

# MCF7/LetR-2 Cell Line

**Catalogue number:** 152548

**Sub-type:** Continuous

**Images:**

## Contributor

**Inventor:** Anne Lykkesfeldt

**Institute:** Danish Cancer Society

**Images:**

## Tool details

**\*FOR RESEARCH USE ONLY**

**Name:** MCF7/LetR-2 Cell Line

**Alternate name:**

**Class:**

**Conjugate:**

**Description:** The MCF7/LetR-2 Cell Line was developed as a model of resistance to anti-cancer treatment with aromatase inhibitors. Third generation aromatase inhibitors (AIs) have proven to be effective treatment for estrogen receptor positive (ER+) breast cancer and are today recommended as first line endocrine therapy for postmenopausal ER+ breast cancer patients, making up the majority of breast cancer patients. However, a major problem is development of resistance against AIs. Since molecular mechanisms of AI resistance are largely undisclosed, the development of cell lines resistant to the non-steroidal AI letrozole allows the study of the molecular basis for resistance to AIs to unravel new targets for treatment.

**Purpose:**

**Parental cell:** MCF7

**Organism:** Human

**Tissue:** Breast

**Model:**

**Gender:**

**Isotype:**

**Reactivity:**

**Selectivity:**

**Host:**

**Immunogen:**

**Immunogen UNIPROT ID:**

**Sequence:**

**Growth properties:**

Breast cancer cell line resistant to the aromatase inhibitor letrozole. Estrogen receptor negative.

**Production details:** Letrozole-resistant cell lines were established from MCF-7 cells grown in medium with 10% NCS and  $10^{-8}$  M testosterone. A culture of MCF-7 cells were treated with  $10^{-6}$  M letrozole for one week, trypsinized and seeded in serial dilutions in 24-well plates. Single colonies were transferred to new wells and gradually expanded in medium with letrozole. After ~2-3 months, the isolated colonies gave rise to letrozole-resistant cell lines, which could be grown in letrozole.

**Formulation:**

**Recommended controls:**

**Bacterial resistance:**

**Selectable markers:**

**Additional notes:**

## Target details

**Target:** Letrozole resistant

**Target alternate names:**

**Target background:**

**Molecular weight:**

**IC<sub>50</sub>:**

## Applications

**Application:**

**Application notes:** Human breast cancer cell line derived from MCF-7 cells Other related cell lines: - LetR-1, LetR-3 and LetR-4 resistant to the non-steroidal AI letrozole - ExeR-1, ExeR-2, ExeR-3 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 436 (AL3243, AL3244)

## Handling

**Format:** Frozen

**Concentration:**

**Passage number:** Passage 436 (AL3243, AL3244)

**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 1 uM letrozole.

**Temperature:**

**Atmosphere:**

**Volume:**

**Storage medium:**

**Storage buffer:**

**Storage conditions:**

**Shipping conditions:** Dry ice

## Related tools

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

## 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.

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