Product description

The A2780cis cell line is a cisplatin-resistant derivative of the cisplatin-sensitive A2780 ovarian endometrioid adenocarcinoma line (CancerTools.org, #152706), developed through chronic exposure to increasing cisplatin concentrations. A2780cis exhibits cross-resistance to melphalan, adriamycin, and irradiation, and displays enhanced DNA repair capacity along with cytogenetic abnormalities. To maintain resistance, cisplatin must be included in the culture medium at every passage. An adriamycin-resistant variant, A2780adr (CancerTools.org, #152707), has also been derived from the same parental line. A2780cis has been widely used in research investigating the cytotoxicity of platinum(II) and gold(I)-triphenylphosphine complexes with hypoxanthine-derived ligands, as well as the effects of cancer cell-specific oligopeptides.

Name: A2780cis cell line

Organism: Human

Tissue: Ovary

Disease: Cancer

Cancer Type: Ovarian cancer

Cancers detailed: Ovarian endometroid adenocarcinoma

Growth properties: Adherent

Model: Tumour line

STR-PCR Data: Amelogenin: X CSF1PO: 10,11 D13S317: 13 D16S539: 11,13 D5S818: 11 D7S820: 10 THO1: 6 TPOX: 8,10 vWA: 15,16

Cellosaurus id: CVCL_1942

Contributor(s)

Inventor: Timothy Ward
Institute: National Cancer Institute

Properties

Product format: Frozen

Unpacking and storage:

1. Check all containers for leakage or breakage.
2. Remove the frozen cells from the dry ice packaging and immediately place the cells at a temperature below -130°C, preferably in liquid nitrogen vapor, until ready for use.

Recommended medium: RPMI 1640 + 2mM Glutamine + 1µM cisplatin + 10% Fetal Bovine Serum (FBS). To retain resistance cisplatin must be added to the media every 2-3 passages.

Subculture: Split sub-confluent cultures (70-80%) 1:3 to 1:6 i.e. seeding at 2-4 x10,000cells/cm² using 0.05% trypsin or trypsin/EDTA; 5% CO2; 37°C. Cells will attach slowly after resuscitation and take up to 7 days to reach confluency.

Note: Resuscitate cells in media without cisplatin. Add after subculture of attached cells.

Culture conditions: 37.0°C ± 1.0°C incubator with 5.0% ± 1.0% CO_2

Handling instructions

1. Please ensure that vials are frozen when received, and store at **<-130 °C long term**. When removing frozen cells from storage, it is important to minimize exposure to room temperature (15 - 25°C). If not proceeding directly to thawing, place the cells on dry ice or in a liquid nitrogen container.
2. **Do not thaw at room temperature.** To thaw, swirl the vial quickly in a 37 °C water bath with O-ring and cap above the water to avoid contamination. Remove from the water bath with a small ice pellet remaining (this should not take more than 2 minutes) and wipe the exterior with 70% ethanol or isopropanol before transferring to a biosafety cabinet. Further steps should be conducted under aseptic conditions.
3. We strongly recommend that the volume of cell suspension is measured at this point, and a 20 uL aliquot be removed for a **viable cell count** using trypan blue or similar dye. This ensures that provided cells are viable, and the cell count can be used to determine volume of growth medium to be added to the cell suspension.
4. Transfer the remaining cell suspension to a 50 mL conical tube using a pipette.
5. Rinse the vial with 1 mL of medium and add it dropwise to the cells, while gently swirling the 50 mL tube.
6. Wash by adding 15 - 20 mL of medium **dropwise**, while gently swirling the tube.
7. Centrifuge the cell suspension at **250 x g for 5 minutes** at room temperature.
8. Carefully remove the supernatant with a pipette, leaving a small amount of medium to ensure the cell pellet is not disturbed. Resuspend the cell pellet by gently flicking the tube.
9. Gently add required volume of culture medium and transfer to a suitable cell culture flask.

References

- Wang et al. 2015. Theranostics. 5(4): 431-442. PMID: 25699101.
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- Marcotte et al. 2012. Cancer Discov. 2(2):172-189. PMID: 22585861.
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- Behrens et al. 1987. Cancer Res. 47(2):414-418. PMID: 3539322.

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: A2780 cell line, was invented by Timothy Ward at the National Cancer Institute (CancerTools.org #152708).