Product sheet

Panc02 Cells | 300501

General information

Description	The Panc02 cell line is a widely used murine model for studying pancreatic ductal adenocarcinoma (PDAC), the most common and aggressive form of pancreatic cancer. Panc02 cells were originally derived from a chemically induced pancreatic tumor in a C57BL/6 mouse. This cell line is highly relevant in preclinical research because it can be implanted orthotopically in syngeneic mice, mimicking the natural tumor environment and offering insights into the immune responses and therapeutic resistance mechanisms of PDAC. Research using Panc02 has provided significant insights into PDAC?s immunosuppressive microenvironment. One study showed that Panc02 tumors are heavily infiltrated by regulatory T cells (Tregs), which suppress the antitumor immune response. Treatment with low-dose gemcitabine was found to selectively deplete Tregs in Panc02 tumor-bearing mice, leading to an enhanced antitumor immune response and a modest increase in survival. This suggests that immunomodulation could be a promising therapeutic strategy for PDAC. In addition to immunotherapy studies, Panc02 has also been used to investigate necroptosis, a form of programmed cell death. Inhibition of Aurora Kinase A in Panc02 cells has been shown to induce necroptosis, which is important for overcoming resistance to apoptosis in PDAC. This provides a potential therapeutic approach to target apoptosis-resistant cancer cells by promoting non-apoptotic cell death pathways.
Organism	Mouse
Tissue	Pancreas
Disease	Mouse pancreatic ductal adenocarcinoma
Synonyms	Panc-02, Panc 02, Pan02, PAN 02, Panc02-H0

Characteristics

Age	Unspecified
Gender	Male
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	Panc02 (Cytion catalog number 300501)

Expression / Mutation

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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, 1% NEAA
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.
Freeze medium	CM-1 (Cytion catalog number 800100)

Handling of cryopreserved cultures

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.

Quality control / Genetic profile / HLA

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.