Product sheet

ST Cells | 305214

General information

Description	The ST cell line, derived from the connective tissue of a male Landrace pig, is primarily used in scientific studies related to virology and toxicology. These cells are of swine origin and are particularly valuable for research in veterinary medicine and comparative cellular biology, particularly for studies on viruses that affect swine. The fibroblast-like morphology of ST cells makes them a suitable model for studying cellular processes and virus-cell interactions in a porcine context. ST cells exhibit robust growth characteristics under standard cell culture conditions and have been utilized extensively to study a variety of swine pathogens, including foot-and-mouth disease virus and other Picornaviridae family members. Their susceptibility to different viral infections facilitates the analysis of viral life cycles, host-pathogen interactions, and the efficacy of antiviral compounds. Additionally, these cells are often used in the assessment of toxicological responses to various chemical agents, providing essential data on cellular responses and cytotoxicity in a non-human mammalian system. The versatility of the ST cell line in virological and toxicological assays underscores its utility in both fundamental and applied biological research. As such, ST cells continue to be a critical resource for researchers aiming to advance veterinary health, understand zoonotic disease mechanisms, and develop therapeutic strategies for diseases affecting swine populations.
Organism	Pig
Tissue	Testis
Synonyms	Swine Testis, STOMA24, Stoma 24, ST-IOWA

Characteristics

Age	80 to 90 days gestation
Gender	Male
Morphology	Fibroblast
Growth properties	Adherent

Regulatory Data

Citation	ST (Cytion catalog number 305214)

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Biosafety level	Biosafety level 1. The cell line harbors Porcine type-C oncovirus (PCOV) sequences and their transcripts, and the possibility of viral secretion cannot be excluded. In Germany, these viruses are categorized as BSL 1 for humans and BSL 2 for animals (TRBA 462). However, the German Central Committee on Biological Safety (ZKBS) assigns a BSL 2 classification to these viruses and infected cell lines when used for genetic modification purposes.
NCBI_TaxID	9823
CellosaurusAccession	CVCL_2204

Biomolecular Data

Handling

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
Supplements	Supplement the medium with 10% FBS, 1% NEAA and 1.0 mM Sodium pyruvate
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.
Fluid renewal	2 to 3 times per week
Freeze medium	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

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 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.
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

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.