Product sheet

SW480 Cells | 300302

Renseignements généraux

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

Caractéristiques

Age	50 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Adherent

Données réglementaires

Citation	SW-480 (Cytion catalog number 300302)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0546

Données biomoléculaires

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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-β. 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.

Manipulation

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)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	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.

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Seeding density	1 x 10^4 cells/cm^2
Fluid renewal	1 to 2 times per week
Post-Thaw 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	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

Thawing and Culturing Cells

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.
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.

Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.

Shipping Conditions	Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.
Storage Conditions	For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

Contrôle de la qualité et analyse moléculaire

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.