Product sheet

BALL-1 Cells | 305084

General information

Description	The BALL-1 cell line originates from a 75-year-old male patient diagnosed with acute lymphoblastic leukemia (ALL). Established from the peripheral blood, this cell line is of particular interest due to the patient's advanced age, offering a unique perspective on the disease in elderly populations. BALL-1 cells exhibit characteristics of B-cell lineage, notably expressing markers such as CD19 and CD10. These cells are negative for surface immunoglobulin, aligning with phenotypes observed in early stages of B-cell neoplastic development. As a model, BALL-1 is pivotal for researching the pathogenesis of B-cell leukemia, particularly within older patients, where disease dynamics may differ significantly from those observed in younger individuals. This cell line facilitates the exploration of molecular and cellular mechanisms underlying leukemia progression, therapeutic resistance, and the emergence of new drug targets. BALL-1 is instrumental in drug discovery and testing, aiding in the assessment of new anti-leukemic compounds. Moreover, the genetic abnormalities present in BALL-1 provide essential insights into the chromosomal alterations involved in the pathogenesis of B-cell precursor acute lymphoblastic leukemia.
Organism	Human
Tissue	B Lymphocyte
Disease	B-cell acute lymphoblastic leukemia
Synonyms	Ball-1, Ball 1, BALL1, B-cell Acute Lymphoblastic Leukemia-1

Characteristics

Age	75 years
Gender	Male
Ethnicity	Asian
Morphology	Lymphoblast
Growth properties	Suspension

Identifiers / Biosafety / Citation

Citation	BALL-1 (Cytion catalog number 305084)
Biosafety level	1

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Expression / Mutation

Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Medium supplements	Supplement the medium with 10% heat-inactivated FBS
Doubling time	48 to 72 hours
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.
Split ratio	1: 2 to 1: 4
Seeding density	An initial seeding density of 5 x 10^5 cells/mL is recommended. A seeding density of 2 x 10^5 cells/mL is recommended to maintain the culture.
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100)

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.
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

Amelogenin: x,x
CSF1PO: 10,12
D13S317: 9,12
D16S539: 9
D5S818: 10,13
D7S820: 10,12
TH01: 7,9
TPOX: 8,11
vWA: 14,18
D3S1358: 16
D21S11: 30
D18S51: 12,13
Penta E: 14,16
Penta D: 9,1
D8S1179: 10,14
FGA: 22,23
D6S1043: 12,18
D2S1338: 19,22
D12S391: 19,2
D19S433: 13,15.2