Data Sheet

BCRJ Code:	0350
Cell Line:	NCI-N87 [N87]
Species:	Homo sapiens
Vulgar Name:	Human
Tissue:	Stomach; Derived From Metastatic Site: Liver
Morphology:	Epithelial
Disease:	Gastric Carcinoma
Growth Properties:	Adherent
Sex:	Male
Tumor Formation::	yes, the cells form tumors in athymic nude mice. [PubMed: 2158397]
Biosafety:	1
Addtional Info:	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%.
Culture Medium:	RPMI-1640 medium modified to contain 2 mM L-glutamine, 4500 mg/L glucose with fetal bovine serum to a final concentration of 10%.

Subculturing:	Volumes are given for a 75 cm2 flask. Increase or decrease the amount of dissociation medium needed proportionally for culture vessels of other sizes. Remove and discard culture medium. Briefly rinse the cell layer with PBS without calcium and magnesium 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. Population Doubling Time: 47 hrs NOTE: For more information on enzymatic dissociation and subculturing of cell lines consult Chapter 12 in Culture of Animal Cells, a manual of Basic Technique by R. Ian Freshney, 6th edition, published by Alan R. Liss, N.Y., 2010.
Subculturing Medium Renewal:	Two to three times weekly
Subculturing Subcultivation Ratio:	1:3 to 1:4 is recommended
Culture Conditions:	Atmosphere: air, 95%; carbon dioxide (CO2), 5% Temperature: 37°C
Cryopreservation:	95% FBS + 5% DMSO (Dimethyl sulfoxide)

Thawing Frozen Cells:	SAFETY PRECAUTION: It is strongly recommended to always wear protective gloves, clothing, and a full-face mask when handling frozen vials. Some vials may leak when submerged in liquid nitrogen, allowing nitrogen to slowly enter the vial. Upon thawing, the conversion of liquid nitrogen back to its gas phase may cause the vial to explode or eject its cap with significant force, creating flying debris. 1. Thaw the vial by gently agitating it in a 37°C water bath. To minimize 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 its contents are thawed and decontaminate it by dipping in or spraying with 70% ethanol. From this point, all operations must be performed under strict aseptic conditions. 3. For cells sensitive to DMSO, it is recommended to remove the cryoprotective agent immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL of complete culture medium and centrifuge at approximately 125 × g for 5 to 7 minutes. 4. Discard the supernatant and resuspend the cell pellet in the recommended complete medium (see specific batch information for the appropriate dilution ratio). 5. Incubate the culture under appropriate atmospheric and temperature conditions (see "Culture Conditions" for this cell line). NOTE: It is important to avoid excessive alkalinity of the medium during cell recovery. To minimize this risk, it is recommended to place the culture vessel containing the growth medium in the incubator for at least 15 minutes before adding the vial contents. This allows the medium to stabilize at its normal pH (7.0 to 7.6).
References:	Park JG, et al. Characteristics of cell lines established from human gastric carcinoma. Cancer Res. 50: 2773-2780, 1990. PubMed: 2158397 NCI-Navy Medical Oncology Branch Cell Line Supplement. J. Cell. Biochem. suppl. 24: 1996. NCI-N87 is a gastric carcinoma cell line derived in 1976 by A. Gazdar and associates at the National Cancer Institute from a liver metastasis of a well differentiated carcinoma of the stomach taken prior to cytotoxic therapy. The tumor was passaged as a xenograft in athymic nude mice for three passages before the cell line was established.
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