Product sheet

6T-CEM Cells | 305132

General information

Description	The 6T-CEM cell line is a thioguanine-resistant variant of the CCRF-CEM human T-cell leukemia cell line. These cells grow in suspension and are deficient in the enzyme hypoxanthine phosphoribosyl transferase (HPRT, HGPRT) which confers resistance to thioguanine. In addition 6T-CEM are also known for secreting high levels of an immunosuppressive factor. The 6T-CEM cells have been widely used as a fusion partner for creating human T-cell hybridomas. Overall, 6T-CEM cells are a useful tool for researchers studying T-cell acute lymphoblastic leukemia, drug resistance, and the development of new treatment strategies and the molecular pathways involved in leukemogenesis, as well as for the generation of human T-cell hybridomas for immunological research.
Organism	Human
Tissue	Peripheral blood
Disease	T-cell acute lymphoblastic leukemia
Synonyms	6-T CEM

Characteristics

Age	4 years
Gender	Female
Ethnicity	Asian
Morphology	Lymphoblast
Growth properties	Suspension

Identifiers / Biosafety / Citation

Citation	6T-CEM (Cytion catalog number 305132)
Biosafety level	2

Expression / Mutation

Handling

Product sheet

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Culture Medium	Alpha MEM, w: 2.0 mM stable Glutamine, w/o: Ribonucleosides, w/o: Deoxyribonucleosides, w: 1.0 mM Sodium pyruvate, w: 2.2g/L NaHCO3
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.
Split ratio	1:2 to 1:4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

STR profile

Amelogenin: x,x
CSF1PO: 10,11
D13S317: 11,12
D16S539: 10,13
D5S818: 11,13
D7S820: 9,14
TH01: 6,7
TPOX: 8
vWA: 17,19
D3S1358: 15
D21S11: 31,33.2
D18S51: 13,18
Penta E: 5,14
Penta D: 11
D8S1179: 13
FGA: 23,24
D6S1043: 11,14
D2S1338: 24
D12S391: 17,18,20,21
D19S433: 14,15