Product sheet

PK-15 growing culture | 667426

General information

Description	The PK(15) cell line, derived from PK-2A, a cell line obtained from the kidney of an adult pig in 1955, is infected with the porcine type-C oncovirus, also known as the porcine endogenous retrovirus (PERV). The host cell genome contains 62 copies of the pol gene, which codes for reverse transcriptase and other proteins. Initially, the virus particles produced by PK(15) were found to be defective and unable to infect various mammalian cell lines, including a human cell line. However, subsequent studies demonstrated that human 293 cells could be productively infected by the cell-free supernatant from PK(15) cells. Polymerase chain reaction (PCR) analyses showed that the transmitted viruses belonged to the polytropic subtypes PERV-A and PERV-B. Furthermore, it was observed that the virus particles produced by the 293 cells were resistant to inactivation by the human complement system. In addition to its virological significance, the PK(15) cell line also serves specific applications as a suitable transfection host. With its adherent growth properties, the PK(15) cell line proves valuable in various research and experimental settings.
Organism	Pig
Tissue	Kidney
Synonyms	PK(15), PK (15), PK 15, PK15, Porcine Kidney-15

Characteristics

Age	Adult
Gender	Male
Morphology	Epithelial-like
Growth properties	Monolayer, adherent

Identifiers / Biosafety / Citation

Citation	PK-15 (Cytion catalog number 607426)
Biosafety level	2

Expression / Mutation

Viruses	PCV1 (Porcine circovirus 1) positive, PCV2 negative, PCV3 negative

Virus susceptibility	Hog cholera, African swine fever, vesicular exanthema of swine, foot and mouth disease (FMDV), vesicular stomatitis (Indiana), vaccinia, reovirus 2, 3, adenovirus 4, 5, coxsackievirus B2, B3, B4, B5, B6
Virus resistance	Poliovirus 2
Reverse transcriptase	Positive

Handling

Culture Medium	EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Subculturing	Remove medium and rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10ml for T75 cell culture flasks). Add TrypleExpress (1-2ml per T25, 2.5ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at ambient temperature for 10 minutes. Carefully resuspend the cells with medium (10 ml), centrifuge for 3 min at 300 g, resuspend cells in fresh medium and dispense into new flasks which contain fresh medium.
Split ratio	A ratio of 1:2 to 1:4 is recommended
Seeding density	2 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Freezing recovery	Allow the cells to recover from the freezing process for at least 24 to 48 hours.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures	PK-15 cells are shipped in a deep-frozen state on dry ice. Upon receipt, confirm that the vial remains frozen. For storage, place the cryovial immediately at temperatures below -150 degrees. If you plan to culture the cells immediately, swiftly thaw the vial by shaking it in a 37 degrees water bath with clean water and an antimicrobial agent for 40-60 seconds. Remove the vial once a small ice clump persists, ensuring it remains cold. Proceed with all subsequent steps under aseptic conditions. In a sterile flow hood, disinfect the cryovial with 70% ethanol. Then, gently open the vial and transfer the cell suspension into a 15 ml centrifuge tube pre-filled with 8 ml of room temperature culture medium. Gently mix the cells. For cell separation, centrifuge at 300 x g for 3 minutes and dispose of the supernatant. Skipping centrifugation is optional, although any residual freezing medium should be removed after 24 hours. Resuspend the pellet gently in 10 ml of fresh culture medium and divide between two T25 culture flasks. Follow the subculture protocol for subsequent steps.
Handling of proliferating cultures	One or two cell culture flasks come filled with cell culture medium. Collect the entire medium in a 50 ml centrifuge tube. Spin down the collected medium at 300 x g for 3 minutes to collect the cells which may have detached during transit. If a cell pellet is visible, resuspend the cells in 5 ml of cell culture medium and transfer to a T25 cell culture flask. Carefully add 5 ml of cell culture medium to each T25 cell culture flask. Examine cell morphology and confluency using a microscope. Finally, incubate the flasks at 37 degrees Celsius for at least 24 hours.

Quality control / Genetic profile / HLA

Sterility	Mycoplasma contamination is rigorously 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.
STR profile	**Amelogenin**: x