Product sheet

HEP3B Cells | 305141

General information

Description	Hep3B is a human hepatoma cell line isolated from liver tissue derived from an 8-year-old child with liver cancer. These cells exhibit epithelial morphology and contain an integrated hepatitis B virus genome. Hep3B cells are commonly used in drug metabolism and hepatotoxicity studies. In contrast to HepG2 cells, Hep3B cells are hepatitis B virus-positive and tumorigenic. Hep3B cells have an average of 60 chromosomes per cell, while HepG2 cells contain an average of 55 (50?56) chromosomes per cell. Moreover, HepG2 cells have a rearranged chromosome 1, while Hep3B cells do not. In terms of gene expression, the Hep3B cell line expresses alpha-fetoprotein (AFP), hepatitis B surface antigen (HBsAg), albumin, alpha-2-macroglobulin, alpha-1-antitrypsin, transferrin, alpha-1-antichymotrypsin, haptoglobin, ceruloplasmin, plasminogen complement (C3, C4), C3 activator, fibrinogen, alpha-1 acid glycoprotein, alpha-2-HS-glycoprotein, beta-lipoprotein, and retinol-binding protein. However, the Hepatitis B Viral Protein HBx, which regulates the expression of the majority of genes differentially expressed between HepG2 and Hep3B, may not be the crucial factor in determining the differences between these cell lines. Instead, the different cancer maturation stages are considered to be responsible for the differences between HepG2 and Hep3B.
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

Characteristics

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

Identifiers / Biosafety / Citation

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

Expression / Mutation

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

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 medium and rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10 ml for T75 cell culture flasks). Add Accutase (1-2 ml per T25, 2.5 ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at ambient temperature for 8-10 minutes. Carefully resuspend the cells with medium (10 ml), centrifuge for 3 min at 300 g, resuspend cells in fresh medium and dispense into new flasks which contain fresh medium.
Split ratio	1:2 to 1:4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)
Handling of cryopreserved cultures	Hep 3B2.1-7 cells are shipped in a deep-frozen state on dry ice. Upon receipt, confirm that the vial remains frozen. For storage, place the cryovial immediately at temperatures below -150 degrees. If you plan to culture the cells immediately, swiftly thaw the vial by shaking it in a 37 degrees water bath with clean water and an antimicrobial agent for 40-60 seconds. Remove the vial once a small ice clump persists, ensuring it remains cold. Proceed with all subsequent steps under aseptic conditions. In a sterile flow hood, disinfect the cryovial with 70% ethanol. Then, gently open the vial and transfer the cell suspension into a 15 ml centrifuge tube pre-filled with 8 ml of room temperature culture medium. Gently mix the cells. For cell separation, centrifuge at 300 x g for 3 minutes and dispose of the supernatant. Skipping centrifugation is optional, although any residual freezing medium should be removed after 24 hours. Resuspend the pellet gently in 10 ml of fresh culture medium and divide between two T25 culture flasks. Follow the subculture protocol for subsequent steps.

Handling of proliferating cultures	One or two cell culture flasks come filled with cell culture medium. Collect the entire medium in a 50 ml centrifuge tube. Spin down the collected medium at 300 x g for 3 minutes to collect the cells which may have detached during transit. If a cell pellet is visible, resuspend the cells in 5 ml of cell culture medium and transfer to a T25 cell culture flask. Carefully add 5 ml of cell culture medium to each T25 cell culture flask. Examine cell morphology and confluency using a microscope. Finally, incubate the flasks at 37 degrees Celsius for at least 24 hours.

Quality control / Genetic profile / HLA

Sterility	Mycoplasma contamination is rigorously 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.

STR profile

Amelogenin: x,x
CSF1PO: 8
D13S317: 12,14
D16S539: 10
D5S818: 13
D7S820: 8,1
TH01: 6,7
TPOX: 9
vWA: 17
D3S1358: 15
D21S11: 30,31
D18S51: 20
Penta E: 5,16
Penta D: 12,14
D8S1179: 12
FGA: 18