SNU-423

305874

GENERAL INFORMATION

Description

The SNU-423 cell line is a human hepatocellular carcinoma (HCC) model established from a Korean adult patient. It is one of eight HCC cell lines derived from primary liver tumors and characterized for their morphological, genetic, and virological properties. SNU-423 displays substrate adherence and maintains many of the histological features of the original tumor, consistent with hepatocyte-derived epithelial morphology. It exhibits aneuploidy and has a modal chromosome number indicative of chromosomal instability, which is common in HCC-derived lines.
At the molecular level, SNU-423 is notable for integration of hepatitis B virus (HBV) DNA within its genome, a characteristic shared by all lines in its cohort, reflecting the high prevalence of HBV-associated liver cancer in Eastern Asia. While some cell lines in the series express HBV transcripts such as HBVx, specific transcript expression in SNU-423 was not reported. Additionally, SNU-423 does not express alpha-fetoprotein (AFP) at either the RNA or protein level, aligning it with a subset of HCCs that lack AFP secretion. It has been used in pharmacogenomic screens such as the LIMORE (Liver Cancer Model Repository), where it contributes to understanding gene-drug associations in liver cancer, including drug response variability potentially linked to HBV status or distinct oncogenic alterations.

Tissue	Liver
Disease	Adult hepatocellular carcinoma

Synonyms

- SNU423
- NCI-SNU-423

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	2

CHARACTERISTICS

Morphology	Epithelial-like

Karyotype

Aneuploid; modal number = 79

Doubling time	72 hours

IDENTIFIERS

Citation

SNU-423 (Cytion catalog number 305874)

NCBI TaxID	9606
Cellosaurus	CVCL_0366

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EXPRESSION AND SUSCEPTIBILITY

Antigen expression

Blood Type B; Rh +

Mutational profile

Mutation: TERT, Simple, c.1-124C>T (c.228C>T) (C228T), Unspecified, Note=In promoter. Mutation, TP53, Simple, c.376-2A>G, Unspecified, Note=Splice acceptor mutation

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

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

Supplements

Supplement the medium with 10% heat-inactivated FBS

Dissociation reagent	Accutase
Fluid renewal	2 to 3 times per week

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 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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	40 years

Ethnicity	Korean

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.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

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