Panc02-Luc

305706

GENERAL INFORMATION

Description

Panc02-Luc is a luciferase-expressing derivative of the Panc02 murine pancreatic adenocarcinoma cell line. Panc02 cells originate from chemically induced pancreatic ductal adenocarcinoma in mice and are widely used as a syngeneic model of pancreatic cancer in immunocompetent murine hosts. The introduction of a luciferase reporter enables highly sensitive bioluminescent imaging of tumor cells in vitro and in vivo, facilitating noninvasive longitudinal monitoring of tumor growth, metastatic dissemination, and therapeutic response. These properties make Panc02-Luc a valuable platform for pancreatic cancer biology, immuno-oncology, and preclinical drug development studies. Panc02-Luc cells are commonly utilized in orthotopic and subcutaneous mouse tumor models to investigate tumor progression, stromal interactions, immune cell infiltration, and mechanisms of resistance to chemotherapy or immunotherapy. Because Panc02 tumors can be established in syngeneic mouse strains with an intact immune system, the model is particularly useful for evaluating checkpoint inhibitors, adoptive cell therapies, cancer vaccines, and combination treatment strategies. Luciferase-based imaging enables repeated quantitative assessment of tumor burden in living animals, reducing experimental variability and supporting real-time evaluation of treatment efficacy. Panc02-Luc cells are used for studies of pancreatic tumor cell proliferation, migration, invasion, cytokine signaling, metabolic adaptation, and apoptosis. The biological behavior of the model may vary depending on the luciferase construct, promoter system, and clonal selection strategy used during engineering. Further characterization data, including reporter stability, luminescence intensity, and metastatic potential, may be important for specialized experimental applications.

Tissue	Pancreas
Disease	Mouse pancreatic ductal adenocarcinoma

Synonyms

- Luciferase Reporter Panc02 Cell Line

CLASSIFICATION

Organism	Mouse
Sex	Male
Growth properties	Adherent
GMO status	GMO-S1

GMO status details

GMO-S1: This cell line contains a stably integrated firefly luciferase reporter cassette (Luc2, codon-optimized) introduced via replication-incompetent lentiviral transduction. The resulting polyclonal cell population was maintained under puromycin selection (1–5 µg/mL). S1 containment is required. This classification applies only within Germany and may differ elsewhere.

Biosafety level	1

CHARACTERISTICS

Doubling time	24-48 hours

IDENTIFIERS

Citation

Panc02-Luc (Cytion catalog number 305706)

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NCBI TaxID	10090
Cellosaurus	CVCL_E3IB

EXPRESSION AND SUSCEPTIBILITY

Antigen expression

Luc2 (firefly, codon-optimized)

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 10% FBS

Dissociation reagent	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.

Seeding density	1 to 3 x 10^4 cells/cm^2
Fluid renewal	2 to 3 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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
Follow the procedure described under Post-Thaw Recovery

QUALITY CONTROL AND CRYOPRESERVATION

Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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

Breed / subspecies	C57BL/6
Donor age	Unspecified

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