Product sheet

SW-620 Cells | 300466

General information

Description	SW-620 cell line has been isolated from the large intestine of a 51-year-old male individual with Dukes C colorectal cancer. This cell line is widely used in cancer and toxicology research due to its high tumorigenic and metastatic properties, forming solid sheets of tumor cells in vivo. The SW-620 cell line was derived from a metastatic lymph node in the same manner as the primary adenocarcinoma from which SW-480 was derived. The doubling time of SW-620 cells is around 20-26 hours. SW-620 cells have a rounded morphology with fewer protrusions and a less extended lamellipodial area. In contrast, SW-480 cells comprise an elongated (E-type) and a rounded (R-type) population, showing a large lamellipodial area with fine protrusions. The SW-620 cell line has a hyperdiploid karyotype, with a modal number of 50 and a range of 45 to 53. The stemline chromosome number is hyperdiploid, with several marker chromosomes common to S metaphases. The SW-620 cell line is highly tumorigenic in nude mice. SW-620 cells express c-myc, K-ras, H-ras, N-ras, Myb, sis, and fos oncogenes but have been found negative for CSAp and colon antigen 3. The cells produce only small quantities of carcinoembryonic antigen (CEA) and are positive for keratin by immunoperoxidase staining. The SW-620 cell line can be used as an in vitro model to study cellular processes known to be essential to metastasis and to assess cell growth with regards to the transforming growth factor-? (TGF-?) and heat shock protein 90 (Hsp90). Furthermore, this cell line has been utilized to study the relationship between zinc intake and the risk of colon cancer and to test for intrahepatic tumor cell growth after intraportal injection.
Organism	Human
Tissue	Colorectal
Disease	Adenocarcinoma
Metastatic site	Lymph node
Synonyms	SW620, SW 620, SW.620

Characteristics

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

Identifiers / Biosafety / Citation

Citation	SW-620 (Cytion catalog number 300466)
Biosafety level	1

Expression / Mutation

Tumorigenic	Yes, in athymic nude mice
Karyotype	Average number of chromosomes 48 (range, 46-52). Eighteen marker chromosomes. For a detailed description of the karyotype we refer to Melcher et al.

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Subculturing	Remove medium and rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10ml for T75 cell culture flasks). Add Accutase (1-2ml per T25, 2.5ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at ambient temperature for 10 minutes. Carefully resuspend the cells with medium (10 ml), centrifuge for 3 min at 300 g, resuspend cells in fresh medium and dispense into new flasks which contain fresh medium.
Split ratio	A ratio of 1:3 is recommended
Fluid renewal	2 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures	SW-620 cells are shipped in a deep-frozen state on dry ice. Upon receipt, confirm that the vial remains frozen. For storage, place the cryovial immediately at temperatures below -150 degrees. If you plan to culture the cells immediately, swiftly thaw the vial by shaking it in a 37 degrees water bath with clean water and an antimicrobial agent for 40-60 seconds. Remove the vial once a small ice clump persists, ensuring it remains cold. Proceed with all subsequent steps under aseptic conditions. In a sterile flow hood, disinfect the cryovial with 70% ethanol. Then, gently open the vial and transfer the cell suspension into a 15 ml centrifuge tube pre-filled with 8 ml of room temperature culture medium. Gently mix the cells. For cell separation, centrifuge at 300 x g for 3 minutes and dispose of the supernatant. Skipping centrifugation is optional, although any residual freezing medium should be removed after 24 hours. Resuspend the pellet gently in 10 ml of fresh culture medium and divide between two T25 culture flasks. Follow the subculture protocol for subsequent steps.
Handling of proliferating cultures	One or two cell culture flasks come filled with cell culture medium. Collect the entire medium in a 50 ml centrifuge tube. Spin down the collected medium at 300 x g for 3 minutes to collect the cells which may have detached during transit. If a cell pellet is visible, resuspend the cells in 5 ml of cell culture medium and transfer to a T25 cell culture flask. Carefully add 5 ml of cell culture medium to each T25 cell culture flask. Examine cell morphology and confluency using a microscope. Finally, incubate the flasks at 37 degrees Celsius for at least 24 hours.

Quality control / Genetic profile / HLA

Sterility	Mycoplasma contamination is rigorously 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.
STR profile	**Amelogenin**: x,x **CSF1PO**: 13,14 **D13S317**: 12 **D16S539**: 9,13 **D5S818**: 13 **D7S820**: 8,9 **TH01**: 8 **TPOX**: 11 **vWA**: 16 **D3S1358**: 16 **D21S11**: 30,30.2 **D18S51**: 13 **Penta E**: 10 **Penta D**: 9,15 **D8S1179**: 13 **FGA**: 24 **D1S1656**: 13,14 **D6S1043**: 11,12 **D2S1338**: 17,24 **D12S391**: 17 **D19S433**: 13

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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