

L929 Cells | 400260**General information****Description**

L-929 cells are a fibroblast-like cell line derived from the subcutaneous connective tissue of a 100-day-old male C3H/An mouse. Established in the 1940s, this cell line has become pivotal in various biological and medical research fields due to its robustness, ease of culture, and versatility in applications.

L-929 cells are characterized by their spindle-shaped, fibroblastic morphology, and adherent growth. They are widely used in cytotoxicity assays and serve as a standard model to assess the biocompatibility of materials and the toxic effects of various substances, which is particularly relevant in the fields of biomaterials and tissue engineering.

L-929 cells are also employed in the study of cytokine activity, especially in assays for necrosis factor (TNF) activity, due to their sensitivity to TNF-induced cytotoxicity. This makes them valuable in immunology and inflammation research.

L-929 cells are further utilized in virology as a host for viral replication studies. Their susceptibility to various viruses, such as the infectious bursal disease virus (IBDV), facilitates the investigation of viral life cycles, host-virus interactions, and the efficacy of antiviral compounds.

Overall, the L-929 cell line is a valuable resource in scientific research and offers a versatile platform for studies in cytotoxicity, immunology, virology, and biomaterials.

Organism

Mouse

Tissue

Connective tissue, normal, subcutaneous, areolar and adipose

Synonyms

NCTC clone 929, NCTC 929, NCTC-929, NCTC929, L cell, L cells, L-cell, L-cells, L cell line, L, Strain L-929, L 929, L929, L929(NCTC), Clone 929, Earles's cells, Earle's L cells

Characteristics**Age**

100 days

Gender

Male

Morphology

Fibroblast-like

Cell type

Fibroblast

Growth properties

Adherent

Identifiers / Biosafety / Citation

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Citation L-929 (Cytion catalog number 400260)

Biosafety level 1

Expression / Mutation

Antigen expression H-2k

Tumorigenic Yes, in immunosuppressed mice

Viruses Ectromelia virus (mousepox): negative

Virus resistance poliovirus 1, 2, 3, coxsackievirus B5, polyomavirus

Reverse transcriptase positive

Handling

Culture Medium DMEM:Ham's F12, w: 3.1 g/L Glucose, w: 1.6 mM L-Glutamine, w: 15 mM HEPES, w: 1.0 mM Sodium pyruvate, w: 1.2 g/L NaHCO₃ (Cytion article number 820400a)

Medium supplements Supplement the medium with 10% FBS

Passaging solution Accutase

Doubling time 25 hours

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 1:8 is recommended

Seeding density 2 to 3 x 10⁴ cells/cm²

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Fluid renewal 2 to 3 times per week

Freezing recovery 24 to 48 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.

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STR profile

Amelogenin: x,x
M_18-3: 16
M_4-2: 20,3
M_6-7: 12
M_3-2: 13,14
M_19-2: 12
M_7-1: 25,26,27
M_1-1: 10
M_8-1: 16
M_2-1: 9
M_15-3: 24,3,25,3,26,3
M_6-4: 17,18
M_11-2: 15,16
M_1-2: 17
M_17-2: 15
M_12-1: 16
M_5-5: 14
M_X-1: 26,27
M_13-1: 17
Human D4/D8: -