

## Product description

A2780ADR is an Adriamycin-resistant derivative of the gold standard ovarian cancer line A2780 (CancerTools.org, #152706). The A2780 series of ovarian cancer cell lines have been effective cancer research tools for over 20 years. A2780ADR is an Adriamycin-resistant cell line that has been developed by exposure of Adriamycin to the parent A2780 cell line. Adriamycin (doxorubicin) is frequently used as a therapeutic agent for cancer, by interfering with DNA replication. A2780ADR cells grow as monolayers and in suspension in spinner cultures and are tumorigenic in immune deficient mice. Together with the cisplatin resistant variant A2780cis (CancerTools.org, #152708) these lines only differ in their exposure to a single drug and should facilitate the search for molecular changes responsible for the expression of pleiotropic drug resistance in human ovarian cancer. A2780ADR is cross-resistant to melphalan and vinblastine.

**Name:** A2780ADR 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: 11,14 D5S818: 11,12 D7S820: 10 THO1: 6 TPOX: 8,9 vWA: 15,16

**Cellosaurus id:** CVCL\_1941

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## Contributor(s)

**Inventor:** Timothy Ward

**Institute:** National Cancer Institute

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## 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 + 10% Fetal Bovine Serum (FBS); treatment with 10E-7 M Adriamycin at least once a week.

**Subculture:** Split sub-confluent cultures (70-80%) 1:3 to 1:6 i.e. seeding at 2-4 x10,000cells/cm<sup>2</sup> using 0.05% trypsin or trypsin/EDTA; 5% CO<sub>2</sub>; 37°C.

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

**Culture conditions:** 37.0°C ± 1.0°C incubator with 5.0% ± 1.0% CO<sub>2</sub>

## 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

- Miller et al. RSC Adv. 2018. 8(69):39731-39734. PMID: 30713687.
- Singh et al. Int J Pharm. 2015. 478(2):745-752. PMID: 25437111.
- Beaufort et al. 2014. PLoS One. 9(9):e103988. PMID: 25230021.
- Hamilton et al. 1984. Semin Oncol. 11(3):285-298. PMID: 6385258.

## Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: A2780ADR cell line, was invented by Timothy Ward at the National Cancer Institute (CancerTools.org #152707).

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