NPC/HK1

305531

GENERAL INFORMATION

Description

NPC/HK1 (also designated HK-1 or HK1) is a human nasopharyngeal carcinoma (NPC) cell line established from the nasopharynx of a 58-year-old Chinese male patient. NPC/HK1 grows as an adherent epithelial monolayer with a doubling time of approximately 28 ± 2 hours. NPC/HK1 is a widely used model for undifferentiated NPC, a malignancy strongly associated with Epstein-Barr virus (EBV) infection and particularly prevalent in Southeast Asian populations. The line was established in Hong Kong and provides an EBV-negative or low-EBV model that complements EBV-positive NPC lines for studying EBV-independent aspects of NPC biology.
NPC/HK1 is applicable in studies of nasopharyngeal carcinoma biology, epithelial-to-mesenchymal transition, invasion and metastasis, EBV biology (infection and latency comparisons with EBV-positive lines), EGFR pathway signalling, and chemotherapy/radiotherapy sensitivity. The line is used in xenograft models in immunocompromised hosts and as part of NPC cell line panels for comparative pharmacological and molecular studies. Its Chinese male donor origin reflects the population at highest risk for NPC and is relevant for studies of EBV epidemiology and NPC immunogenomics.

Tissue	Pharynx, nasopharynx
Disease	Nasopharyngeal carcinoma

Applications

Nasopharyngeal carcinoma research; EBV biology; EMT and invasion studies; EGFR pathway; chemotherapy/radiotherapy sensitivity; NPC xenograft models; NPC comparative cell line panels

Synonyms

- HK1
- HK-1

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Cell type	Epithelial cells
Doubling time	28 +- 2 hours

IDENTIFIERS

Citation

NPC/HK1 (Cytion catalog number 305531)

NCBI TaxID	9606
Cellosaurus	CVCL_7084

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HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

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

Supplements

Supplement the medium with 10% FBS

Dissociation reagent	Accutase

Subculturing

Remove medium, wash with PBS without calcium and magnesium, cover with Accutase, incubate 8–10 min at RT, resuspend in medium, centrifuge 300×g 3 min, discard supernatant, reseed in fresh medium.

Split ratio	1 to 5
Seeding density	1 to 3 × 10^4 cells/cm^2
Fluid renewal	Every 2 to 3 days

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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
Follow the procedure described under Post-Thaw Recovery

QUALITY CONTROL AND CRYOPRESERVATION

Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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	58 years
Ethnicity	Chinese

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.

Material Transfer Agreement required	Yes

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