Product sheet

KLE Cells | 305051

General information

Description	The KLE cell line is an adherent cell line derived from the endometrium of a White, female patient with adenocarcinoma. This cell line was established from a 64-day-old patient and has since become a vital tool in endometrial cancer research. KLE cells were deposited by GR Richardson and are known for their tumorigenic properties, as they form tumors within 21 days with 100% frequency when inoculated subcutaneously in nude mice. These tumors do not form glands but exhibit microvilli, junctional complexes, and nucleolar channel systems similar to those found in normal endometrium under progestational stimulation. KLE cells express blood type O and are Rh-positive, which can be relevant for specific studies involving antigen expression. The cell line is commonly used to study the pathophysiology of endometrial carcinoma, with particular interest in its estrogen receptor-negative and progesterone receptor-positive status. This receptor profile makes KLE cells highly suitable for research into progesterone's role in endometrial cancer progression. Electron microscopy studies of KLE cell-derived tumors have provided detailed insights into the cellular ultrastructure, making this cell line an essential resource for understanding the morphological aspects of endometrial adenocarcinoma.
Organism	Human
Tissue	Uterus, Endometrium
Disease	Endometrial adenocarcinom

Characteristics

Age	64 years
Gender	Female
Ethnicity	European
Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	KLE (Cytion catalog number 305051)
Biosafety level	1

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Expression / Mutation

Antigen expression	Blood Type O, Rh+
Tumorigenic	Yes, Tumors developed within 21 days at 100% frequency (5/5) in nude mice inoculated subcutaneously with 1?10^7 cells.

Handling

Culture Medium	DMEM:Ham's F12, w: 3.1 g/L Glucose, w: 1.6 mM L-Glutamine, w: 15 mM HEPES, w: 1.0 mM Sodium pyruvate, w: 1.2 g/L NaHCO3 (Cytion article number 820400a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Doubling time	114 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: 4
Fluid renewal	2 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: 13,14
D13S317: 12
D16S539: 11,12
D5S818: 9,12
D7S820: 11,12
TH01: 6,7
TPOX: 8,11
vWA: 16
D3S1358: 17
D21S11: 28,3
D18S51: 13,17
Penta E: 7
Penta D: 13
D8S1179: 8,14
FGA: 23,25
D1S1656: 15. Mrz
D6S1043: 15. Mrz
D2S1338: 18,19
D12S391: 20,25
D19S433: 15