Product sheet

HEP3B Cells | 305141

Description	The Hep3B cell line, derived from an 8-year-old child with liver cancer, is a pivotal model in the study of human liver cancer cells and their responses to various therapeutic agents. Hep3B cells contain an integrated hepatitis B virus genome and is integral in the investigation of differential drug responses due to its unique genetic and phenotypic characteristics. The Hep 3B human hepatoma cell line is renowned for its extensive expression of liver-specific proteins such as alpha-fetoprotein (AFP), albumin, and various other markers, making it an invaluable tool in drug metabolism and hepatotoxicity studies. This wide array of expressed proteins allows for a comprehensive assessment of how liver cancer cells interact with and metabolize therapeutic agents. The Hep 3B cell line and its derivative cell lines enable the tracking of tumor growth and metastasis in vivo, facilitating the study of liver cancer progression and the efficacy of potential treatments. The Hep3B cell line stands out as a crucial resource for advancing our understanding of liver cancer biology and the development of more effective therapeutic strategies.
Organism	Human
Tissue	Liver
Disease	Childhood hepatocellular carcinoma
Synonyms	Hep 3B2_1-7, HEP3B217, Hep 3B2, HEP-3B2, HEP3B2, Hep-3B, HEP-3B, Hep 3B, Hep3B, HEP3B

Age	8 years
Gender	Male
Ethnicity	African
Morphology	Epithelial
Growth properties	Adherent

Citation	Hep 3B2.1-7 (Cytion catalog number 305141)

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Biosafety level	2
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0326

Protein expression	Alpha Fetoprotein(Alpha-Fetoprotein), Hepatitis B Surface Antigen(Hbsag), Albumin, Alpha2 Macroglobulin(Alpha-2-Macroglobulin), Alpha1 Antitrypsin(Alpha-1-Antitrypsin), Transferrin,, Alpha1 Antichymotrypsin(Alpha-1-Antichymotrypsin), Haptoglobin, Cerulopl
Tumorigenic	Yes

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
Supplements	Supplement the medium with 10% FBS and 1% NEAA
Dissociation Reagent	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.
Fluid renewal	2 to 3 times per week
Freeze medium	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

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Thawing and Culturing Cells

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.

Incubation Atmosphere

37°C, 5% CO_2, humidified atmosphere.

Shipping Conditions

Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.

Storage Conditions

For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

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.