Product sheet

HNO223 Cells | 300142

General information

Description	The HNO223 cell line is derived from an oral squamous cell carcinoma, which is a subtype of head and neck squamous cell carcinoma (HNSCC). This cell line has been cytogenetically characterized, revealing significant DNA copy number gains in several chromosomal regions, including 3q22-qter, 8q, 9p, 9q, 11q13, 20p, and 20q. These regions are of particular interest as they frequently contain oncogenes implicated in the progression of HNSCC, such as those involved in cell proliferation, survival, and metastasis. The amplification of 11q13, observed in HNO223, is associated with the overexpression of key oncogenes like CCND1 (cyclin D1) and CTTN (cortactin), which are known to contribute to the aggressive behavior of cancer cells, including enhanced cell cycle progression and increased invasiveness. This makes HNO223 a relevant model for investigating the molecular pathways involved in oral squamous cell carcinoma and for exploring therapeutic strategies targeting these genetic alterations. HNO223 serves as a robust model in cancer research, particularly for studies aiming to understand the genetic and molecular underpinnings of HNSCC and for the development of targeted therapies that address these specific chromosomal abnormalities. Its genetic characteristics make it a valuable tool for both basic and translational research in oncology.
Organism	Human
Tissue	Tongue
Disease	Head and neck squamous cell carcinoma (HNSCC)

Characteristics

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

Regulatory Data

Citation	HNO223 (Cytion catalog number 300142)
Biosafety level	1

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NCBI_TaxID	9606
CellosaurusAccession	CVCL_D219

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.