Product sheet

DAKIKI Cells | 305928

General information

Description	DAKIKI is a human Epstein-Barr virus (EBV)-positive B-lymphoblastoid cell line that expresses surface IgA1 and secretes polymeric IgA1. It was originally derived from peripheral lymphocytes of an adult patient with nasopharyngeal carcinoma and subsequently established as a continuously proliferating suspension culture. The cells exhibit typical lymphoblastoid morphology and grow in RPMI-based media supplemented with serum. DAKIKI has been widely used as a model of human IgA1-producing B cells, particularly for studies investigating immunoglobulin synthesis, regulation of secretion, and post-translational glycosylation. Biochemical and lectin-based analyses have demonstrated that IgA1 secreted by DAKIKI cells displays galactose-deficient O-linked glycans within the hinge region. Monosaccharide compositional analysis and lectin ELISA confirm enrichment of terminal or α2,6-sialylated N-acetylgalactosamine (GalNAc) residues, a glycoform characteristic of aberrantly glycosylated IgA1 observed in IgA nephropathy. Neuraminidase treatment markedly increases Helix aspersa agglutinin reactivity, indicating the presence of sialylated GalNAc structures. Functional assays using Golgi-enriched fractions from DAKIKI cells demonstrate CMP-NeuAc:GalNAc-IgA1 α2,6-sialyltransferase activity, confirming the capacity of these cells to directly sialylate Gal-deficient O-glycans. Transcriptional analyses reveal expression of ST6-GalNAcII but not ST6-GalNAcI, supporting the role of ST6-GalNAcII in mediating α2,6 sialylation of hinge-region GalNAc in IgA1. In addition to its utility in glycosylation research, DAKIKI has been evaluated for responsiveness to B-cell-inducing factors and phorbol esters, which can modulate immunoglobulin secretion in certain human B-cell lines. While DAKIKI constitutively secretes IgA, it has been included among EBV-transformed B-cell models used to study regulation of immunoglobulin production and differentiation states. Owing to its stable IgA1 secretion profile and reproducible production of galactose-deficient, α2,6-sialylated hinge-region glycans, DAKIKI represents a well-characterized in vitro system for investigating mechanisms of IgA1 glycosylation, B-cell differentiation, and the molecular pathogenesis of IgA-associated disorders.
Organism	Human
Tissue	Peripheral blood
Synonyms	DAKIKI, DAKIKI Clone 1

Characteristics

Age	Unspecified
Gender	Unspecified
Ethnicity	African
Morphology	lymphoblast
Cell type	B-cell

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Growth properties	Suspension

Regulatory Data

Citation	DAKIKI (Cytion catalog number 305928)
Biosafety level	2
NCBI_TaxID	9606
CellosaurusAccession	CVCL_3675

Biomolecular Data

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
Dissociation Reagent	None
Subculturing	Gently homogenize the cell suspension in the flask by pipetting up and down, then take a representative sample to determine the cell density per ml. Dilute the suspension to achieve a cell concentration of 1 x 10^5 cells/ml with fresh culture medium, and aliquot the adjusted suspension into new flasks for further cultivation.
Seeding density	2 to 5 x 10^5 cells/cm^2
Fluid renewal	2 to 3 times per week
Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium. 7. Follow the procedure described under Post-Thaw Recovery
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