**Product sheet**

# BHK-21 clone 13 Cells | 603126

## General information

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| **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.<br><br>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.<br><br>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.<br><br>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.<br><br>In summary, BHK-21 clone 13 cells serve as a critical tool in the fields of virology, molecular biology, and biotechnology. |
| **Organism** | 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 |

## Characteristics

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

## Identifiers / Biosafety / Citation

**Product sheet**

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|---|---|
| **Citation** | BHK-21 clone 13 (Cytion catalog number 603126) |
| **Biosafety level** | 1 |

## Expression / Mutation

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

## Handling

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| **Culture Medium** | EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c) |
| **Medium supplements** | Supplement the medium with 10% FBS |
| **Passaging solution** | 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. |
| **Split ratio** | A ratio of 1:2 to 1:10 is recommended |
| **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 |
| **Freezing 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** | CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100) |

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| **Handling of cryopreserved cultures** | BHK-21 clone 13 cells are shipped in a deep-frozen state on dry ice. Upon receipt, confirm that the vial remains frozen. For storage, place the cryovial immediately at temperatures below -150 degrees. If you plan to culture the cells immediately, swiftly thaw the vial by shaking it in a 37 degrees water bath with clean water and an antimicrobial agent for 40-60 seconds. Remove the vial once a small ice clump persists, ensuring it remains cold. Proceed with all subsequent steps under aseptic conditions. In a sterile flow hood, disinfect the cryovial with 70% ethanol. Then, gently open the vial and transfer the cell suspension into a 15 ml centrifuge tube pre-filled with 8 ml of room temperature culture medium. Gently mix the cells. For cell separation, centrifuge at 300 x g for 3 minutes and dispose of the supernatant. Skipping centrifugation is optional, although any residual freezing medium should be removed after 24 hours. Resuspend the pellet gently in 10 ml of fresh culture medium and divide between two T25 culture flasks. Follow the subculture protocol for subsequent steps. |

## Quality control / Genetic profile / HLA

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| **Sterility** | Mycoplasma contamination is rigorously 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. |