Product sheet

RAJI Cells | 300359

General information

Description	Raji cells are a line of lymphoblast-like cells established by R.J.V. Pulvertaft in 1963 from Burkitt's lymphoma. These cells are widely used in immunology research due to their high expression of human CD19, which acts as a co-receptor and decreases the threshold for antigen B-cell receptor (BCR) stimulation. Raji cells are non-adherent and grow in suspension as free-floating individuals or doublets. The doubling time of these cells is 23.2 hours, and they are relatively small in diameter with a diameter range of 5-8 µm. Some characteristics of Raji cells include a lack of differentiation, as they form large aggregations of hundreds of individual cells. These cells are diploid and have a stable karyotype within the male diploid stemline of 46. Additionally, Raji cells are partially resistant to poliovirus and vesicular stomatitis viruses. Human CD19 is highly expressed by Raji cells and has been identified as a clinical target for anti-hCD19-CD3 bis-specific antibodies in non-Hodgkin's B cell lymphoma. BCMA expression has also been identified in the Raji Burkitt lymphoma cell line and primary lymphoma, making it an important area of research for immunologists.
Organism	Human
Tissue	Maxilia
Disease	Burkitt lymphoma
Synonyms	Raji, P1-Raji, GM04671

Characteristics

Age	11 years
Gender	Male
Ethnicity	African, Nigerian
Cell type	Lymphoblast
Growth properties	Suspension

Regulatory Data

Citation	RAJI (Cytion catalog number 300359)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0511

Biomolecular Data

Products	The cells may produce interferon when stimulated by Newcastle disease virus.

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% heat-inactivated FBS
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.
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.

Quality Control & Molecular Analysis

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.