Product sheet

HPAF-II Cells | 305088

General information

Description	HPAF-II is a human pancreatic adenocarcinoma cell line derived from an adult patient. This cell line is commonly used in cancer research due to its relevance in studying pancreatic cancer, a highly aggressive and lethal malignancy. HPAF-II cells exhibit epithelial morphology and are known for their ability to form tumors when xenografted into immunocompromised mice, making them a valuable model for in vivo studies of tumor growth, metastasis, and response to therapeutic interventions. Researchers often employ HPAF-II cells to investigate the molecular mechanisms underlying pancreatic cancer progression, including genetic and epigenetic alterations, signal transduction pathways, and interactions with the tumor microenvironment. HPAF-II cells are characterized by specific genetic mutations and alterations that are frequently observed in pancreatic adenocarcinomas. These include mutations in the KRAS gene, which plays a critical role in cell signaling and proliferation, and alterations in tumor suppressor genes such as TP53 and CDKN2A. The cell line also exhibits high levels of mucin production, a feature that contributes to the aggressive nature of pancreatic tumors. Studies utilizing HPAF-II cells have provided significant insights into the biology of pancreatic cancer and have facilitated the development of potential therapeutic strategies aimed at targeting key molecular pathways involved in the disease.
Organism	Human
Tissue	Pancreas
Disease	Pancreatic ductal adenocarcinoma
Metastatic site	Ascites
Synonyms	HPAF II, HPAFII, HPAF-2, HPAF2, HPAF/CD18, CD18/HPAF, HPAF-II/CD18, CD-18, CD18, CD 18

Characteristics

Age	44 years
Gender	Male
Ethnicity	European
Morphology	Epithelial
Growth properties	Adherent

Regulatory Data

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Citation	HPAF-II (Cytion catalog number 305088)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0313

Biomolecular Data

Handling

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
Supplements	Supplement the medium with 10% FBS and 1% NEAA
Dissociation Reagent	Accutase
Doubling time	26 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.
Fluid renewal	2 to 3 times per week
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.

Quality Control & Molecular Analysis

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.