

MCF7/AnaR-2 Cell Line

Catalogue number: 152552

Sub-type: Continuous

Images:

Contributor

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Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: MCF7/AnaR-2 Cell Line

Alternate name: MCF-7/AnaR-2; AnaR-2

Class:

Conjugate:

Description: MCF7/AnaR-2 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/S0.5 cells, which originates from MCF7 cells. The cellular classification is epithelial, and their shape is polygonal. The MCF7/AnaR-2 cell line is resistant to the third generation AI - anastrozole (Arimidex). MCF7/AnaR-2 is oestrogen receptor positive. Third generation AIs have proven to be effective treatment for oestrogen receptor positive (ER+) breast cancer and as such are recommended as first line endocrine therapy for postmenopausal ER+ breast cancer patients. 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 anastrozole 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 anastrozole. Estrogen receptor positive.

Production details: Anastrozole-resistant cell lines were established from MCF7 cells grown in medium with 10% NCS and 10^{-7} M testosterone. A culture of MCF7 cells were treated with 10^{-7} M anastrozole 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 anastrozole. After 2-3 months, the isolated colonies gave rise to anastrozole-resistant cell lines, which could be grown in anastrozole-containing medium ...

Formulation:

Recommended controls:

Bacterial resistance:

Selectable markers:

Additional notes:

Target details

Target: Anastrozole resistance

Target alternate names:

Target background:

Molecular weight:

Ic50:

Applications

Application: Investigation of molecular mechanisms of resistance

Application notes: Human breast cancer cell line derived from MCF7 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, ExeR-3 and ExeR-4 resistant to the steroidal AI exemestane - AnaR-1, AnaR-3 and AnaR-4 resistant to the non-steroidal AI anastrozole Passage 431 (AL3977, AL3978)

Handling

Format: Frozen

Concentration:

Passage number: Passage 431 (AL3977, AL3978)

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 anastrozole.

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/AnaR-1 Cell Line ; MCF7/AnaR-3 Cell Line ; MCF7/AnaR-4 Cell Line Other related cell lines: - LetR-1, LetR-2 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. ; Thewes et al. 2017. Oncogene. .: PMID: 28319069. ; The branched-chain amino acid transaminase 1 sustains growth of antiestrogen-resistant and ERa-negative breast cancer. ; 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.