Product sheet

Cytion

HNO97 Cells | 300129

General information

Description	The HNO97 cell line is derived from an oral squamous cell carcinoma, a subtype of head and neck squamous cell carcinoma (HNSCC). This cell line has been characterized by various chromosomal abnormalities, including DNA copy number gains in regions such as 3p25-pter, 3q, 5p, 9q22-qter, 10p, 10q, 11cen-p14, 20p, and 20q, alongside a significant copy number loss in the 18q region. These genetic alterations are consistent with those frequently observed in aggressive forms of HNSCC and are associated with key oncogenes involved in tumor progression, including those implicated in cell cycle regulation and proliferation. HNO97 has been extensively used in studies focused on tumor-specific targeting and peptide binding. For instance, the HNO97 cell line was instrumental in the identification and characterization of the HBP-1 peptide, which binds specifically to HNSCC cells and shows potential for use in targeted therapies. The binding kinetics of HBP-1 to HNO97 cells revealed rapid internalization, making this cell line a valuable model for investigating the efficacy of novel therapeutic agents aimed at specific molecular targets within HNSCC tumors . Furthermore, HNO97 has been utilized in biodistribution studies using tumor-bearing nude mice, where it was shown that certain peptides, like HBP-1, preferentially accumulate in HNO97 tumors, highlighting its utility in preclinical models for drug delivery and imaging studies. This cell line's genetic and molecular profile makes it an important tool in the study of oral cancer biology and the development of targeted treatments .
Organism	Human
Tissue	Tongue
Disease	Head and neck squamous cell carcinoma (HNSCC)
Synonyms	HNO 97

Characteristics

Age	72 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Monolayer, adherent

Regulatory Data

HNO97 Cells | 300129

Citation	HNO97 (Cytion catalog number 300129)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_D227

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.

HNO97 Cells | 300129

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.