

# Human Leukemia Cell lines

Part of the CLS cell bank

CLS Cell Lines Service



**Table 1: Human Leukemia cell lines: Origin and General Characteristics**

Name of cell line	Cell type	Organism, Ethnicity	Age / Gender	Tissue / Primary tumor	Morphology	Growth properties	CLS order no.
BV-173 <sup>1</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	47 / Male	Peripheral blood / B cell leukemia	Undifferentiated blast cells	Suspension	300133
CCRF-CEM <sup>2</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	4 / Female	Peripheral blood / T lymphoblast	Polymorph cells, big nuclei; formation of microvilli	Suspension	300147
EB1 <sup>3</sup>	B cell Non-Hodgkin lymphoma cell line	Homo sapiens (Human) / Black	9 / Female	Peripheral blood / Burkitt Lymphoma, B cells	B Lymphoblast	Suspension	300403
HEL-92.1.7. <sup>4</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	30 / Male	Bone marrow / Erythroleukemia	Lymphoblast	Suspension	300462
HL-60 <sup>5</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	36 / Female	Peripheral blood / Acute promyelocytic leukemia	Lymphoblast	Suspension	300209
HSB <sup>6</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	11 / Male	Peripheral blood / acute lymphoblastic leukemia	T-Lymphoblast	Suspension	300214
HuT-78 <sup>7</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	53 / Male	Peripheral blood / cutaneous lymphoma	T-Lymphoblast	Suspension	300338
Jurkat E6.1 <sup>8</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	/ Male	Peripheral blood / Acute T cell Leukemia	T-Lymphocyte	Suspension	300223
K-562 <sup>9</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	53 / Female	Peripheral blood / Chronic myelogenous leukemia (CML)	T-Lymphoblast	Suspension	300224
Kasumi-1 <sup>10</sup>	Leukemia cell line	Homo sapiens (Human) / Japanese	7 / Male	Peripheral blood / Acute myeloid Leukemia (AML)	Myeloblast	Suspension	300226
KG1-A <sup>11</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	59 / Male	Peripheral blood / Acute myeloid leukemia (AML)	Myeloblast	Suspension	300234
Lama-84 <sup>12</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	29 / Female	Peripheral blood / Chronic myeloid leukaemia (CML)	Round cells of 25-35 µm diameter	Suspension	300261

Name of cell line	Cell type	Organism, Ethnicity	Age / Gender	Tissue / Primary tumor	Morphology	Growth properties	CLS order no.
MOLT-3 <sup>13</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	19 / Male	Peripheral blood / Acute lymphoblastic leukaemia (ALL)	T Lymphoblast	Suspension	300116
MOLT-4 <sup>13</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	19 / Male	Peripheral blood / Acute lymphoblastic leukaemia (ALL)	T Lymphoblast	Suspension	300115
MV4-11 <sup>14</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	10 / Male	Peripheral blood / Acute Monocytic Leukemia	Round cells	Suspension	300295
Namalwa <sup>15</sup>	B cell Non-Hodgkin Lymphoma cell line	Homo sapiens (Human) / Caucasian	child / Female	Peripheral blood / Burkitt Lymphoma	B Lymphocyte	Suspension	300439
NB-4 <sup>16</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	23 / Female	Peripheral blood / Acute promyelocytic leukemia	Round cells	Suspension	300299
REH <sup>17</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	/ Female	Peripheral blood / B Acute lymphoblastic leukemia	Lymphoblast	Suspension	300320
RPMI-1788 <sup>18</sup>	Hematopoietic cell line	Homo sapiens (Human) / Caucasian	33 / Male	Peripheral blood / normal, EBV transformed	B Lymphocyte	Suspension	300318
SKW-3 <sup>19</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	61 / Male	Peripheral blood / T cell leukemia (CLL)	T Lymphocyte	Suspension	300343
TF-1 <sup>20</sup>	Leukemia cell line	Homo sapiens (Human) / Japanese	35 / Male	Peripheral blood / Erythroleukemia	Erythroblast	Suspension	300434
THP-1 <sup>21</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	1 / Male	Peripheral blood / Acute monocytic leukemia (AML)	Monocytic cells	Suspension	300356
TK6 <sup>22</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	5 / Male	Spleen / hereditary spherocytosis		Suspension	300357
U-937 <sup>23</sup>	Leukemia cell line	Homo sapiens (Human) / Caucasian	37 / Male	Peripheral blood / Histiocytic Lymphoma	Monocyte-macrophage; histiocyte	Suspension	300368

Information on cell culture conditions, authentication data and others can be found on our website [www.clsgmbh.de](http://www.clsgmbh.de).

