HepG2 Cell Line

#Cat: NB-19-0060 Size: 1x10^6cells/vial

HepG2 is a cell line exhibiting epithelial-like morphology that was isolated from hepatocellular carcinoma of a 15-year-old, white, male youth with liver cancer. The cells express 3-hydroxy-3-methylglutaryl-CoA reductase and hepatic triglyceride lipase activities. The cells demonstrate decreased expression of apoA-I mRNA and increased expression of catalase mRNA in response to gramoxone (oxidative stress). There is no evidence of a Hepatitis B virus genome in this cell line.

Characteristics

Cell Name	Hep G2 Cell Line
Organism	*Homo sapiens*, Human
Morphology	Epithelial-like
Tissue	Liver
Cell type	Hepatocellular
Disease	Carcinoma
Growth Properties	Adherent
Derivation	HepG2 was derived from a liver hepatocellular carcinoma of a 15 year old Caucasian male
Age	15 years adolescent
Ethnicity	White
Gender	Male
Karyotype	modal number = 55 (range = 50 to 60); has a rearranged chromosome 1
Tumorigenic	No
STR profile	**AMEL:** X, Y **CSF1PO:** 10,11 **D13S317:** 9,13 **D16S539:** 12,13 **D18S51 :** 13,14 **D21S11 :** 29,31 **D3S1358:** 15,16 **D5S818 :** 11,12 **D7S820 :** 10 **D8S1179:** 15,16 **FGA:** 22,25 **PENTA D:** 9,13 **PENTA E:** 15,20 **THO1:** 9 **TPOX:** 8,9 **vWA:** 17
Biosafety Level	1
Product format	Frozen
Storage conditions	Vapor phase of liquid nitrogen

Culture conditions

Complete medium
The base medium for this cell line is Minimum Essential Medium (MEM) with stable glutamine (Catalog No. NB-58-0091). To make the complete growth medium, add fetal bovine serum to a final concentration of 10%

Temperature
37°C

Atmosphere
Air, 95%; CO2, 5%

Subculturing
Volumes are given for a 75 cm^2 flask, increase or decrease the amount of medium needed proportionally for culture vessels of other sizes

1. Remove and discard culture medium
2. Briefly rinse the cell layer with DPBS solution to remove all traces of serum that contains trypsin inhibitor
3. Add 2 mL of Trypsin-EDTA solution to the flask and observe cells under an inverted microscope until cell layer is dispersed (usually within 5 to 10 minutes). Cells that are difficult to detach may be placed at 37°C to facilitate dispersal
4. Add 8 mL of complete growth medium and aspirate cells by gently pipetting
5. Add appropriate aliquots of the cell suspension to new culture vessels

Seeding density
2 x 10^4 to 6 x 10^4 viable cells/cm^2

Subculture ratio
1:4-1:6

Medium renewal
Twice per week

Cryopreservation
Basal medium with 30% FBS and 10% (v/v) DMSO

Handling information

Unpacking
1. Check all containers for leakage or breakage
2. Remove the frozen cells from the dry ice packaging and immediately place the cells at a temperature below -130ºC, preferably in liquid nitrogen vapor, until ready for use

Procedure
To ensure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not at -70°C. Storage at -70°C will result in loss of viability

1. Quickly thaw the vial by gentle agitation in a 37°C water bath within 1-2 minutes
2. Remove the vial from the water bath as soon as the contents are thawed and decontaminate by dipping in or spraying with 70% ethanol. All operations from this point on should be carried out under strict aseptic conditions
3. Carefully open the vial and transfer the cell suspension to a centrifuge tube containing 8 mL complete culture medium (room temperature). Centrifuge at 300 x g for 5-7 minutes and carefully discard the supernatant containing residual freezing medium
4. Gently resuspend the cell pellet in 10 ml fresh complete medium and dispense into a 75 cm^2 culture flask
5. Incubate the culture at 37°C in a suitable incubator for 24-48 hours and check under the microscope. All further steps are described in the subculture section

Required Products

These products are vital for the proper use of this item and have been confirmed as effective in supporting functionality. If you use alternative products, the quality and effectiveness of the item may be affected.

Neo MEM with Earle's Salts, with Stable Glutamine (NB-58-0091)
Neo FBS, Collected in South America (NB-58-0001A, NB-58-0001B)
Neo Trypsin-EDTA (0.05 %) in DPBS (1x) (NB-58-0108)
Neo Freeze 1, Cryopreservation Medium with Fetal Bovine Serum (NB-58-0065)
Neo Dulbecco's PBS (1x), w/o Ca & Mg, w/o Phenol Red (NB-58-0022)

Related Products

Human genomic DNA (Hep G2) (NB-19-0060-DNA)