Hep-G2/C3A

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.

Tissue	Liver
Disease	Hepatoblastoma

Synonyms

- HepG2/C3A
- Hep G2/C3A
- C3A

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial

IDENTIFIERS

Citation

Hep-G2/C3A (Cytion catalog number 305891)

NCBI TaxID	9606
Cellosaurus	CVCL_1098

EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: p.Gln61Leu, Heterozygous

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HANDLING AND CULTURE

Culture medium

EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

Supplement the medium with 10% FBS

Dissociation reagent	Accutase

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
Follow the procedure described under Post-Thaw Recovery

QUALITY CONTROL AND CRYOPRESERVATION

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

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.

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.

DONOR

Donor age	15 years
Ethnicity	Caucasian

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes

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