Product sheet

EB3 Cells | 300373

General information

Description	The EB3 cell line is a mouse embryonic stem (ES) cell line that has been extensively studied for its response to cell?cell contact. One of the key features of the EB3 line is its expression of connexin30.3 (Cx30.3), a connexin isoform specifically expressed in the undifferentiated state of these cells. Cx30.3 expression is highly responsive to cell?cell contact, as demonstrated in experiments where hanging drop culture, which increases cell?cell interaction, led to a significant 1.73-fold increase in Cx30.3 expression compared to single cell cultures. This contact-dependent upregulation of Cx30.3 is mediated through the E-cadherin signaling pathway, and knockdown experiments with ?-catenin, a downstream factor of cadherin signaling, have confirmed its involvement. Inhibition of E-cadherin or β-catenin led to a reduction in Cx30.3 expression, indicating that cell?cell contact activation of Cx30.3 is at least partially regulated by this pathway. Interestingly, this cell contact response is specific to connexin30.3, as the expression of connexin43 (Cx43), another connexin isoform, did not exhibit the same level of sensitivity to cell contact in these experiments. The EB3 cell line is a useful model for studying the mechanisms of cell?cell communication and the role of gap junctions in early embryonic development. The unique expression pattern of Cx30.3 in response to contact suggests that it may play a role as a signaling mediator during tissue morphogenesis and differentiation in the undifferentiated stem cell state.
Organism	Human
Tissue	Bone
Disease	Burkitt lymphoma
Metastatic site	Bone
Applications	3D cell culture, Immunology
Synonyms	EB-3, Epstein-Barr-3, GM04679

Characteristics

Age	3 years
Gender	Male
Ethnicity	African
Morphology	Lymphoblast
Cell type	B lymphocyte

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Growth properties	Suspension

Identifiers / Biosafety / Citation

Citation	EB3 (Cytion catalog number 300373)
Biosafety level	2

Expression / Mutation

Surface antigens	HLA A3, Aw32, Cw2
Isoenzymes	G6PD, A
Viruses	EBV (EBNA pos)

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% FBS
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.
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,y
CSF1PO: 12,15
D13S317: 12,14
D16S539: 10,12
D5S818: 9,1
D7S820: 11
TH01: 7
TPOX: 6,9
vWA: 17,19
D3S1358: 15,16
D21S11: 29
D18S51: 15,17
Penta E: 14,16
Penta D: 10,11
D8S1179: 14
FGA: 22
D6S1043: 11,13
D2S1338: 17,22
D12S391: 15
D19S433: 12.2,16.2