Product sheet

Li-7 Cells | 305102

General information

Description	The Li-7 cell line is a human hepatocellular carcinoma (HCC) cell line that is commonly used in cancer research, particularly in the study of liver cancer. Derived from a primary liver tumor, Li-7 cells exhibit the typical characteristics of HCC, including the ability to produce alpha-fetoprotein (AFP), a marker often elevated in liver cancer. These cells are also known for their genetic stability, which makes them a reliable model for long-term studies. Genomic analysis of Li-7 cells has revealed various chromosomal abnormalities that are characteristic of HCC, including gains in regions such as 5p, 8q, and 11q, and losses in 13q and 14q. These chromosomal changes are indicative of the complex genetic alterations that drive hepatocarcinogenesis. Specifically, the gain in 8q is associated with the amplification of the MYC oncogene, which plays a crucial role in cell cycle progression and proliferation, further emphasizing the utility of Li-7 cells in oncogenic pathway studies. Li-7 cells also serve as a valuable model for studying the molecular mechanisms underlying HCC, including the pathways involving key genes like TFDP1, CUL4A, and CDC16, which have been identified as targets of amplification in HCC. These genes are involved in cell cycle regulation and DNA repair, processes that are often dysregulated in cancer. Thus, the Li-7 cell line is instrumental in elucidating the molecular events that lead to the development and progression of liver cancer, providing insights that could guide therapeutic strategies.
Organism	Human
Tissue	Liver
Disease	Adult hepatocellular carcinoma
Synonyms	LI7, Li7, C-Li-7

Characteristics

Age	45 years
Gender	Male
Ethnicity	Asian
Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

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Citation	Li-7 (Cytion catalog number 305102)

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.
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.