Product sheet

HepG2.2.15 Cells | 305227

Renseignements généraux

Description	The HepG2.2.15 cell line is a derivative of the HepG2 cell line, which originates from a human hepatoblastoma, a type of liver cancer. These cells are particularly noteworthy for their ability to stably express hepatitis B virus (HBV) particles, making them invaluable in the study of HBV biology and the development of antiviral drugs. HepG2.2.15 cells maintain many of the characteristics of hepatocytes, including the production of proteins such as albumin and alpha-fetoprotein, which are critical for liver function. Additionally, they possess a polygonal shape and form tight clusters, resembling liver tissue structure. One of the primary uses of the HepG2.2.15 cell line is in researching HBV replication and pathogenesis. These cells are transfected with the HBV genome, leading to the continuous production of viral particles. This feature makes them an ideal model for studying the lifecycle of HBV and the effects of various antiviral agents. Researchers utilize HepG2.2.15 cells to screen for potential therapeutic compounds, investigate viral entry and replication mechanisms, and understand the host's immune response to HBV infection. The cell line's ability to produce HBV also allows for the study of viral mutations and resistance patterns, which is crucial for developing effective treatments.
Organism	Human
Tissue	Liver
Disease	Hepatoblastoma
Synonyms	HEP-G2/2.2.15, Hep-G2/2215, HepG2/2215, HepG2-2.2.15, HepG2 2.2.15, HepG/2.2.15, HepG2(2.2.15), 2.2.15

Caractéristiques

Age	15 years
Gender	Male
Ethnicity	Caucasian
Growth properties	Adherent

Données réglementaires

Citation	HepG2.2.15 (Cytion catalog number 305227)
Biosafety level	2

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NCBI_TaxID	9606
CellosaurusAccession	CVCL_L855

Données biomoléculaires

Manipulation

Culture Medium	Ham's F12K Medium, w: 2.0 mM L-Glutamine, w: 2.0 mM Sodium pyruvate, w: 2.5 g/L NaHCO3 (Cytion article number 820608a)
Supplements	Supplement the medium with 10% FBS
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.
Seeding density	5×10^4 cells/cm^2
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.

Contrôle de la qualité et analyse moléculaire

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.