Product sheet

NCI-N87 Cells | 305057

General information

Description	NCI-N87, also known as N87, is a human gastric cancer cell line and is widely utilized in cancer research, particularly gastric carcinoma studies. NCI-N87 cells contribute to our understanding of the digestion model of the gastric mucosa and play a role in the development of gastroretentive delivery systems. In pharmacological contexts, NCI-N87 cells have been used to explore the role of gentamicin as an anticancer agent. The gastric adenocarcinoma cell line NCI-N87 is tumorigenic and expresses the oncogenes myc and erb-B2, and are therefore instrumental in xenograft model studies. This cell line's inflammatory properties and response to agents like gentamicin can be assayed, as can its potential involvement in epithelial barrier integrity and function using intestinal permeability assays. The cells are known to express surface glycoproteins such as carcinoembryonic antigen (CEA) and TAG 72, but are negative for L-dopa decarboxylase (DDC). The cells show minimal positivity for vasoactive intestinal peptide (VIP) receptors and lack gastrin receptors, and they express receptors for muscarinic cholinergic agents. No amplification or rearrangements were observed in N-myc, L-myc, myb, and EGF receptor genes in these cells. In summary, the gastric epithelium cell line NCI-N87 serves as a model for gastric cancer research, epithelial cell behavior, drug delivery systems, and the metabolic pathways of nutritionally relevant compounds.
Organism	Human
Tissue	Stomach
Disease	Gastric tubular adenocarcinoma
Metastatic site	Liver
Synonyms	NCI-N87, NCI N87, N-87, NCI-H87, H87, H-87, NCIN87

Characteristics

Gender	Male
Ethnicity	African
Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

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Citation	N87 (Cytion catalog number 305057)
Biosafety level	1

Expression / Mutation

Tumorigenic	Yes

Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Subculturing	Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.
Split ratio	1:2 to 1:4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100)

Handling of cryopreserved cultures

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. 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.
3. 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.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. 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.
6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
7. 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.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

Quality control / Genetic profile / HLA

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.

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STR profile

Amelogenin: x,y
CSF1PO: 8,12
D13S317: 8,11
D16S539: 9,13
D5S818: 12,13
D7S820: 10,11
TH01: 9
TPOX: 9,11
vWA: 15,16
D3S1358: 14
D21S11: 30
D18S51: 17
Penta E: 5
Penta D: 12
D8S1179: 14
FGA: 20,21
D6S1043: 12
D2S1338: 23,24
D12S391: 16,21
D19S433: 14,14.2