Product sheet

WSU-HN6 Cells | 305888

General information

Description	WSU-HN6 is a human squamous cell carcinoma (SCC) cell line derived from a tumor of the upper aerodigestive tract, specifically from the base of the tongue. It is part of a comprehensive panel of head and neck squamous cell carcinoma (HNSCC) cell lines established to model the biology of these cancers. WSU-HN6 has been instrumental in characterizing molecular alterations common in HNSCC, particularly those involving cell cycle regulation and growth signaling pathways. This cell line exhibits elevated activity of cyclin-dependent kinases (CDKs), particularly CDK4 and CDK6, consistent with the inactivation of the tumor suppressor $p16^{INK4A}$. While many HNSCC cell lines show overexpression of cyclin D1, WSU-HN6 does not, suggesting alternate routes to CDK activation, such as kinase overexpression or loss of negative regulators. Additionally, WSU-HN6 expresses wild-type p53, yet displays deregulation of cell cycle control, implicating other molecular defects, including potential deficiencies in p21 function or regulation. Functionally, WSU-HN6 demonstrates elevated tyrosine phosphorylation, reflective of aberrant activation of growth-promoting receptor tyrosine kinases. Enhanced epidermal growth factor receptor (EGFR) activity has been documented in this cell line, though EGFR protein overexpression is modest compared to other cell lines in the same panel. The EGFR in WSU-HN6 remains responsive to ligand stimulation and is functionally intact. These features position WSU-HN6 as a valuable in vitro model for studying deregulated growth signaling and CDK pathway abnormalities in head and neck cancers.
Organism	Human
Tissue	Tongue
Disease	Squamous cell carcinoma
Synonyms	HN6, Wayne State University-Head and Neck 6

Characteristics

Age	Age unspecified
Gender	Male
Growth properties	Adherent

Regulatory Data

Citation	WSU-HN6 (Cytion catalog number 305888)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_5516

Biomolecular Data

Mutational profile	Mutation: TP53, Simple, p.His179Leu (c.536A>T), Unspecified

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
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

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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.