Product sheet

Mahlavu Cells | 300473

General information

Description	The Mahlavu cell line is a human hepatocellular carcinoma (HCC) cell line derived from an adult patient with liver cancer. Hepatocellular carcinoma is the most common type of primary liver cancer, often associated with chronic liver disease, including hepatitis B or C infection and cirrhosis. Mahlavu cells exhibit characteristics typical of aggressive liver cancer, such as high proliferative capacity, invasive behavior, and resistance to apoptosis, making them a valuable model for studying the molecular mechanisms underlying HCC progression and for testing potential anti-cancer therapies. Mahlavu cells are known for their epithelial morphology and are typically cultured in conditions that support the growth of hepatic cells. These cells possess mutations in key oncogenes and tumor suppressor genes, which contribute to their tumorigenic properties. Researchers often use Mahlavu cells to study signaling pathways involved in HCC, such as the Wnt/β-catenin pathway, which is frequently dysregulated in liver cancers. Additionally, this cell line is useful in drug resistance studies, as it can provide insights into the mechanisms by which HCC cells evade standard chemotherapy treatments. Due to its aggressive nature, the Mahlavu cell line is also employed in metastasis research. Studies involving these cells can help elucidate the processes by which liver cancer spreads to other organs, particularly the lungs and lymph nodes. However, it is important to note that this cell line is intended for research purposes only and is not suitable for therapeutic or in vivo applications.
Organism	Human
Tissue	Liver
Disease	Hepatocellular carcinoma
Synonyms	MAHLAVU

Characteristics

Age	Unspecified
Gender	Female
Ethnicity	African
Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

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Citation	Mahlavu (Cytion catalog number 300473)

Expression / Mutation

Handling

Culture Medium	EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c)
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.
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: 7,11
D13S317: 12,13
D16S539: 11
D5S818: 12
D7S820: 10,11
TH01: 7
TPOX: 8,1
vWA: 15
D3S1358: 17
D21S11: 31.2,32.2
D18S51: 15
Penta E: 8,11
Penta D: 9,11
D8S1179: 11,14
FGA: 28
D6S1043: 12
D2S1338: 19,22
D12S391: 18
D19S433: 11,14