Product sheet

EB1 Cells | 300403

General information

Description	The EB1 cell line is a human-derived cell line established from biopsy fragments and cell clumps of Burkitt lymphoma. This line was originally cultivated in Eagle's basal medium supplemented with 10% human serum. The unique growth conditions facilitated the development of cells that predominantly grew as free-floating single individuals or doublets. The EB1 cells exhibit a characteristic doubling time of approximately 48 hours, highlighting their rapid proliferation rate, which is a hallmark feature of lymphoblasts. Morphologically, the EB1 cells display uniform altered lymphoblast characteristics, indicating their derivation from lymphoid tissue. The cell line has been utilized extensively in the study of Burkitt's lymphoma, providing insights into the pathology of lymphoid malignancies. It serves as a valuable model for researching the biological behavior of lymphoid cells under various experimental conditions, aiding in the exploration of therapeutic targets and the understanding of lymphoma progression.
Organism	Human
Tissue	Blood
Disease	Burkitt lymphoma
Synonyms	EB-1, Epstein-Barr-1

Characteristics

Age	9 years
Gender	Female
Ethnicity	African
Morphology	Polymorph cells, big nuclei, formation of microvilli
Cell type	B lymphocyte
Growth properties	Suspension

Regulatory Data

Citation	EB1 (Cytion catalog number 300403)

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Biosafety level	2
NCBI_TaxID	9606
CellosaurusAccession	CVCL_2027

Biomolecular Data

Isoenzymes	PGM1, ESD1, GLO-1, G6PD, B
Viruses	Contains Herpesvirus
Karyotype	Chromosome Frequency Distribution 30 cells: 2n = 46. The cell line is aneuploid human female, with chromosome counts in the near dipoidrange. Normal chromosomes N8, N11 and N14 are monosomic, with the remainder of autosomes usually being paired. The x chromosome most often is trisomic. Four marker chromosomes are found. Two of these (markers M1 and M3) involve the reciprocal translocation between chromosomes N8 and N14 associated with most Burkitt's lymphoma cell lines.

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	48 hours
Subculturing	The cells should be subcultured by transferring part of the suspension into fresh new cell culture flasks prefilled with fresh medium. Alternatively, the clusters may be collected by centrifugation and resuspended in fresh medium.
Seeding density	0.1 x 10^6 cells/ml
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing, allow the cells to recover from the freezing process 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.

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.