Product sheet

KYSE-150 Cells | 305087

General information

Description	The KYSE-150 cell line is a human esophageal squamous cell carcinoma (ESCC) model derived from a primary tumor resected from an adult patient. This cell line is part of the KYSE series, which was developed to provide a reliable in vitro model for studying the pathobiology of esophageal cancer, particularly in understanding tumorigenesis and therapeutic response. The KYSE-150 cells exhibit a rapid doubling time of 13.7 hours, indicating a high proliferative capacity, which is characteristic of aggressive cancer phenotypes. These cells grow in monolayer culture, adhering to the substrate and forming a uniform sheet, which is typical for epithelial-derived cancer cells. Genetic analysis of KYSE-150 reveals significant alterations in key tumor suppressor genes, particularly the p16 (INK4a) gene. This cell line shows aberrations in the p16 gene, specifically in the form of CpG island methylation, which silences the gene and contributes to the loss of cell cycle regulation. This epigenetic modification is a common mechanism in many cancers and highlights the relevance of KYSE-150 for studying gene silencing and its role in cancer progression. Furthermore, the cell line retains the wild-type configuration of the p15 gene, suggesting a selective inactivation mechanism for p16 over p15 in this model, which may be of interest in comparative genomic studies. KYSE-150 is not only valuable for studying the molecular and cellular mechanisms of ESCC but also for exploring the effects of genetic and epigenetic alterations in cancer. It provides a robust model for investigating therapeutic interventions that target the specific pathways dysregulated in esophageal squamous cell carcinoma. Given its high proliferation rate and specific genetic profile, KYSE-150 is a suitable candidate for in vitro pharmacological testing and other applications related to cancer research, but not for therapeutic or in vivo purposes.
Organism	Human
Tissue	Esophagus
Disease	Esophageal squamous cell carcinoma
Synonyms	KYSE 150, KYSE150, Kyse150, KY150

Characteristics

Age	49 years
Gender	Female
Ethnicity	Asian
Morphology	Epithelial

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Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	KYSE-150 (Cytion catalog number 305087)
Biosafety level	1

Expression / Mutation

Handling

Culture Medium	Please mix Ham's F12 and RPMI 1640 in a 50:50 ratio (Cytion article numbers 820600a and 820702a)
Medium supplements	Supplement the medium with 5% FBS
Passaging solution	Accutase
Doubling time	25 hours
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 1:5
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100)

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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.