Product sheet

Lama-84 Cells | 300261

General information

Description	LAMA-84 is a human cell line derived from the peripheral blood of a patient with chronic myeloid leukemia (CML) in blast crisis. This cell line is characterized by the presence of the Philadelphia chromosome, which results in the BCR-ABL fusion gene, a hallmark of CML. The BCR-ABL oncogene is known for its role in increasing tyrosine kinase activity, which promotes various signaling pathways leading to uncontrolled cell proliferation and resistance to apoptosis. LAMA-84 cells are thus an invaluable model for studying the molecular mechanisms of CML progression and for evaluating the efficacy of tyrosine kinase inhibitors (TKIs) in a pre-clinical setting. In research, LAMA-84 has been extensively used to understand the biology of CML, especially in the context of drug resistance and disease evolution. Studies involving this cell line have helped in elucidating the cellular responses to different generations of TKIs, such as imatinib, dasatinib, and nilotinib. Moreover, LAMA-84 has contributed to the investigation of new therapeutic strategies aimed at overcoming TKI resistance, including the testing of combination therapies that target other signaling pathways synergistically affected by the BCR-ABL fusion protein.
Organism	Human
Tissue	Blood
Disease	Chronic myeloid leukemia
Synonyms	LAMA-84, LAMA84, Lama84

Characteristics

Age	29 years
Gender	Female
Ethnicity	Caucasian
Morphology	Round cells
Growth properties	Suspension, some adherent cells

Regulatory Data

Citation	Lama-84 (Cytion catalog number 300261)
Biosafety level	1

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NCBI_TaxID	9606
CellosaurusAccession	CVCL_0388

Biomolecular Data

Surface antigens	GPIIb/IIIa+, GPIIIa+
Viruses	EBNA, EA, and VCA were not detected
Mutational profile	BCR-ABL1 pos

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
Doubling time	30 hours
Subculturing	Cells adhering to the bottom of the cell culture flask may be dislodged by shaking. 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	1 to 2 x 10^4 cells/cm^2
Post-Thaw Recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 hours.
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.