Product sheet

Hep-G2/C3A Cells | 305891

General information

Description	Hep-G2/C3A (often referred to as C3A) is a human (Homo sapiens) cell line established from a liver tumor (hepatoblastoma) of a 15-year-old male patient. It is a clonal subline of the well-known Hep-G2 cell line and therefore originates from malignant hepatic tissue. As a cancer-derived cell line of liver origin, Hep-G2/C3A shows continuous growth in vitro and is widely used as a stable, reproducible model of human liver cells. Owing to its robust growth characteristics and the retention of key liver-specific functions, Hep-G2/C3A is used across multiple research areas. It is particularly common in pharmacology and toxicology as an in vitro model for studying drug metabolism and hepatotoxicity, including 3D spheroid culture formats that can improve the prediction of human liver toxicity. In cancer research, Hep-G2/C3A serves as a model for hepatic tumors (hepatoma/hepatoblastoma) and supports testing of therapeutic strategies under controlled laboratory conditions. Because of its functional similarity to primary hepatocytes (for example, production of plasma proteins and active metabolism), it has also been used in the development of bioartificial liver support systems such as the extracorporeal ELAD device. In addition, Hep-G2/C3A can be permissive to infection by certain human viruses (e.g., Zika virus), making it useful for virology-focused studies in hepatic cell systems.
Organism	Human
Tissue	Liver
Disease	Hepatoblastoma
Synonyms	HepG2/C3A, Hep G2/C3A, C3A

Characteristics

Age	15 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial
Growth properties	Adherent

Regulatory Data

Citation	Hep-G2/C3A (Cytion catalog number 305891)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1098

Biomolecular Data

Mutational profile	Mutation: p.Gln61Leu, Heterozygous

Handling

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
Dissociation Reagent	Accutase
Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium. 7. Follow the procedure described under Post-Thaw Recovery
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.

Quality Control & Molecular Analysis