

Data Sheet

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BCRJ Code:	0080
Cell Line:	ES-2
Species:	Homo sapiens
Vulgar Name:	Human
Tissue:	Ovary
Cell Type:	Epithelial
Morphology:	Epithelial
Disease:	Clear Cell Carcinoma
Growth Properties:	Adherent
Sex:	Female
Age/Ethnicity:	47 Year / Black
Derivation:	The ES-2 cell line was established from a surgical tumor specimen taken from a 47 year old black woman.
DNA Profile:	Amelogenin: X CSF1PO: 10,15 D13S317: 11 D16S539: 11,13 D5S818: 11,13 D7S820: 11 THO1: 9.3 TPOX: 8,12 vWA: 16,17
Tumor Formation::	Yes, tumors developed within 21 days at 100% frequency (5/5) in nude mice inoculated subcutaneously with 10e7 cells.
Products:	P glycoprotein
Biosafety:	1

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Additional Info:

The tumor was described as a poorly differentiated ovarian clear cell carcinoma. Initially, the cells were grown in soft agar. The cells exhibit low to moderate resistance to a number of chemotherapeutic agents including doxorubicin, cisplatin, carmustine, etoposide and cyanomorpholinodoxorubicin (MRA-CN). ES-2 cells express low levels of P glycoprotein.

Culture Medium:

McCoy's 5A Medium is modified with fetal bovine serum to a final concentration of 10%.

Subculturing:

Remove and discard culture medium. Briefly rinse the cell layer with PBS without calcium and magnesium to remove all traces of serum that contains trypsin inhibitor. Add 2.0 to 3.0 mL of Trypsin-EDTA solution to flask and observe cells under an inverted microscope until cell layer is dispersed (usually within 5 to 15 minutes). Note: To avoid clumping do not agitate the cells by hitting or shaking the flask while waiting for the cells to detach. Cells that are difficult to detach may be placed at 37°C to facilitate dispersal. Add 6.0 to 8.0 mL of complete growth medium and aspirate cells by gently pipetting. Add appropriate aliquots of the cell suspension to new culture vessels. Incubate cultures at 37°C. Population Doubling Time 24 hrs NOTE: For more information on enzymatic dissociation and subculturing of cell lines consult Chapter 12 in Culture of Animal Cells, a manual of Basic Technique by R. Ian Freshney, 6th edition, published by Alan R. Liss, N.Y., 2010.

Subculturing Medium Renewal:

2 to 3 times per week

Subculturing Subcultivation Ratio:

1:4 to 1:8

Culture Conditions:

Atmosphere: air, 95%; carbon dioxide (CO₂), 5% Temperature: 37°C

Cryopreservation:

95% FBS + 5% DMSO (Dimethyl sulfoxide)

Thawing Frozen Cells:

SAFETY PRECAUTION: Is highly recommend that protective gloves and clothing always be used and a full face mask always be worn when handling frozen vials. It is important to note that some vials leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vessel exploding or blowing off its cap with dangerous force creating flying debris. 1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the Oring and cap out of the water. Thawing should be rapid (approximately 2 minutes). 2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions. 3. For cells that are sensitive to DMSO is recommended that the cryoprotective agent be removed immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL complete culture medium and spin at approximately 125 x g for 5 to 7 minutes. 4. Discard the supernatant and Resuspend cell pellet with the recommended complete medium (see the specific batch information for the culture recommended dilution ratio). 5. Incubate the culture in a appropriate atmosphere and temperature (see "Culture Conditions" for this cell line). **NOTE:** It is important to avoid excessive alkalinity of the medium during recovery of the cells. It is suggested that, prior to the addition of the vial contents, the culture vessel containing the growth medium be placed into the incubator for at least 15 minutes to allow the medium to reach its normal pH (7.0 to 7.6).

References:

Lau DH, et al. Multifactorial mechanisms associated with broad cross-resistance of ovarian carcinoma cells selected by cyanomorpholino doxorubicin. *Cancer Res.* 51: 5181-5187, 1991. PubMed: 1717140

Depositors:

LETICIA BATISTA AZEVEDO RANGEL; UFES

ATCC:

CRL-1978