Product sheet

AsPC-1 Cells | 300158

General information

Description	The AsPC1 cell line, derived from a 62-year-old female patient with adenocarcinoma of pancreas and metastases to several abdominal organs, has become a pivotal model for studying pancreatic cancer, one of the most aggressive and lethal malignancies. They display a high degree of invasiveness compared to other pancreatic cancer cell lines, which makes them particularly useful for studies on cancer metastasis and tumor invasion. AsPC1 cells have been instrumental in understanding the metabolic pathways involved in pancreatic cancer, including glutamine and glycerophospholipid metabolism. AsPC1 cells have been used to investigate the function of matrix metalloproteinases (MMPs) in metastasis, a crucial component of the biology of pancreatic cancer. AsPC1 cells have further been used to evaluate the efficacy of treatments such as the HDAC inhibitor AR-42 and the antimitotic and STAT3 inhibitor LTP-1, demonstrating the potential of these compounds to suppress tumor growth and induce apoptosis in pancreatic cancer cell lines. The development of xenograft models using AsPC1 cells has allowed researchers to study pancreatic cancer in a more physiologically relevant context and have provided valuable insights into the transformation of normal human pancreatic duct cells into adenocarcinomas. AsPC1 cells continue to be a valuable resource for exploring the therapeutic bispecific pathways and intracellular tumor antigens associated with pancreatic cancer.
Organism	Human
Tissue	Pancreas
Disease	Adenocarcinoma
Metastatic site	Ascites
Synonyms	AsPc-1, Aspc-1, ASPC-1, As-PC1, ASPC1, AsPC1, Aspc1, AsPc1

Characteristics

Age	62 years
Gender	Female
Ethnicity	Caucasian
Growth properties	Adherent

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Identifiers / Biosafety / Citation

Citation	AsPC-1 (Cytion catalog number 300158)
Biosafety level	1

Expression / Mutation

Products	carcinoembryonic antigen (CEA), human pancreas associated antigen, human pancreas specific antigen, mucin
Mutational profile	AsPC-1 cells carry a homozygous Kras mutation in codon12: GGT(Gly) >GAT(Asp)

Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
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 1:3 to 1:6 is recommended
Seeding density	We recommend to seed the cells at 2 x 10^4 cells/cm^2.
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures	AsPC-1 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.

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**: 10,13 **D13S317**: 9,12 **D16S539**: 11 **D5S818**: 12 **D7S820**: 12, 13 **TH01**: 7, 9.3 **TPOX**: 8, 10 **vWA**: 17 **D3S1358**: 16 **D21S11**: 28, 30 **D18S51**: 18 **Penta E**: 5, 12 **Penta D**: 9, 12 **D8S1179**: 13, 15 **FGA**: 24
HLA alleles	**A***: 01:01:01, 02:01:01 **B***: 15:01:01 **C***: 03:03:01, 03:04:01 **DRB1***: 04:01:01, 13:02:01 **DQA1***: 01:02:01, 03:01:01 **DQB1***: 03:02:01, 06:04:01 **DPB1***: 04:01:01G, 10:01:01G **E**: 01:01, 01:03