Product sheet

Cytion

KHOS-NP Cells | 300235

General information

Description	KHOS-NP is a cell line derived from the HOS cell line through transformation with the Kirsten murine sarcoma virus (Ki-MSV). The transformation process has resulted in a highly tumorigenic cell line that is characterized by several distinct properties, making it valuable for specific research applications. Notably, the KHOS-NP cells are particularly useful for producing MSV pseudotypes with various ecotropic and xenotropic murine leukemia viruses, which is of interest in studies focused on viral replication, oncogenesis, and related pathways. KHOS-NP cells exhibit adherent growth properties and are derived from the bone tissue of a white, female adult. The cells carry the Ki-MSV genome but do not produce infectious virus particles or viral antigens, making them safe for certain in vitro research settings where infectious viral production would be a concern. Despite this, the KHOS-NP cells maintain a high saturation density and have a high plating efficiency in soft agar, demonstrating robust proliferative and anchorage-independent growth characteristics, which are typical of transformed and tumorigenic cell lines. In vivo, KHOS-NP cells are highly tumorigenic, with a 100% frequency of tumor formation observed in nude mice within 21 days post-inoculation when injected subcutaneously with 10^7 cells. These properties make the KHOS-NP cell line a valuable model for studying sarcoma development, tumor biology, and the molecular mechanisms underlying oncogenesis. However, it is essential to note that KHOS-NP cells are not suitable for therapeutic or in vivo applications, and their use should be restricted to controlled experimental conditions in a research setting.
Organism	Human
Tissue	Bone
Disease	Osteosarcoma
Synonyms	KHOS/NP, KHOS NP, KHOSNP, R-970-5, KHOS

Characteristics

Age	13 years
Gender	Female
Ethnicity	Caucasian
Morphology	Fibroblast-like
Growth properties	Monolayer, adherent

Regulatory Data

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Citation	KHOS-NP (Cytion catalog number 300235)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_2546

Biomolecular Data

Tumorigenic	Yes, in nude mice.

Handling

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
Supplements	Supplement the medium with 10% FBS and 1% NEAA
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.
Seeding density	2 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 hours.
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.
Flask Coating	None
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.