Product sheet

SW-480 Cells | 300302

General information

Description	The SW480 cell line originated from a surgical specimen of a primary tumor of a moderately differentiated colon adenocarcinoma.
Organism	Human
Tissue	Colon
Disease	Adenocarcinoma, Grade IV, Dukes' type B.
Synonyms	SW480, SW 480, SW480E

Characteristics

Age	51 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	SW-480 (Cytion catalog number 300302)
Biosafety level	1

Expression / Mutation

Receptors expressed	Epidermal growth factor (EGF), keratin (immunoperoxidase staining). Matrilysin, a metalloproteinase associated with tumor invasiveness, is not expressed.
Protein expression	The cells express elevated levels of p53 protein.

Antigen expression	HLA A2, B8, B17, blood type A, Rh+. The line is negative for CSAp (CSAp-) and colon antigen 3
Isoenzymes	G6PD, B, PGM1, 2, PGM3, 1, 6PGD, A, PEP-D, 1, ES-D, 1
Tumorigenic	Yes, in nude mice
Viruses	Reverse transcriptase negative
Virus susceptibility	Human immunodeficiency virus (HIV, LAV)
Products	Carcinoembryonic antigen (CEA) 0.7 ng/106 cells/10 days, keratin, TGF-?. The cells have been reported to produce GM-CSF.
Mutational profile	SW-480 cells carry a homozygous Kras mutation in codon 12: GGT(Wt Gly) >GTT(Val). There is a G->A mutation in codon 273 of the p53 gene resulting in an Arg->His substitution and a C->T mutation in codon 309 resulting in a Pro->Ser substitution.

Handling

Culture Medium	Ham's F12, w: 1.0 mM stable Glutamine, w: 1.0 mM Sodium pyruvate, w: 1.1 g/L NaHCO3 (Cytion article number 820600a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Doubling time	20 to 25 hours
Subculturing	Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.
Split ratio	A ratio of 1:2 to 1:8 is recommended
Seeding density	1 x 10^4 cells/cm^2

Fluid renewal	1 to 2 times per week
Freezing recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 hours.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. Upon receipt, either store the cryovial immediately at temperatures below -150°C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
3. For immediate culturing, swiftly thaw the vial by immersing it in a 37°C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
7. Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

Quality control / Genetic profile / HLA

Sterility

Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.

To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.

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STR profile	**Amelogenin**: x,x **CSF1PO**: 13,14 **D13S317**: 12 **D16S539**: 13 **D5S818**: 13 **D7S820**: 8 **TH01**: 8 **TPOX**: 11 **vWA**: 16 **D3S1358**: 15 **D21S11**: 30,30.2 **D18S51**: 13 **Penta E**: 10 **Penta D**: 9,15 **D8S1179**: 13 **FGA**: 24
HLA alleles	**A***: 02:01:01, 24:02:01 **B***: 07:02:01, 15:18:01 **C***: 07:02:01, 07:04:01 **DRB1***: 01:03:01, 13:01:01 **DQA1***: 01:01:01, 01:03:01 **DQB1***: 05:01:01, 06:03:01 **DPB1***: 01:01:01, 04:01:01 **E**: 01:01, 01:03