Product sheet

KB Cells | 300446

General information

Description	The KB cell line is an adherent epithelial cell line initially believed to be derived from an epidermal carcinoma of the mouth. However, subsequent analyses, including isoenzyme assays, HeLa marker chromosome identification, and DNA fingerprinting, revealed that the KB cell line was actually established through contamination with HeLa cells. This misidentification underscores the importance of rigorous cell line authentication in research. KB cells express keratin, a key structural protein in epithelial cells, as confirmed by immunoperoxidase staining. Additionally, they have been found to contain sequences from human papillomavirus 18 (HPV-18), which may be of interest in studies related to viral oncology. The isoenzyme profile of KB cells includes glucose-6-phosphate dehydrogenase (G6PD) type A, consistent with the characteristics of HeLa cells. Given these findings, it is critical to recognize that KB cells share many biological properties with HeLa cells, including the presence of HeLa-specific marker chromosomes. As a result, KB cells should be used with caution, particularly in experiments where the exact cellular origin is crucial. Despite this, they remain a useful model for studying epithelial cell behavior, cancer biology, and the mechanisms of viral integration and expression. As with all cell lines, KB cells are intended strictly for in vitro research and are not suitable for therapeutic or in vivo applications.
Organism	Human
Tissue	Endocervix
Disease	Adenocarcinoma
Synonyms	Strain KB

Characteristics

Age	30 years
Gender	Female
Ethnicity	African American
Morphology	Epithelial-like
Cell type	Epidermoid
Growth properties	Adherent

Product sheet

KB Cells | 300446

Regulatory Data

Citation	KB (Cytion catalog number 300446)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0372

Biomolecular Data

Isoenzymes	G6PD, type A
Virus susceptibility	Poliovirus 1, adenovirus 3
Products	Keratin
Karyotype	2n = 46

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 will result in a confluent monolayer within 2 to 3 days.
Fluid renewal	2 to 3 times per week

KB Cells | 300446

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.
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.