Product sheet

NUGC-3 | 305503

Obecné informace

Description	NUGC-3 is a human gastric carcinoma cell line derived from the primary tumor of an patient with poorly differentiated adenocarcinoma. This cell line serves as an important model for studying gastric cancer, a malignancy characterized by high heterogeneity and poor prognosis in advanced stages. NUGC-3 cells are widely utilized in cancer biology research, particularly in the areas of tumor progression, metastasis, and the evaluation of novel therapeutic agents targeting gastric cancer. NUGC-3 cells exhibit epithelial morphology and are adherent under standard cell culture conditions. These cells carry genetic and molecular alterations associated with gastric adenocarcinoma, including mutations in key oncogenes and tumor suppressor genes. Researchers have leveraged this cell line to investigate signaling pathways critical to tumor growth, such as the dysregulation of EGFR, HER2, and other receptor tyrosine kinase pathways, as well as the epithelial-mesenchymal transition (EMT) process, which plays a role in cancer invasion and metastasis. This cell line is also suitable for studies on chemotherapeutic resistance, as gastric cancer frequently develops resistance to standard treatments. NUGC-3 cells are employed in drug screening assays to test the efficacy of cytotoxic agents, targeted therapies, and combination treatments. Additionally, they provide a robust platform for exploring tumor-stroma interactions and the role of the tumor microenvironment in gastric cancer progression. As such, NUGC-3 remains a valuable resource for advancing gastric cancer research and therapeutic development.
Organism	Human
Tissue	Stomach
Disease	Gastric adenocarcinoma
Metastatic site	Brachialis muscle
Synonyms	NUGC3, NU-GC-3, Nagoya University-Gastric Cancer-3

Charakteristika

Age	72 years
Gender	Male
Ethnicity	Japanese
Morphology	Fibroblast-like

Growth properties	Adherent

Regulační údaje

Citation	NUGC-3 (Cytion catalog number 305503)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1612

Biomolekulární data

Mutational profile	Mutation: TP53; Simple; p.Tyr220Cys (c.659A>G), Unspecified

Zpracování

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Subculturing	For routine adherent cell culture: Aspirate the old culture medium from the adherent cells, and wash them with PBS to remove any remaining medium. After aspirating the PBS, add the appropriate volume of Trypsin/EDTA solution based on the culture vessel size (e.g., 1 ml for a T25 flask, 3 ml for a T75 flask) and incubate at room temperature or 37°C until the cells detach (5-10 minutes). Monitor detachment under a microscope, and gently tap the vessel if necessary to release the cells. Once detached, add complete medium to inactivate the Trypsin/EDTA, gently resuspend the cells, and transfer an aliquot of the cell suspension into a new culture vessel containing fresh medium. Place the vessel in an incubator set to 37°C with 5% CO_2, and change the medium every 2-3 days.
Seeding density	2-4*10^4/cm²
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.

Thawing and Culturing Cells	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.
Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.
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.
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.

Kontrola kvality a molekulární analýza

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.