Product sheet

L-591 Cells | 300202

Información general

Description	The L-591 cell line is one of several neoplastic cell lines derived from patients with Hodgkin's disease, specifically of the nodular sclerosing subtype. It was established as part of a group of Hodgkin's lymphoma cell lines, including L-428 and L-540, and has been instrumental in advancing the understanding of this hematologic malignancy. L-591 cells are characterized by aneuploidy and exhibit various structural and numerical chromosomal abnormalities, which are indicative of their neoplastic origin. The line is particularly valuable in research due to its distinct chromosomal patterns and its ability to proliferate in vitro, making it a reliable model for studying the cellular mechanisms of Hodgkin's lymphoma. One of the defining features of L-591 cells is their immunophenotype. The cells express Ia-like antigens and receptors associated with T cells but lack markers typical of other hematopoietic lineages, such as myeloid cells, monocytes, and macrophages. Notably, L-591 cells do not produce surface or cytoplasmic immunoglobulins, nor do they exhibit Epstein-Barr Virus (EBV)-specific antigens, such as EBNA. This absence of immunoglobulins and EBV antigens distinguishes L-591 from other EBV-positive Hodgkin's lymphoma cell lines and highlights its utility in exploring the specificities of Hodgkin's lymphoma pathology that are independent of EBV infection. The L-591 cell line is morphologically similar to the Reed-Sternberg (RS) and Hodgkin (H) cells that are characteristic of Hodgkin's lymphoma. These cells play a crucial role in the research of Hodgkin's disease, serving as a model for understanding the pathogenesis of the disease and for identifying potential therapeutic targets. The unique features of L-591, combined with its established use in laboratory settings, make it an essential tool in the study of Hodgkin's lymphoma, contributing significantly to the body of knowledge surrounding this complex malignancy.
Organism	Human
Tissue	Pleural effusion
Disease	Hodgkin lymphoma
Synonyms	L 591, L591

Características

Age	31 years
Gender	Female
Morphology	Round cells
Cell type	Lymphoblast
Growth properties	Suspension

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Datos normativos

Citation	L-591 (Cytion catalog number 300202)
Biosafety level	2
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1867

Datos biomoleculares

Manejo

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	3x10^5/ml
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.

Control de calidad y análisis molecular

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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.