Panc 05.04

305394

GENERAL INFORMATION

Description

The Panc 05.04 cell line is a pancreatic ductal adenocarcinoma (PDAC) model that serves as a valuable resource for studying pancreatic cancer biology and therapeutic responses. Originating from a human pancreatic carcinoma, Panc 05.04 represents a critical tool in preclinical research due to its relevance to one of the most aggressive malignancies with poor patient outcomes. This cell line displays molecular and genomic characteristics that align with the heterogeneous nature of PDAC, including mutations commonly observed in KRAS, TP53, and other driver oncogenes that are prevalent in pancreatic cancer progression.
Panc 05.04 has been extensively profiled as part of large-scale genomic initiatives, such as the Cancer Cell Line Encyclopedia (CCLE), where its gene expression, copy number variations, and drug sensitivity have been characterized. Notably, Panc 05.04 has been assessed for its pharmacological response to various anticancer agents, offering insights into its sensitivity or resistance profiles to chemotherapy and targeted therapies.
As a model system, Panc 05.04 facilitates investigations into the molecular mechanisms underlying PDAC progression, chemoresistance, and tumor microenvironment interactions. It also provides a platform for testing emerging targeted therapies and immunotherapeutic strategies aimed at overcoming the refractory nature of pancreatic cancers.

Tissue	Pancreas
Disease	Adenocarcinoma

Applications

3D cell culture

Synonyms

- Panc-05.04
- Panc_05_04
- Panc05.04
- Panc 5.04
- Panc5.04
- PANC0504
- Panc0504
- Pa18C
- PL-18
- PL18

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Cell type	Epithelial cell

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Tumourigenic	Yes; Yes in nude or SCID mice
Doubling time	46 hours

IDENTIFIERS

Citation

Panc 05.04 (Cytion catalog number 305394)

NCBI TaxID	9606
Cellosaurus	CVCL_1637

EXPRESSION AND SUSCEPTIBILITY

Antigen expression

MHC class I +; MHC class II -; Blood type B; Rh+

Oncogenes

K-ras+

Mutational profile

Mutation: KRAS, Simple, p.Gly12Asp (c.35G>A), Heterozygous

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

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

Supplements

Supplement the medium with 15% FBS

Dissociation reagent	Trypsin-EDTA

Subculturing

For routine adherent cell culture: Aspirate the old culture medium from the adherent cells, and wash them with PBS to remove any remaining medium. After aspirating the PBS, add the appropriate volume of Trypsin/EDTA solution based on the culture vessel size (e.g., 1 ml for a T25 flask, 3 ml for a T75 flask) and incubate at room temperature or 37°C until the cells detach (5-10 minutes). Monitor detachment under a microscope, and gently tap the vessel if necessary to release the cells. Once detached, add complete medium to inactivate the Trypsin/EDTA, gently resuspend the cells, and transfer an aliquot of the cell suspension into a new culture vessel containing fresh medium. Place the vessel in an incubator set to 37°C with 5% CO_2, and change the medium every 2-3 days.

Fluid renewal	1 to 2 times per week

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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.

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.

DONOR

Donor age	77 years
Ethnicity	Caucasian

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes