DAKIKI

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.

Tissue	Peripheral blood

Synonyms

- DAKIKI
- DAKIKI Clone 1

CLASSIFICATION

Organism	Human
Sex	Unspecified
Growth properties	Suspension
Biosafety level	2

CHARACTERISTICS

Morphology	lymphoblast
Cell type	B-cell

IDENTIFIERS

Citation

DAKIKI (Cytion catalog number 305928)

NCBI TaxID	9606

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

Cellosaurus	CVCL_3675

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

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

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
Follow the procedure described under Post-Thaw Recovery

QUALITY CONTROL AND CRYOPRESERVATION

Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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.

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.

DONOR

Donor age	Unspecified
Ethnicity	African

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes

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