Product sheet

Ramos Cells | 302007

General information

Description	The Ramos cell line, established from the ascites fluid of a 3-year-old boy with Burkitt's Lymphoma, is a crucial resource in immunology research. This cell line, characterized by the secretion of IgM, is invaluable for the analysis of B cell surface antigens, cytotoxic drug testing, mutational analysis, and the exploration of apoptotic mechanisms. RAMOS cells exhibit a lymphoblast-like morphology and are known for their robust growth in vitro. They are particularly valuable in studies related to B-cell development, function, and malignancy, including the investigation of B-cell receptor (BCR) signaling pathways, gene expression, and the mechanisms underlying the transformation of normal B cells into malignant cells. These cells are also frequently used in antibody production studies due to their B-cell lineage, allowing researchers to explore B-cell responses to various antigens and the subsequent antibody generation. RAMOS cells are further utilized in drug discovery and toxicity studies. Their sensitivity to various chemotherapeutic agents make them an invaluable tool in the pre-clinical evaluation of new cancer therapies. Notably, the Ramos cell line is EBV-negative, providing a baseline model for studying Burkitt lymphoma without the influence of the Epstein-Barr virus. In summary, the Ramos cell line is an invaluable asset in the study of B-cell biology and Burkitt's lymphoma and are instrumental in exploring B-cell development, malignancy, antibody production, and the efficacy of new cancer therapies.
Organism	Human
Tissue	Hematopoietic
Disease	Burkitt lymphoma
Applications	Analysis of B cell surface antigens, testing of cytotoxic drugs, mutational analysis, analysis of apoptotic mechanisms, HLA-typing
Synonyms	RAMOS, Ramos 1, RA 1, RA.1, Ra #1, Ra No. 1, Ramos(RA1), Ramos-RA1, Ramos (RA 1), Ramos (RA)

Characteristics

Age	3 years
Gender	Male
Ethnicity	Caucasian
Morphology	Round cells

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Cell type	B lymphoblast
Growth properties	Suspension

Regulatory Data

Citation	Ramos (Cytion catalog number 302007)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0597

Biomolecular Data

Antigen expression	CD10+, CD19+
Karyotype	46, hypodiploid

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
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
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.
Flask Coating	None
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

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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.