EB1

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.

Tissue	Blood
Disease	Burkitt lymphoma

Synonyms

- EB-1
- Epstein-Barr-1

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Suspension
Biosafety level	2

CHARACTERISTICS

Morphology	Polymorph cells, big nuclei, formation of microvilli
Cell type	B lymphocyte

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.

Doubling time	48 hours

IDENTIFIERS

Citation

EB1 (Cytion catalog number 300403)

NCBI TaxID	9606
Cellosaurus	CVCL_2027

EXPRESSION AND SUSCEPTIBILITY

Isoenzymes

PGM1, ESD1, GLO-1, G6PD, B

Viruses

Contains Herpesvirus

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

Supplement the medium with 10% heat-inactivated FBS

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

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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.

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.

DONOR

Donor age	9 years
Ethnicity	African

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes