MCF7/LetR-1 Cell Line

Catalogue number: 152547
Tool type:

Contributor

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Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: MCF7/LetR-1 Cell Line

Alternate name:

Class:
Conjugate:
Description: The MCF7/LetR-1 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. Progesterone receptor positive when grown in medium without letrozole.
Production details: Letrozole-resistant cell lines were established from MCF-7 cells grown in medium with 10% NCS and 10Ä?Ë???Â???Â?7 M testosterone. A culture of MCF-7 cells were treated with 10Ä?Ë???Â???Â?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 ~2Ä?Ë???Â???Â?3 months, the isolated colonies gave rise to letrozole-resistant cell lines, which could be grown in letr...
Formulation:
Recommended controls:
Bacterial resistance:
Selectable markers:
Additional notes:

Patient details

Cancer subtype:
Cancer stage/grade:
Biopsy site:
Patient ethnicity:
Treatment history:

Engraftment details

Mice passaged?:
Engraftment site:
Sample type:
Host strain:
Histology:
Genetic data:

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-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-2, AnaR-3 and AnaR-4 resistant to

the non-steroidal AI anastrozole Passage 436 (AL3117. AL3118)

Handling

Format: Frozen
Concentration:
Passage number: Passage 436 (AL3117. AL3118)
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-2 Cell Line ; MCF7/LetR-4 Cell Line ; MCF7/LetR-3 Cell Line Other related cell lines: - 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-2, AnaR-3 and AnaR-4 resistant to the non-steroidal AI anastrozole

References

References: Boullosa et al. 2018. Oncotarget. 9(3):3853-3866. PMID: 29423088. ; Identification of survivin as a promising target for the immunotherapy of adult B-cell acute lymphoblastic leukemia. ; Brooks et al. 2015. PLoS One. 10(10):e0140483. PMID: 26492414. ; Application of the pMHC Array to Characterise Tumour Antigen Specific T Cell Populations in Leukaemia Patients at Disease Diagnosis. ; Khan et al. 2015. Biomark Cancer. 7:31-8. PMID: 26327782. ; Infrequent Expression of the Cancer-Testis Antigen, PASD1, in Ovarian Cancer. ; Michael et al. 2015. Mol Cell. 58(5):743-54. PMID: 25936801. ; Cancer/Testis Antigen PASD1 Silences the Circadian Clock. ; Hardwick et al. 2013. Cancer Immun. 13:16. PMID: 23882161. ; An analogue peptide from the Cancer/Testis antigen PASD1 induces CD8+ T cell responses against naturally processed peptide. ; Ait-Tahar et al. 2011. Haematologica. 96(1):78-86. PMID: 20851862. ; Joseph-Pietras et al. 2010. Leukemia. 24(11):1951-9. PMID: 20861911. ; DNA vaccines to target the cancer testis antigen PASD1 in human multiple myeloma. ; CD4-positive T-helper cell responses to the PASD1 protein in patients with diffuse large B-cell lymphoma. ; Ait-Tahar et al. 2009. Br J Haematol. 146(4):396-407. PMID: 19552722. ; Cytolytic T-cell response to the PASD1 cancer testis antigen in patients with diffuse large B-cell lymphoma. ; Cooper et al. 2006. Leukemia. 20(12):2172-4. PMID: 17024112. ; Sahota et al. 2006. Blood. 108(12):3953-5. PMID: 17114574. ; PASD1 is a potential multiple myeloma-associated antigen. ; PASD1, a DLBCL-associated cancer testis antigen and candidate for lymphoma immunotherapy.