Product sheet

TE-1 Cells | 305060

General information

Description	The TE-1 cell line was derived from a well-differentiated squamous cell carcinoma of the esophagus. TE-1 cells are characterized by their epithelial morphology, growing as both isolated and piled-up colonies. Cytogenetic studies reveal a male karyotype and distinctive marker chromosomes. TE-1 cells are notable for their differentiation-associated structures, such as desmosomes and interdigitated microvilli, as observed under scanning electron microscopy. These cells also exhibit abundant organelles, including mitochondria and rough endoplasmic reticulum, as seen in transmission electron microscopy. When transplanted into immunodeficient mice, TE-1 cells form tumors that closely resemble the histological features of the original tumor, making them a reliable model for esophageal squamous cell carcinoma research. The cell line has been utilized to investigate molecular and cellular mechanisms of squamous cell carcinoma, including studies on epidermal growth factor (EGF) receptor expression and signaling. TE-1 cells demonstrate a reduced number of high-affinity EGF receptors compared to normal esophageal epithelial cells, and their response to EGF differs markedly. These features make TE-1 a valuable model for exploring the roles of growth factor signaling, tumor biology, and therapeutic resistance in esophageal squamous cell carcinoma.
Organism	Human
Tissue	Esophagus
Disease	Esophageal squamous cell carcinoma
Synonyms	TE1

Characteristics

Age	58 years
Gender	Male
Ethnicity	Asian
Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	TE-1 (Cytion catalog number 305060)

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Biosafety level	1

Expression / Mutation

Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
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	1:2 to 1:4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100)

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.
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.

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STR profile

Amelogenin: x,x
CSF1PO: 10,12
D13S317: 10
D16S539: 12
D5S818: 11
D7S820: 10,11
TH01: 7
TPOX: 8,11
vWA: 18,19
D3S1358: 16
D21S11: 28
D18S51: 17
Penta E: 12,18
Penta D: 10
D8S1179: 11,13
FGA: 24
D6S1043: 11,12
D2S1338: 19
D12S391: 20
D19S433: 14,15.2