

MCF7/LetR-3 Cell Line

Catalogue number: 152549

Sub-type: Continuous

Images:

Contributor

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Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: MCF7/LetR-3 Cell Line

Alternate name:

Class:

Conjugate:

Description: The MCF7/LetR-3 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 positive.

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 ~2¹/₂ 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:

IC₅₀:

Applications

Application:

Application notes: Human breast cancer cell line derived from MCF-7 cells 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 Passage 436 (AL3136, AL3137)

Handling

Format: Frozen

Concentration:

Passage number: Passage 436 (AL3136, AL3137)

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-2 Cell Line ; MCF7/LetR-4 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, 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

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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