Product sheet

MDCC-MSB1 Cells | 601413

Informações gerais

Description	The MDCC-MSB1 cell line is a lymphoblastoid cell line derived from a chicken with Marek's disease, a highly contagious viral disease caused by Marek's disease virus (MDV), which belongs to the herpesvirus family. These cells are extensively used in veterinary virology and immunology research to study the pathogenesis of MDV, as well as in the development and evaluation of vaccines against this disease. The MDCC-MSB1 cell line exhibits characteristics typical of lymphoid cells, such as the expression of specific surface markers and cytokine production, which are crucial for understanding the immune response to MDV infection. In addition to its role in MDV research, the MDCC-MSB1 cell line is valuable for studying general mechanisms of oncogenesis and viral replication in avian species. The cells are known for their robust growth in suspension culture, making them convenient for large-scale production and experimental manipulation. Researchers utilize this cell line to investigate the molecular interactions between MDV and its host, to identify viral and host factors involved in disease progression, and to screen potential antiviral compounds. Overall, the MDCC-MSB1 cell line is a vital tool in both basic and applied avian virology research.
Organism	Chicken
Disease	Marek disease
Synonyms	MDCC MSB1, MDCC-MSB-1, MSB-1, MSB1

Características

Morphology	Round cells
Cell type	Lymphoblast
Growth properties	Suspension

Dados regulatórios

Citation	MDCC-MSB1 (Cytion catalog number 601413)
Biosafety level	1
NCBI_TaxID	9031
CellosaurusAccession	CVCL_4542

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Dados biomoleculares

Manuseio

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
Doubling time	10 hours
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	2 to 3 times per week
Post-Thaw Recovery	After thawing, allow the cells to recover from the freezing process for at least 24 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.

Controle de Qualidade e Análise 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.