Product sheet

MOLT-3 Cells | 300116

General information

Description	The T-cell lines MOLT-3 and MOLT-4 are derived from the leukemic cells of a patient with acute lymphoblastic leukaemia whilst in relapse. The cells should be handled under laboratory containment level 2 conditions.
Organism	Human
Tissue	Peripheral blood
Disease	Acute lymphoblastic leukemia (ALL)
Synonyms	Molt-3, MOLT 3, Molt 3, MOLT3, Molt3

Characteristics

Age	19 years
Gender	Male
Ethnicity	Caucasian
Morphology	Round cells
Cell type	T lymphocyte
Growth properties	Suspension

Identifiers / Biosafety / Citation

Citation	MOLT-3 (Cytion catalog number 300116)
Biosafety level	1

Expression / Mutation

Antigen expression	CD1(+), CD5(+), CD7(+), CD11a(+) (Greenberg et al. 1988).
Karyotype	hypertetraploid

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, 1 mM sodium pyruvate, 1% NEAA
Doubling time	24 to 48 hours
Subculturing	Maintain cultures by periodically adding or replacing the medium. Initiate cultures with a density of 2 x 10^5 cells/ml and keep the cell concentration within the range of 1 x 10^5 to 1 x 10^6 cells/ml for optimal growth.
Seeding density	0.5 to 1 x 10^5 cells/ml
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.

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STR profile	**Amelogenin**: x,y **CSF1PO**: 11,12,13 **D13S317**: 12,13 **D16S539**: 11,14,15 **D5S818**: 12,13 **D7S820**: 7,8,9,10 **TH01**: 6,8 **TPOX**: 8 **vWA**: 17,18 **D3S1358**: 15,16,17 **D21S11**: 29,30,31,32 **D18S51**: 12,13,16,17 **Penta E**: 14,16 **Penta D**: 8,13 **D8S1179**: 9,13,14,15 **FGA**: 19,21,25 **D1S1656**: 15.3,16,16.3 **D6S1043**: 14,15,16 **D2S1338**: 23,24 **D12S391**: 17,19,20 **D19S433**: 14,15,16
HLA alleles	**A***: 01:01:01, 25:01:01 **B***: 18:01:01, 57:01:01 **C***: 06:02:01, 12:03:01 **DRB1***: 07:01:01, 12:01:01 **DQA1***: 02:01:01, 05:05:01 **DQB1***: 02:02:01, 03:01:01 **DPB1***: 02:01:02 **E**: 01:01:01, 01:xx