# C127

305169

## GENERAL INFORMATION

### Description

C127 cells, originating from murine mammary epithelial tissues, are an indispensable mammalian cell line that lays a solid groundwork for a multitude of biological studies. These cells have undergone a rigorous engineering process, involving infection with specifically designed viruses that integrate T7 RNA polymerase driven by a viral promoter into their genome. The flexibility of C127 cells is further enhanced by the introduction of an additional recombinant virus that carries cystic fibrosis transmembrane conductance regulator (CFTR) cDNA under the control of a T7 promoter, or alternatively, a transfected plasmid bearing the same promoter. This genetic setup enables precise control over protein expression, tailored to produce specific proteins, thereby making C127 cells an exceptional tool for protein expression studies.
The epithelial nature of C127 cells, reflective of their derivation from mammary gland tissues, supports their growth in an adherent manner. They exhibit rapid proliferation and can be employed to scrutinize cellular processes, growth, and differentiation across diverse experimental conditions. The unique genetic modifications present in these cells make them an ideal model for stable cell transfection experiments, allowing researchers to insert foreign genetic material and explore gene functions, protein interactions, and the consequences of genetic modifications. Additionally, their use in 3D cell culture has been increasingly recognized, providing insights into cell-cell interactions, tissue morphogenesis, and disease modeling with greater physiological relevance, thereby extending their utility beyond traditional 2D cultures.

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| **Tissue** | Mammary gland |
| **Disease** | Malignant neoplasms of the mouse mammary gland |

### Synonyms

- C-127

## CLASSIFICATION

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| **Organism** | Mouse |
| **Sex** | Female |
| **Growth properties** | Adherent |
| **Biosafety level** | 1 |

## CHARACTERISTICS

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| **Morphology** | Epithelial |

## IDENTIFIERS

### Citation

C127 (Cytion catalog number 305169)

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| **NCBI TaxID** | 10090 |
| **Cellosaurus** | CVCL_6550 |

## HANDLING AND CULTURE

### Culture medium

DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

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| **Incubation atmosphere** | 37°C, 5% $CO_2$, humidified atmosphere. |

**Supplements**

Supplement the medium with 10% FBS

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| **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.

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| **Fluid renewal** | 2 to 3 times per week |

**Thawing and culturing**

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

## QUALITY CONTROL AND CRYOPRESERVATION

**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.

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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. |

**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.

**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.

## DONOR

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| **Breed / subspecies** | RIII |

## LEGAL AND SAFETY

### Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

### Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

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| **Material Transfer Agreement required** | Yes |

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