**Table 2: Human Leukemia cell lines: Special Features**

Name of cell line	Cell type	Cell Marker	Tumor antigens	Mutations	Secretion of products	Ref ID in Cellosaurus <sup>24</sup>	CLS order no.
BV-173 <sup>1</sup>	Leukemia cell line			b2a2 BCR-ABL' blast crisis cell line		RRID:CVLL_0181	300133
CCRF-CEM <sup>2</sup>	Leukemia cell line	CD3 B (37%), CD4 (50%), CD5 (95%), CD7 (77%)	P53 neg;		EBV neg;	RRID:CVCL_0207	300147
EB1 <sup>3</sup>	B cell Non-Hodgkin lymphoma cell line					RRID:CVCL_2027	300403
HEL-92.1.7. <sup>4</sup>	Leukemia cell line	HLA A3, Aw32, Bw35; Ia+			Hemoglobin; globin (G gamma, A gamma, epsilon, zeta and alpha chains); beta-2-microglobulin; glycoporphin	RRID:CVCL_2481	300462
HL-60 <sup>5</sup>	Leukemia cell line	complement; Fc;	myc+		TNF- $\alpha$ stimulated by PMA	RRID:CVCL_0002	300209
<b>HSB <sup>6</sup></b>	<b>Leukemia cell line</b>					<b>RRID:CVCL_</b>	<b>300214</b>
HuT-78 <sup>7</sup>	Leukemia cell line	CD4;			IL-2; TNF- $\alpha$ ;	RRID:CVCL_0337	300338
Jurkat E6.1 <sup>8</sup>	Leukemia cell line	CD3;			IL-2; INF- $\gamma$ ;	RRID:CVCL_0367	300223
K-562 <sup>9</sup>	Leukemia cell line	CD7 (25%);	BCR-ABL1 pos			RRID:CVCL_0004	300224
Kasumi-1 <sup>10</sup>	Leukemia cell line	CD4+ (37.1%, coexpressed with CD34 and CD33), CD13+(OKM13), CD15+(LeuM1), CD33+, CD34+(MY10), CD38+(OKT10, 50.1%), CD71+(Nu-TERf), HLA-DR+(OKDR).		t(8;21) chromosome translocation		RRID:CVCL_0589	300226
KG1-A <sup>11</sup>	Leukemia cell line	HLA A30, A31, B35, Cw4;				RRID:CVCL_1824	300234
Lama-84 <sup>12</sup>	Leukemia cell line	GPIIb/IIIa+, GPIIIa+;		BCR-ABL1 pos		RRID:CVCL_0388	300261
MOLT-3 <sup>13</sup>	Leukemia cell line	CD1(+); CD5(+); CD7(+); CD11a(+)				RRID:CVCL_0624	300116
MOLT-4 <sup>13</sup>	Leukemia cell line	CD1 (49%), CD2 (35%), CD3 A (26%) B (33%) C (34%), CD4 (55%), CD5 (72%), CD6 (22%), CD7 (77%)		G->A mutation at codon 248 of the p53 gene	Terminal deoxynucleotidyl transferase (TdT)	RRID:CVCL_0013	300115

Name of cell line	Cell type	Cell Marker	Tumor antigens	Mutations	Secretion of products	Ref ID in Cellosaurus <sup>24</sup>	CLS order no.
MV4-11 <sup>14</sup>	Leukemia cell line	CD4 (40-96%); CD10 (4-11%); CD15 (96-99%)		48, XY, t(4;11)(q21;q23), +8, +19		RRID:CVCL_0064	300295
Namalwa <sup>15</sup>	B cell Non-Hodgkin lymphoma cell line				IG-M;	RRID:CVCL_0067	300439
NB-4 <sup>16</sup>	Leukemia cell line	CD4+, CD14-, CD36-;		t(15;17) (q22;q11-12) translocation		RRID:CVCL_0005	300299
REH <sup>17</sup>	Leukemia cell line	CD3 A (17%) B (17%) C (20%), CD4 (15%), CD10 (55%), CD20+; HLA-DR+, CALLA+				RRID:CVCL_1650	300320
RPMI-1788 <sup>18</sup>	Leukemia cell line	HLA A2, Aw33, B7, B14;	EBNA pos		IgM (lambda light chain); TNF-beta;	RRID:CVCL_2710	300318
SKW-3 <sup>19</sup>	Leukemia cell line	CD2+, CD3-, CD4+, CD8+; Thy-1-like antigen;			LECT2 (chemotactic protein)	RRID:CVCL_2197	300343
TF-1 <sup>20</sup>	Leukemia cell line				Sensitive to GM-CSF, IL-3, EPO	RRID:CVCL_0559	300434
THP-1 <sup>21</sup>	Leukemia cell line	HLA haplotypes: HLA-A2, -A9, -B5, -DRw1, -DRw2; Fc; C3b;			Lysozyme	RRID:CVCL_0006	300356
TK6 <sup>22</sup>	Leukemia cell line					RRID:CVCL_0561	300357
U-937 <sup>23</sup>	Leukemia cell line	Immunoglobulin (Fc); complement (C3)			Lysozyme; beta-2-microglobulin; TNF-alpha, stimulated with PMA	RRID:CVCL_0007	300368

HSB are currently under investigation due to discrepancies in STR data.  
SKW-3 was shown to be a KE-37 derivative.

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24. <http://web.expasy.org/cellosaurus/> - the cellosaurus represents a detailed data collection bank of a plethora of cell line relevant data from various cell banks.

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