**Product sheet**

# CV-1 Cells | 605471

## General information

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| **Description** | CV-1 is a African green monkey cell line derived from the kidney in 1964. Initially used in research that focused on the transformation of the cancerogenic Rous sarcoma virus (RSV), this fibroblast-like cell line is widely used in biological research for virus production, transfection, and gene silencing.<br><br>These cells are negative for reverse transcriptase and being susceptible to several viruses, including poliovirus 1, herpes simplex, simian virus 40 (SV40), California encephalitis, and both Eastern and Western equine encephalitis.<br><br>The CV-1 cell line exhibits rapid growth, grows adherent on plastic and glass surfaces and shows chromosome number shifts at high passage levels. It has been observed that CV-1 cells exhibit increased tumorigenicity in Wistar rats treated with ATG as well as increased cell colony formation in soft agar.<br><br>Moreover, CV-1 cells support the replication of SV40 virus and exhibit rapid thymidine kinase (TK) activity following induction of simian, adeno, and papovavirus infections. The karyotype of CV-1 cells is 2n = 60, pseudodiploid. CV-1 cells have been used in a variety of specific applications in biological research, including efficacy testing, transfection host, and viruscide testing. They are also known to be a suitable host for transfection, especially by SV40 vectors. |
| **Organism** | Monkey |
| **Tissue** | Kidney |
| **Applications** | Suitable host for transfection, especially by SV40 vectors. |
| **Synonyms** | Cv-1, CV 1, CV-1.K, CV1 |

## Characteristics

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| **Age** | 141 days |
| **Gender** | Male |
| **Cell type** | Fibroblast |
| **Growth properties** | Adherent |

## Identifiers / Biosafety / Citation

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|---|---|
| **Citation** | CV-1 (Cytion catalog number 605471) |

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|---|---|
| **Biosafety level** | 1 |

## Expression / Mutation

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| **Virus susceptibility** | Poliovirus 1, herpes simplex, Eastern equine encephalitis, Western equine encephalitis, California encephalitis, SV40 |
| **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 1:3 is recommended |
| **Seeding density** | 3 to 4 x 10^4 cells/cm^2 will yield in a confluent layer in about 4 days |
| **Fluid renewal** | 2 times per week |
| **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) |

**Handling of cryopreserved cultures**

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

## Quality control / Genetic profile / HLA

**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.