Product sheet

Panc02-Luc Cells | 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.
Organism	Mouse
Tissue	Pancreas
Disease	Mouse pancreatic ductal adenocarcinoma
Synonyms	Luciferase Reporter Panc02 Cell Line

Characteristics

Breed/Subspecies	C57BL/6
Age	Unspecified
Gender	Male
Growth properties	Adherent

Regulatory Data

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Citation	Panc02-Luc (Cytion catalog number 305706)
Biosafety level	1
NCBI_TaxID	10090
CellosaurusAccession	CVCL_E3IB
GMO Status	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.

Biomolecular Data

Antigen expression	Luc2 (firefly, codon-optimized)

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	24-48 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.
Seeding density	1 to 3 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week

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Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.
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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium. 7. Follow the procedure described under Post-Thaw Recovery
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