Product sheet

3T6-Swiss albino Cells | 400104

General information

Description	The 3T6-Swiss albino cell line, established by G. Todaro and H. Green in 1963 from disaggregated Swiss mouse embryos, is well-known in vitro model for cell growth and differentiation. These cells are useful for studying extracellular matrix biology and tissue engineering because they secrete collagen and hyaluronic acid. 21% of 3T6-Swiss albino cells have an extra large chromosome with a terminal centromere and 21% have minute chromosomes, indicating an unstable karyotype in the stemline range (78-81), which makes them a great tool for studying chromosomal instability. The 3T6-Swiss Albino cells have also been used to study oncogenes and tumor suppressor genes. Other properties of the 3T6-Swiss Albino cell line are that they are non-tumorigenic and highly homogeneous. The 3T6-Swiss Albino cell line is useful for studying basic cellular biology, extracellular matrix biology, chromosomal instability, and cancer therapeutics and tissue engineering.
Organism	Mouse
Tissue	Embryonic
Applications	This cell line is an optimal choice for transfection.
Synonyms	3T6 Swiss Albino, Swiss 3T6, NIH 3T6, 3T6, GM05862

Characteristics

Age	Embryo
Morphology	Fibroblast-like
Cell type	Fibroblast
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	3T6-Swiss albino (Cytion catalog number 400104)
Biosafety level	1

Expression / Mutation

Tumorigenic	No
Viruses	Negative for ectromelia virus (mousepox).

Virus susceptibility	Herpes simplex, Vaccinia, Pseudorabies, Vesicular Stomatitis (Indiana)
Reverse transcriptase	Negative
Products	Collagen, hyaluronic acid
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.

Handling

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)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	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.
Split ratio	A ratio of 1:2 to 1:10 is recommended
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
Freezing 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.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

Quality control / Genetic profile / HLA

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.