Product Sheet
NCI-N87 [N87] (ATCC® CRL-5822™)

Please read this FIRST

Storage Temp.
liquid nitrogen
vapor phase

Biosafety Level
1

Intended Use
This product is intended for research use only. It is not intended for any animal or human therapeutic or diagnostic use.

Complete Growth Medium
The base medium for this cell line is ATCC-formulated RPMI-1640 Medium, ATCC® 30-2001. To make the complete growth medium, add the following components to the base medium: fetal bovine serum (ATCC® 30-2020) to a final concentration of 10%.

Citation of Strain
If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: NCI-N87 [N87] (ATCC® CRL-5822™)

Description
Organism: Homo sapiens, human
Tissue: stomach; derived from metastatic site: liver
Disease: gastric carcinoma
Gender: male
Morphology: epithelial
Growth Properties: adherent
DNA Profile:
Amelogenin: X,Y
CSF1PO: 8,12
D13S317: 8,11
D16S539: 9,13
DSS18: 12,13
D7S820: 10,11
THO1: 9
TPOX: 9,11
vWA: 15,16

Cytogenetic Analysis: near diploid; DM were present in 64% of cells examined

SAFETY PRECAUTION
ATCC highly recommends that protective gloves and clothing always be used and a full face mask always be worn when handling frozen vials. It is important to note that some vials leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vessel exploding or blowing off its cap with dangerous force creating flying debris.

Unpacking & Storage Instructions
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 -130°C, preferably in liquid nitrogen vapor, until ready for use.

Handling Procedure for Frozen Cells
To insure 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. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 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 of the operations from this point on should be carried out under strict aseptic conditions.
3. Transfer the vial contents to a centrifuge tube containing 9.0 mL complete culture medium and spin at approximately 125 x g for 5 to 7 minutes.
4. Resuspend cell pellet with the recommended complete medium (see the specific batch information for the culture recommended dilution ratio) and dispense into a 25 cm² or a 75 cm² culture flask. It is important to avoid excessive alkalinity of the medium during recovery of the cells. It is suggested that, prior to the addition of the vial contents, the culture vessel containing the complete growth medium be placed into the incubator for at least 15 minutes to allow the medium to reach its normal pH (7.0 to 7.6).
5. Incubate the culture at 37°C in a suitable incubator. A 5% CO₂ in air atmosphere is recommended if using the medium described on this product.

Handling Procedure for Flask Cultures
The flask was seeded with cells (see specific batch information) grown and completely filled with medium at ATCC to prevent loss of cells during shipping.

1. Upon receipt, visually examine the culture for macroscopic evidence of any microbial contamination. Using an inverted microscope (preferably equipped with phase-contrast optics), carefully check for any evidence of microbial contamination. Also, check to determine if the majority of cells are still
If the cells are still attached, aseptically remove all but 5 to 10 mL of the shipping medium. Two to three times weekly, add 2.0 to 3.0 mL of Trypsin-EDTA solution to flask and observe cells under an inverted microscope. Remove and discard culture medium. Briefly rinse the cell layer with 0.25% (w/v) Trypsin-0.53 mM EDTA solution to remove all traces of serum that contains trypsin inhibitor. Add 2.0 to 3.0 mL of Trypsin-EDTA solution to flask and observe cells under an inverted microscope until cell layer is dispersed (usually within 5 to 15 minutes). Note: To avoid clumping do not agitate the cells by hitting or shaking the flask while waiting for the cells to detach. Cells that are difficult to detach may be placed at 37°C to facilitate dispersal. Add 6.0 to 8.0 mL of complete growth medium and aspirate cells by gently pipetting. Add appropriate aliquots of the cell suspension to new culture vessels. Incubate cultures at 37°C.

**Subculturing Procedure**

Volumes are given for a 75 cm² flask. Increase or decrease the amount of dissociation medium needed proportionally for culture vessels of other sizes.

1. Remove and discard culture medium.
2. Briefly rinse the cell layer with 0.25% (w/v) Trypsin-0.53 mM EDTA solution to remove all traces of serum that contains trypsin inhibitor.
3. Add 2.0 to 3.0 mL of Trypsin-EDTA solution to flask and observe cells under an inverted microscope until cell layer is dispersed (usually within 5 to 15 minutes).
4. Add 6.0 to 8.0 mL of complete growth medium and aspirate cells by gently pipetting.
5. Add appropriate aliquots of the cell suspension to new culture vessels.
6. Incubate cultures at 37°C.

**Subcultivation Ratio:** A subcultivation ratio of 1:3 to 1:4 is recommended.

**Medium Renewal:** Two to three times weekly.

**Cryopreservation Medium**

Complete growth medium described above supplemented with 5% (v/v) DMSO.

**Cell culture tested DMSO is available as ATCC Catalog No. 4-X.**

**Comments**

NCI-N87 cells express the surface glycoproteins carcinoembryonic antigen (CEA) and TAG 72, and are L-dopa decarboxylase (DDC) negative. They were minimally positive for vasoactive intestinal peptide (VIP) receptors and lacked gastrin receptors. They were found to express receptors for muscarinic cholinergic agents. No evidence of amplification or rearrangements was noted with the N-myc, L-myc, myb and EGF receptor genes. The cell line expressed levels of c-myc and c-erb-B 2 RNA that were comparable to other cell lines. There was no expression of the following genes: N-myc, L-myc, c-cis, IGF-2, or gastrin releasing peptide. NCI-N87 cells have a reported plating efficiency of 4.3%.

**References**

References and other information relating to this product are available online at www.atcc.org.

**Biosafety Level:** 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the current publication of the Biosafety in Microbiological and Biomedical Laboratories from the U.S. Department of Health and Human Services Centers for Disease Control and Prevention and National Institutes for Health.

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Additional information on this culture is available on the ATCC web site at www.atcc.org.

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