Product sheet

C127 Cells | 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.
Organism	Mouse
Tissue	Mammary gland
Disease	Malignant neoplasms of the mouse mammary gland
Synonyms	C-127

Characteristics

Gender	Female
Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	C127 (Cytion catalog number 305169)
Biosafety level	1

C127 Cells | 305169

Expression / Mutation

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
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	1:2 to 1:4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100)

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.
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.