</sup> M testosterone. A culture of MCF-7 cells were treated with 10<sup>-7</sup> M exemestane for one week, trypsinised and seeded in serial dilutions in 24-well plates. Single colonies were transferred to new wells and gradually expanded in medium with exemestane. After ~2-3 months, the isolated colonies gave rise to exemestane-resistant cell lines, which could be grown in exemestane-containing medium with...

**Formulation:****Recommended controls:****Bacterial resistance:****Selectable markers:****Additional notes:**

## Target details

**Target:** Exemestane resistance

**Target alternate names:**

**Target background:**

**Molecular weight:**

**Ic50:**

## Applications

**Application:** Investigation of molecular mechanisms of exemestane resistance

**Application notes:** Human breast cancer cell line derived from MCF-7 cells Other related cell lines: - LetR-1, LetR-2, LetR-3 and LetR-4 resistant to the non-steroidal AI letrozole - ExeR-1, ExeR-2 and ExeR-4 resistant to the steroidal AI exemestane - AnaR-1, AnaR-2, AnaR-3 and AnaR-4 resistant to the non-steroidal AI anastrozole Passage 430 (AL3083, AL3084)

## Handling

**Format:** Frozen

**Concentration:**

**Passage number:** Passage 430 (AL3083, AL3084)

**Growth medium:** Phenol-red-free DMEM/F12 medium supplemented with 10% newborn calf serum, 2.5 mM Glutamax, 6 ng/ ml insulin, 0.1 uM testosterone and 0.1 uM exemestane.

**Temperature:** 37° C

**Atmosphere:** Humidified air with 5% CO2

**Volume:**

**Storage medium:**

**Storage buffer:**

**Storage conditions:**

**Shipping conditions:** Dry ice

## Related tools

**Related tools:** MCF7/ExeR-1 Cell Line Other related cell lines: - LetR-1, LetR-2, LetR-3 and LetR-4 resistant to the non-steroidal AI letrozole - ExeR-1, ExeR-2 and ExeR-3 resistant to the steroidal AI exemestane - AnaR-1, AnaR-2, AnaR-3 and AnaR-4 resistant to the non-steroidal AI anastrozole

## References

**References:** Hole et al. 2015. Breast Cancer Res Treat. 149(3):715-26. PMID: 25667100. ; Hole et al. 2015. Int J Oncol. 46(4):1481-90. PMID: 25625755. ; Aurora kinase A and B as new treatment targets in aromatase inhibitor-resistant breast cancer cells. ; New cell culture model for aromatase inhibitor-resistant breast cancer shows sensitivity to fulvestrant treatment and cross-resistance between letrozole and exemestane.