Product sheet

BHK-21 clone 13 Cells | 603126

Description	BHK-21 clone 13 cells, a subline of the baby hamster kidney (BHK) cell line, have become a pivotal model in virology and molecular biology research due to their robustness, ease of culture, and high transfection efficiency. The cells are used in the study of virus infection, antigen production, and recombinant protein synthesis. BHK-21 cells are susceptible to a broad range of viruses, including alphaviruses, flaviviruses, and rhabdoviruses, which has made them an invaluable tool in the study of viral replication, pathogenesis, and the development of viral vectors for gene therapy and vaccines. Their utility in viral research is further enhanced by their ability to support high-titer virus production, facilitating the study of virus-host interactions and the screening of antiviral compounds. BHK-21 cells are further used in recombinant protein production because of their high transfection efficiency. This feature enables their utility for the production of therapeutic proteins, antibodies, and for the development of novel biotechnological products. BHK-21 cells also serve as a model for studying cellular processes such as cell adhesion, signal transduction, and apoptosis. This has implications for understanding disease mechanisms and testing the cellular response to various stimuli, including drugs and environmental factors. In summary, BHK-21 clone 13 cells serve as a critical tool in the fields of virology, molecular biology, and biotechnology.
Organism	Golden Hamster
Tissue	Kidney
Applications	Transfection host
Synonyms	BHK 21, BHK21, Baby Hamster Kidney-21, Baby Hamster Kidney 21, Baby Hamster Kidney from litter No. 21, BHK

Age	Newborn
Morphology	Fibroblast-like
Cell type	Fibroblast
Growth properties	Monolayer, adherent

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Citation	BHK-21 clone 13 (Cytion catalog number 603126)
Biosafety level	1
NCBI_TaxID	10036
CellosaurusAccession	CVCL_1914

Virus susceptibility	Adenovirus 25, herpes simplex, reovirus 3, vesicular stomatitis (Indiana)
Reverse transcriptase	Negative

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	1 x 10^4 cells/cm^2 will yield in a confluent layer in about 4 days
Fluid renewal	Every 3 to 5 days
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.

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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.

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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.