

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
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Growth properties	Suspension
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Identifiers / Biosafety / Citation

Citation	Ramos (Cyton catalog number 302007)
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Biosafety level	1
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Expression / Mutation

Antigen expression	CD10+, CD19+
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Karyotype	46, hypodiploid
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Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO ₃ (Cyton article number 820700a)
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Medium supplements	Supplement the medium with 10% FBS
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Subculturing	Maintain cultures by periodically adding or replacing the medium. Initiate cultures with a density of 2×10^5 cells/ml and keep the cell concentration within the range of 1×10^5 to 1×10^6 cells/ml for optimal growth.
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Seeding density	3×10^5 cells/ml
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Fluid renewal	2 times per week
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Freeze medium	CM-1 (Cyton catalog number 800100) or CM-ACF (Cyton catalog number 806100)
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Handling of cryopreserved cultures

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

Quality control / Genetic profile / HLA

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.

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STR profile

CSF1PO: 10,11
D13S317: 12,13,14
D16S539: 10,13
D5S818: 7,12
D7S820: 11
TH01: 7,9,3
TPOX: 8,9
vWA: 15,16
D3S1358: 14,15
D21S11: 30
D18S51: 14,15
Penta E: 6,21
Penta D: 10,13
D8S1179: 13
FGA: 20,24
D2S1338: 20,23

HLA alleles

A*: 03:01:01
B*: 44:160Q, 02.01.1900 03:01
C*: 16:01:01
DRB1*: 07:01:01
DQA1*: 02:01:01
DQB1*: 02:02:01
DPB1*: 04:01:01, 104:01:01
E: 01:03:02