

Hep-66.3A Cells | 400206

General information

Description

The Hep-66.4A hepatoma cell line is derived from a mouse liver tumor, specifically from the C3H/He mouse strain. This cell line is characterized by its hepatocytic origin, confirmed through intermediate filament protein analysis. Hep-66.4A expresses simple keratins K8 and K18, which are typical of normal liver cells, as well as vimentin and keratin K19 to varying degrees. These protein patterns confirm the hepatocytic nature of the cell line and its classification as a hepatoma line.

The Hep-66.4A cell line displays a predominantly epithelial morphology, reflecting its origin from hepatocytes. This morphological phenotype is consistent with its protein expression profile. DNA fingerprint analysis of Hep-66.4A did not reveal any major structural abnormalities, indicating a degree of genomic stability. However, some changes in the relative intensities of specific bands were observed with increasing passage numbers, suggesting minor genomic variability over extended culture periods.

Despite the absence of detectable p53 mutations in the primary mouse liver tumors, aberrations were found in some hepatoma lines during in vitro propagation. The Hep-66.4A cell line was analyzed for mutations in the p53 and c-Ha-ras genes. The absence of detectable mutations in the p53 gene in this line during early passages suggests a stable genetic background. This cell line serves as a valuable model for studying hepatocellular carcinoma, providing insights into the cellular and molecular mechanisms underlying liver tumorigenesis.

Organism Mouse

Tissue Liver

Disease Hepatocellular carcinoma

Synonyms HEP-66.3A, 66.3A

Characteristics

Age Adult

Gender Female

Morphology Epithelial-like

Growth properties Adherent

Identifiers / Biosafety / Citation

Citation Hep-66.3A (Cytion catalog number 400206)

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Biosafety level 1

Expression / Mutation

Protein expression Keratin 8, Keratin 18, Vimentin

Tumorigenic Yes, in B6C3F1 mice

Mutational profile p53 wt

Handling

Culture Medium DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 1.5 g/L NaHCO₃, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

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 A ratio of 1:4 to 1:8 is recommended

Fluid renewal Every 3 to 5 days

Freeze medium CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

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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 $300 \times g$ for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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

M_18-3: 16,18
M_4-2: 20,3,21.3
M_6-7: 12,17
M_3-2: 14
M_19-2: 12,13
M_7-1: 26,26.2
M_1-1: 10,16
M_8-1: 16
M_2-1: 9,15
M_15-3: 22,3,25.3
M_6-4: 18
M_11-2: 16
M_1-2: 16,2
M_17-2: 15
M_12-1: 16,17
M_5-5: 15,16
M_X-1: 28
M_13-1: 17
Human D4/D8: -