PT-K75

305460

GENERAL INFORMATION

Description

The PT-K75 cell line is a porcine-derived model that originates from nasal turbinate mucosa. PT-K75 has been extensively characterized for its swine leukocyte antigen (SLA) gene diversity, which is significant for understanding immune responses in swine models and for applications such as xenotransplantation and disease studies.
PT-K75 displays unique SLA alleles, including novel variants like SLA-1*08pt13, SLA-2*w09pt22, and SLA-2*1001, which are essential for understanding swine immune diversity. Some alleles identified in PT-K75 also possess distinct polymorphic features, such as small deletions or insertions that could potentially affect antigen presentation and immune regulation. These sequence variations contribute to the immunogenetic complexity of PT-K75, providing a robust model for studying swine-specific immune responses and interactions with pathogens.
The PT-K75 cell line serves as a valuable in vitro tool for virology, immunology, and genetic studies. Its origin from nasal turbinate tissue makes it particularly suitable for investigating respiratory viruses, immune activation, and host-pathogen interactions in porcine models. The characterization of SLA genes in PT-K75 enhances its utility in developing vaccines, studying swine-specific immune traits, and exploring cross-species immune responses, such as in xenotransplantation research. This cell line offers a unique and well-documented platform for advancing swine immunogenetics and translational biomedical research.

Tissue	Nasal

Applications

3D cell culture

CLASSIFICATION

Organism	Pig
Sex	Unspecified
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Fibroblast-like
Cell type	Fibroblast

IDENTIFIERS

Citation

PT-K75 (Cytion catalog number 305460)

NCBI TaxID	9823
Cellosaurus	CVCL_6436

EXPRESSION AND SUSCEPTIBILITY

Virus susceptibility

Porcine cytomegalovirus

HANDLING AND CULTURE

Culture medium

DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

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

Supplements

Supplement the medium with 10% FBS

Dissociation reagent	Accutase
Seeding density	2-4*10^4/cm²
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 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 recommend 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	Newborn

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

PRODUCT DETAILS

Composition table