BCRJ Code:	0176
Cell Line:	MOLT-4
Species:	Homo sapiens
Vulgar Name:	Human
Tissue:	Peripheral Blood
Cell Type:	T Lymphoblast
Morphology:	Lymphoblast
Disease:	Acute Lymphoblastic Leukemia
Growth Properties:	Suspension
Sex:	Male
Age/Ethinicity:	19 Year /
Derivation:	A suspension culture derived from the peripheral blood of a 19 year old male with acute lymphoblastic leukaemia in relapse. A stable T-cell leukaemia that forms rosettes with sheep erythrocytes.
Applications:	This cell line is a suitable transfection host.
DNA Profile:	Amelogenin: X,Y CSF1PO: 11, 12, 13 D13S317: 12, 13 D16S539: 11, 14 D5S818: 12 D7S820: 8, 10, 11 THO1: 6, 8 TPOX: 8 vWA: 17, 18
Tumor Formation::	Yes, in untreated nude mice, anti lymphocyte serum treated mice and X-irradiated mice
Products:	high levels of terminal deoxynucleotidyl transferase (TdT) are produced
Biosafety:	1

Culture Medium:	RPMI-1640 medium modified to contain 2 mM L-glutamine, 4500 mg/L glucose and 10% of fetal bovine serum.
Subculturing:	Cultures can be maintained by addition or replacement of fresh medium. Start new cultures at 4 X 10e5 cells/mL and subculture before the cell density reaches 2 X 10e6 cells/mL.
Subculturing Medium Renewal:	Every 2 to 3 days
Culture Conditions:	Atmosphere: air, 95%; carbon dioxide (CO2), 5% Temperature: 37°C
Cryopreservation:	95% FBS + 5% DMSO (Dimethyl sulfoxide)
Thawing Frozen Cells:	SAFETY PRECAUTION: Is highly recommend that protective gloves and clothing always be used and a full face mask always be worn when handling frozen vials. It is important to note that some vials leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vessel exploding or blowing off its cap with dangerous force creating flying debris. 1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the Oring and cap out of the water. Thawing should be rapid (approximately 2 minutes). 2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions. 3. For cells that are sensitive to DMSO is recommended that the cryoprotective agent be removed immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL complete culture medium and spin at approximately 125 x g for 5 to 7 minutes. 4.Discard the supernatant and Resuspend cell pellet with the recommended complete medium (see the specific batch information for the culture recommended dilution ratio). 5. Incubate the culture in a appropriate atmosphere and temperature (see "Culture Conditions" for this cell line). NOTE: It is important to avoid excessive alkalinity of the medium during recovery of the cells. It is suggested that, prior to the addition of the vial contents, the culture vessel containing the growth medium be placed into the incubator for at least 15 minutes to allow the medium to reach its normal pH (7.0 to 7.6).

References:	Minowada J, et al. Rosette-forming human lymphoid cell lines. I. Establishment and evidence for origin of thymus-derived lymphocytes. J. Natl. Cancer Inst. 49: 891-895, 1972. PubMed: 4567231 Ohsugi Y, et al. Tumorigenicity of human malignant lymphoblasts: comparative study with unmanipulated nude mice, antilymphocyte serum-treated nude mice, and X- irradiated nude mice. J. Natl. Cancer Inst. 65: 715-718, 1980. PubMed: 6932523 Mertelsmann R, et al. T-cell growth factor (interleukin 2) and terminal transferase activity in human leukemias and lymphoblastic cell lines. Blut 43: 99-103, 1981. PubMed: 6942897 Rodrigues NR, et al. p53 mutations in colorectal cancer. Proc. Natl. Acad. Sci. USA 87: 7555-7559, 1990. PubMed: 1699228 Sandstrom PA, Buttke TM. Autocrine production of extracellular catalase prevents apoptosis of the human CEM T-cell line in serum-free medium. Proc. Natl. Acad. Sci. USA 90: 4708-4712, 1993. PubMed: 8506323
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ATCC:	CRL-1582
Cellosaurus:	CVCL_0013