HNO210

300134

GENERAL INFORMATION

Description

The HNO210 cell line is derived from a laryngeal squamous cell carcinoma, a subtype of head and neck squamous cell carcinoma (HNSCC). This cell line has been extensively characterized for its genetic and molecular features, making it a valuable model for studying the pathogenesis and treatment responses of HNSCC. Chromosomal comparative genomic hybridization (cCGH) analysis of HNO210 has revealed several significant chromosomal aberrations. Notably, it exhibits DNA copy number gains in chromosomal regions 3q, 7p, 7q, 9p, 9q, 20p, and 20q, and copy number losses in 3p, 4p, 4q, and chromosome 21. These genetic alterations are common in HNSCC and are associated with aggressive tumor behavior and poor patient prognosis.
In particular, the amplification of regions such as 3q and 11q13, which is seen in many HNSCC cell lines, is of interest due to its correlation with increased expression of oncogenes such as CCND1 (cyclin D1) and CTTN (cortactin). These genes are involved in cell cycle regulation and cytoskeletal organization, respectively, and their overexpression can contribute to enhanced cell proliferation, invasion, and metastasis. The HNO210 cell line, with its distinct genetic profile, serves as a robust model for investigating the molecular mechanisms underlying laryngeal cancer progression and for testing targeted therapies that address these specific genetic abnormalities.
Additionally, this cell line is part of a panel used to explore the efficacy of combination therapies, such as the use of cisplatin with thalidomide, which have shown promise in enhancing anti-tumor activity in vitro and in vivo. This makes HNO210 not only crucial for basic cancer research but also for translational studies aimed at improving therapeutic outcomes for patients with HNSCC.

Tissue	Larynx
Disease	Head and neck squamous cell carcinoma (HNSCC)

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like

IDENTIFIERS

Citation

HNO210 (Cytion catalog number 300134)

NCBI TaxID	9606
Cellosaurus	CVCL_D215

HANDLING AND CULTURE

Culture medium

DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

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Supplements

Supplement the medium with 10% FBS

Dissociation reagent	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.

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	69 years
Ethnicity	Caucasian

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.

Third-party agreements apply	Yes

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