Product sheet

3T6-Swiss albino | 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
Medium supplements	10% FBS, w: 1.0 mM stable Glutamine, w: 1.0 mM Sodium pyruvate, w: 1.1 g/L NaHCO3
Passaging solution	Accutase
Subculturing	Remove medium and rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10 ml for T75 cell culture flasks). Add Accutase (1-2 ml per T25, 2.5 ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at ambient temperature for 8-10 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 1:10 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	The cells come deep-frozen shipped on dry ice. Please make sure that the vial is still frozen. If immediate culturing is not intended, the cryovial must be stored below -150 degree Celsius after arrival. If immediate culturing is intended, please follow the below instructions: Quickly thaw by rapid agitation in a 37 degree Celsius water bath within 40-60 seconds. The water bath should have clean water containing an antimicrobial agent. As soon as the sample has thawed, remove the cryovial from the water bath. A small ice clump should still remain and the vial should still be cold. From now on, all operations should be carried out under aseptic conditions. Transfer the cryovial to a sterile flow cabinet and wipe with 70% alcohol. Carefully open the vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of culture medium (room temperature). Resuspend the cells carefully. Centrifuge at 300 x g for 3 min and discard the supernatant. The centrifugation step may be omitted, but in this case the remains of the freeze medium have to be removed 24 hours later. Resuspend the cells carefully in 10 ml fresh cell culture medium and transfer them into two T25 cell culture flasks. All further steps are described in the subculture section.
Handling of proliferating cultures	One or two cell culture flasks come filled with cell culture medium. Collect the entire medium in 1 or 2 x 50 ml centrifuge tubes, respectively. Carefully add 5 ml of cell culture medium to each T25 cell culture flask. Control the cell morphology and confluency under the microscope. Incubate at 37 degree Celsius for a minimum of 24 hours. 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. Incubate at 37 degree Celsius for a minimum of 24 hours.

Quality control / Genetic profile / HLA

Sterility	Mycoplasma contaminations are ruled out through PCR-based and luminescence-based mycoplasma assays. The absence of bacterial, fungal or yeast contamination is controlled through daily visual cell monitoring.