Product sheet

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

Breed/Subspecies	C3H/An
Age	100 days
Gender	Male
Morphology	Fibroblast-like
Cell type	Fibroblast
Growth properties	Adherent

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Regulatory Data

Citation	L-929 (Cytion catalog number 400260)
Biosafety level	1
NCBI_TaxID	10090
CellosaurusAccession	CVCL_0462

Biomolecular Data

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 (1:1), w: 3.1 g/L Glucose, w: 2.5 mM L-Glutamine, w: 15 mM HEPES, w: 0.5 mM Sodium pyruvate, w: 1.2 g/L NaHCO3 (Cytion article number 820400a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	25 hours

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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.
Seeding density	2 to 3 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	24 to 48 hours
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.

Thawing and Culturing Cells	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.
Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.
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.
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.

Quality Control & Molecular Analysis

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.