Product sheet

L5178-R Cells | 400258

General information

Description	The L5178-R cell line is a murine lymphoma cell line derived from mouse lymphoid tissues. This cell line is particularly notable for its use in studying the mechanisms of lymphomagenesis and the cellular responses to various treatments, including chemotherapeutic agents and radiation. L5178-R cells are radioresistant, which makes them a valuable model for exploring the molecular and genetic factors that contribute to radiation resistance in cancer cells. This attribute is essential for research into improving therapeutic strategies for treating resistant forms of cancer. L5178-R cells are also frequently employed in mutagenesis and carcinogenesis studies due to their high sensitivity to mutagenic agents. This sensitivity is exploited in assays that assess the mutagenic potential of chemical compounds, contributing to toxicological research and safety evaluations. The cell line's genetic and phenotypic characteristics provide a robust platform for in vitro studies, enabling scientists to dissect the pathways involved in cancer development and progression. Additionally, the L5178-R cell line is used in immunological research to understand the interaction between tumor cells and the immune system, aiding in the development of immunotherapeutic approaches.
Organism	Mouse
Tissue	Thymus
Disease	Leukemia
Synonyms	L5178Y-R, L5178YR, L-5178-Y-R, LY-R, LYR

Characteristics

Breed/Subspecies	DBA/2
Morphology	Round cells
Cell type	T lymphocyte
Growth properties	Suspension

Regulatory Data

Citation	L5178-R (Cytion catalog number 400258)
Biosafety level	1

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NCBI_TaxID	10090
CellosaurusAccession	CVCL_4234

Biomolecular Data

Tumorigenic	In DBA/2 mice
Viruses	MAP-test negative: Sendai, Ektromelie, Polyoma, K-Virus, Kilham, Reo 3, PVM, LCM, M.pulmonis, MVM, Theiler's GD VII, Toolan's H-1, MHV, LDV, RCV/SDA, M-Adenovirus, B.piliformis.

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 10% FBS, 1 mM sodium pyruvate, 1% NEAA
Subculturing	Maintain cultures by periodically adding or replacing the medium. Initiate cultures with a density of 5 x 10^5 cells/ml and keep the cell concentration within the range of 3 x 10^5 to 1 x 10^6 cells/ml for optimal growth.
Seeding density	1 x 10^6 cells/ml
Fluid renewal	Every 3 days
Post-Thaw Recovery	2 to 4 days
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.
Flask Coating	None
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.