Product sheet

HNO41 Cells | 300126

General information

Description	The HNO41 cell line is derived from a hypopharyngeal squamous cell carcinoma, a type of head and neck squamous cell carcinoma (HNSCC). This cell line has been characterized by several chromosomal aberrations, including DNA copy number gains in chromosomal regions such as 3q23-qter, 5p, 7p, 7q21-q22, 8q22.2-qter, 9q22-qter, and 11q13. These regions are known to harbor oncogenes that contribute to tumor progression, making HNO41 a valuable model for studying the molecular mechanisms underlying hypopharyngeal cancer. In addition to its genetic profile, HNO41 has been analyzed for its expression of angiogenic growth factors, which are critical in tumor development and metastasis. The cell line exhibits strong expression of vascular endothelial growth factor (VEGF) and platelet-derived growth factor (PDGF), among others. These factors are involved in promoting angiogenesis, the formation of new blood vessels, which is a key process in tumor growth and metastasis. The presence of these factors in HNO41 further supports its utility in research focused on understanding tumor angiogenesis and in evaluating anti-angiogenic therapies for HNSCC.
Organism	Human
Tissue	Tonsil
Disease	Head and neck squamous cell carcinoma (HNSCC)

Characteristics

Age	52 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Monolayer, adherent

Regulatory Data

Citation	HNO41 (Cytion catalog number 300126)
Biosafety level	1
NCBI_TaxID	9606

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CellosaurusAccession	CVCL_D224

Biomolecular Data

Handling

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)
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
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.

Quality Control & Molecular Analysis

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.