SNU-81

305638

GENERAL INFORMATION

Description

The SNU-81 cell line is a human colorectal carcinoma model established from a Korean patient. It is part of a collection of 12 colorectal cancer cell lines derived from both primary tumors and metastatic sites, providing a diverse representation of tumor biology. SNU-81 was derived from a primary colorectal adenocarcinoma and exhibits epithelial morphology with adherent growth in culture. The cell line expresses carcinoembryonic antigen (CEA), which is secreted into the culture supernatant, reflecting typical colorectal tumor characteristics.
At the molecular level, SNU-81 has undergone extensive genetic characterization. It harbors a mutation in the TP53 tumor suppressor gene, a common event in colorectal carcinogenesis, typically associated with later stages of tumor progression. Additionally, mutations in the APC gene were identified, implicating disruption of Wnt/β-catenin signaling, a hallmark of colorectal cancer development. No activating mutations were detected in the K-ras2 gene for this line. Alterations in cell cycle regulators, such as hypermethylation of the p16 gene, were also observed, further supporting the cell line's utility in studying genetic and epigenetic mechanisms driving colorectal cancer. Overall, SNU-81 serves as a well-defined in vitro model for exploring tumor suppressor gene function, oncogenic pathway regulation, and response to targeted therapies in colorectal cancer research.

Tissue	Colon
Disease	Adenocarcinoma

Synonyms

- SNU81
- NCI-SNU-81

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Cell type	Epithelial
Doubling time	30 hours

IDENTIFIERS

Citation

SNU-81 (Cytion catalog number 305638)

NCBI TaxID	9606
Cellosaurus	CVCL_5098

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: APC, Simple, p.Ser1392Ter (c.4175C>A), Heterozygous; Mutation: APC, Simple, p.Arg1450Ter (c.4348C>T), Heterozygous; Mutation: APC, Simple, p.Arg2204Ter (c.6610C>T), Heterozygous; Mutation: FBXW7, Simple, p.Arg479Gln (c.1436G>A), Heterozygous; Mutation: KRAS, Simple, p.Ala146Thr (c.436G>A), Heterozygous; Mutation: PTEN, Simple, p.Arg130Gln (c.389G>A), Heterozygous; Mutation: PTEN, Simple, p.Glu299Ter (c.895G>T), Heterozygous; Mutation: TBX3, Simple, p.Glu111Ter (c.331G>T), Heterozygous; Mutation: TBX3, Simple, c.942-1G>T, Heterozygous; Mutation: TP53, Simple, p.Lys132Thr (c.395A>C), Heterozygous; Mutation: TP53, Simple, p.Arg213Ter (c.637C>T), Heterozygous

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% FBS

Dissociation reagent	Accutase

Subculturing

Remove medium, add fresh 0.25 % trypsin 0.02 % EDTA solution, stand culture flask at 37""C for 3 to 5 minutes, add culture medium and collect the cells, transfer the medium into 15ml tube, centrifuge, aspirate the medium, resuspend the pellets with culture medium and dispense into the culture flask

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	53 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.

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