SN12C

305629

GENERAL INFORMATION

Description

The SN12C cell line is a human renal cell carcinoma (RCC) model derived from a primary tumor of a 43-year-old male patient. This cell line has been widely used in cancer research, particularly for investigating the biology and therapeutic targeting of RCC. SN12C cells are adherent in culture and exhibit properties consistent with epithelial morphology. The cell line is also part of the NCI-60 panel, making it extensively characterized in terms of its genomic, transcriptomic, and proteomic profiles.
SN12C cells have been employed in studies exploring tumor progression and metastasis. When implanted orthotopically in the renal subcapsule of nude mice, SN12C cells form primary tumors and have been shown to produce lung metastases. These metastases have been used to derive variant cell lines with enhanced metastatic potential, making SN12C a valuable model for studying the genetic and phenotypic factors driving metastasis. The cell line has also been analyzed for mutations in key oncogenes and tumor suppressors, revealing its distinct genetic alterations, including potential oncogenic drivers of RCC.
SN12C has been utilized to evaluate responses to chemotherapy and targeted therapies, contributing to the understanding of RCC's drug resistance mechanisms. Its inclusion in the NCI-60 panel has enabled high-throughput drug screening and molecular profiling, aiding the identification of compounds with selective activity against RCC. These attributes make SN12C an indispensable tool for advancing both basic and translational RCC research.

Tissue	Kidney
Disease	Renal cell carcinoma

Synonyms

- SN-12C
- SN12 C

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Cell type	Renal cell
Doubling time	26-30 hours

IDENTIFIERS

Citation

SN12C (Cytion catalog number 305629)

NCBI TaxID	9606
Cellosaurus	CVCL_1705

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EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: TP53, Simple, p.Glu336Ter (c.1006G>T), Homozygous

HANDLING AND CULTURE

Culture medium

DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

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

Supplements

Supplement the medium with 10% FBS

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	Unspecified
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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