Product sheet

Daudi Cells | 302009

Description	The Daudi cell line was established in 1967 from a 16-year-old African boy diagnosed with Burkitt's Lymphoma, a type of lymphoma. Named after the patient from whom it was derived, the Daudi cell line is characterized by its Epstein-Barr Virus (EBV) positivity, a common feature in Burkitt's lymphoma and several other lymphoproliferative disorders. The EBV infection within these cells offers a unique model for studying the virus's role in tumorigenesis, particularly in the context of B-cell malignancies. Daudi human cells lack expression of the classical Major Histocompatibility Complex (MHC) class I molecules on their surface, which is attributed to the absence of beta-2-microglobulin, a crucial component responsible for the correct intracellular folding and processing of the MHC class I molecule in the endoplasmic reticulum. The lack of beta-2-microglobulin in the Daudi cell line leads to a lack of glycosyl modifications necessary for proper cell surface expression of these molecules. The Daudi cell line is extensively utilized in immunology research, particularly in studies involving the immunodepletion of lymphocyte subpopulations, including lymphocytes, natural killer cells, and peripheral blood mononuclear cells. In summary, the Daudi cell line serves as a critical resource for advancing our knowledge in various research fields, from the basic understanding of cell biology to the development of targeted therapies for cancer treatment.
Organism	Human
Tissue	Blood
Disease	Burkitt lymphoma
Applications	Analysis of B cell surface antigens, testing of cytotoxic drugs, mutational analysis, analysis of apoptotic mechanisms, assay development.
Synonyms	DAUDI, NK-10A, NK-10a, NK 10a, NK10a, N, GM03190, GM3190, GM03190A, GM17346

Age	16 years
Gender	Male
Ethnicity	African
Morphology	Round cells
Cell type	B lymphoblast

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Growth properties	Suspension

Citation	Daudi (Cytion catalog number 302009)
Biosafety level	Daudi cells do not release Epstein-Barr virus (EBV) when cultured, classifying them as Risk Group 1. However, when used for genetic experiments, they should be treated as Risk Group 2 cells.
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0008

Antigen expression	CD10+, CD19+, CD20+, CD21+, CD22+, CD23-, CD24-, CD32+, CD37+, CD38+, CD39-,CD40+, CD54+, CD72+, CD73-, CD75+, CD77+, CD81+, CD82+, CD83-, CD84+, CD86+
Karyotype	46, almost diploid

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% heat-inactivated FBS
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	3 x 10^5 cells/ml
Fluid renewal	2 times per week
Post-Thaw Recovery	Fast (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.

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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.

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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.