3T6-Swiss albino

400104

GENERAL INFORMATION

Description

The 3T6-Swiss albino cell line originates from the tissue of Swiss albino mice, specifically developed for a broad range of virological and oncological research purposes. This fibroblast cell line is known for its susceptibility to various viruses, including murine sarcoma viruses, making it an invaluable tool in the study of viral oncogenesis and the transformational properties of oncogenes in a controlled environment. The robustness of 3T6-Swiss albino cells in culture allows for detailed genetic manipulation and analysis, facilitating advanced genetic studies that seek to understand the intricacies of cancer progression and viral infection mechanisms.
In addition to its applications in virology, the 3T6-Swiss albino cell line is frequently used in pharmacological research. Its responsiveness to pharmaceutical agents makes it a suitable model for drug screening and toxicity testing. Researchers utilize these cells to examine the cellular responses to new compounds, evaluating their efficacy and safety before proceeding to more complex in vivo studies. The genetic stability of the 3T6-Swiss albino cell line over multiple passages supports consistent experimental results, which is crucial for the development of reliable therapeutic strategies.

Tissue	Embryonic

Applications

This cell line is an optimal choice for transfection.

Synonyms

- 3T6 Swiss Albino
- Swiss 3T6
- NIH 3T6
- 3T6
- GM05862

CLASSIFICATION

Organism	Mouse
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Fibroblast-like
Cell type	Fibroblast
Tumourigenic	No
Ploidy status	Karyotyping results revealed an unstable range of 78-81. A significant portion (21%) of the cells contained a terminal centromere on a large chromosome, and another 21% comprised minuscule chromosomes.

IDENTIFIERS

Citation

3T6-Swiss albino (Cytion catalog number 400104)

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NCBI TaxID	10090
Cellosaurus	CVCL_0601

EXPRESSION AND SUSCEPTIBILITY

Viruses

Negative for ectromelia virus (mousepox).

Virus susceptibility

Herpes simplex, Vaccinia, Pseudorabies, Vesicular Stomatitis (Indiana)

Reverse transcriptase	Negative

Products

Collagen, hyaluronic acid

HANDLING AND CULTURE

Culture medium

Ham's F12, w: 1.0 mM stable Glutamine, w: 1.0 mM Sodium pyruvate, w: 1.1 g/L NaHCO3 (Cytion article number 820600a)

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 x 10^4 cells/cm^2 will result in a confluent monolayer within 5 days.
Fluid renewal	Every 3 to 4 days
Post-thaw recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 48 hours.

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 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.

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	Embryo

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.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

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