



CD markers

A comprehensive CD markers table,
covering all clusters of differentiation from CD1a to CD350.
Includes cellular expression, function and reported markers of cells



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CD Antigens

Key to abbreviations

Abbreviation	Text
Baso	Basophils
Endo	Endothelial cells
Eos	Eosinophils
Epi	Epithelial cells
Eryth	Erythrocytes
ESC	Embryonic stem cells
FDC	Follicular dendritic cells
Fib	Fibroblasts
Gran	Granulocytes
HSC	Hematopoietic stem cells
Lk	Leukocytes
Lph	Lymphocytes
Mac	Macrophages
MegaK	Megakaryocytes
Mono	Monocytes
Neu	Neutrophils
NK	Natural killer cells
Plt	Platelets
Tc	Cytotoxic T Cells
TH	Helper T Cells
Thy	Thymocytes

Key to conjugations

Text colour	Conjugation
	Allophycocyanin
	FITC
	Phycoerythrin
	Biotin
	Unconjugated

Key to research topics

Text colour	Topic
	Immunology
	Stem Cells
	Cancer
	Endothelial
	Neuroscience

CD	Antigen AbID	Cellular expression	Functions	Reported markers of...*
CD1a	27992, 22352, 27991, 708	Cortical thy, Langerhans, DC	Non-peptide Ag presentaiton	Thymics - marks T cells at the short cortical thymic stage of differentiation
CD1b	23992	Cortical thy, Langerhans, DC	Non-peptide Ag presentaiton	Cortical thy
CD1c	18216	Cortical thy, Langerhans, DC, B cell subset	Non-peptide Ag presentaiton	Myeloid DC 1; cortical thy
CD1d	11076	Intestinal epi, B cell subset, DC	Non-peptide Ag presentaiton	
CD1e	General CD1 antibodies: 24877, 25599, 24837, 24986	DC	Non-peptide Ag presentaiton	
CD2	27995, 25241, 27994, 34250	Thy, NK cells, T and B cells	Adhension; T cell activaiton	Pan T cells (with CD4+ suppressor/ inducer T cells; with CD8+ cytotoxic/suppressor T cells); human NK cells; thy
CD3	24947, 27349, 27331, 33429, 3985	Mature T cells, thy	Signaling T cell activation; regulation of TCR expression	Pan T cells (with CD4+ suppressor/ inducer T cells; with CD8+ cytotoxic/suppressor T cells); human NK cells
CD4	48391, 21418, 33437, 34271, 23803,	Thy subset, T helper/ inducer and regulatory cell, mono, mac	T cell activation; thymic differentiation; HIV receptor	TH cells; regulatory T cells; mono; marker of HIV infection; subcortical and cortical thy; CD4+ medullary thy subset (when used in conjunction with other thy markers)
CD5	25280, 24500, 24873, 25161, 36466	Thy, T and B cell subset, B-CLL	Regulates T cell-B cell lymphocyte interaction	Pan T cells (with CD4+ suppressor/ inducer T cells; with CD8+ cytotoxic/suppressor T cells); subcortical thy

CD Antigen	AbID	Cellular expression	Functions	Reported markers of...*
CD6	34290, 33782, 9181, 49503, 22381	Thy, T and B cell subset, neuron subset	Thy development; T cell activation	T anc B lph; a potential marker of T cell activation
CD7	1158, 27324, 34293, 8236, 16042	Thy, T cells, NK cells, pluripotent HSC, thy	T cell costimulation	Pan T cells (with CD4+ suppressor/ inducer T cells; with CD8+ cytotoxic/suppressor T cells); thy; pluripotent HSC
CD8	26004, 34153, 25417, 34282, 34364	Thy subset	T cell costimulation	Tc cells; subcortical and medullary thy subset (when used in conjunction with other thy markers)
CD8a	25499, 34676, 25498, 25167, 25479, 33786	Thy subset, Tc cells, NK cells, DC subset	Co-receptor for MHC class 1 molecules	
CD8b	21246, 21247, 21245, 41328, 21248	Thy subset, Tc cells	Co-receptor for MHC class 1 molecules	
CD9	34162, 34161, 2215	Plt, pre-B cells, eos, Baso, activated T cells, endo and epi cells	Cell adhesion and migration; platelet activation	ESC; plt; Baso; mono
CD10	28096, 27384, 35268, 34199	B and T cell precursors, fib, neu, bone marrow stromal cells	Peptidase; regulates B cell growth	Mesenchymal / lymphoid stem cell; neu; pre-pre B lph
CD11a	19570, 25500, 24951, 52895	Lk, lph, gran, mono and mac	Intracellular adhesion and costimulation	Mono and mac
CD11b	25482, 24874, 25175, 24954, 6332	Gran, mono, NK cells, T and B cells, DC	Intracellular adhesion and costimulation	Mesenchymal stem cells; macrophage/monocyte/myeloid cells; gran; microglial cells
CD11c	42800, 33485, 52632, 11029	Mono, mac, gran, T and B cell subset	Cell adhesion	Marker for CD11c subset of myeloid cells; type 1 myeloid DC; monocyte and mac; gran
CD13	46882, 46883, 25723, 7417	Gran, mono (+ precursors), endo cells, epi cells	Zinc binding metalloproteinase	Mesenchymal stem cells; mono; gran
CD14	25620, 16174, 16175, 21889, 8103	Mono, mac (myelomonocytic cells) Langerhans, gran	Receptor for complex of LPS and LBP	Monocyte and mac; endo progenitors
CD15	42751, 28103, 20137	Gran, mono, neu, eos	Cell adhesion	Endo progenitors; granulocyte/neu; mono; cancers -Reed-Sternberg cells of Hodgkin's disease; on T cell lymphomas including mycosis fungoides and on some leukemias
CD16	46885, 46886, 52047, 664	Neu, NK cells, mac	Low affinity Fc receptor; mediates phagocytosis and ADCC	Gran; neu; NK cells; mac
CD17	1902			Mono ; neu/Baso
CDw17		Mono, plt, B cell subset, gran, DC, T cells, plt, neu	Lactocyl ceramide; cell surface glycosphingolipid	Plt
CD18	40911, 52049, 25489, 52050, 8220	Lk	Cell adhesion	
CD19	25484, 1167, 52056, 25609, 31947	B cells (but NOT plasma cells), FDC	Signal transduction	Pro and pre B lph; FDC
CD20	25542, 51792, 46896, 25610, 32090	T and B cells subset	B cell activation and proliferation	B cells; Baso; cancers - used for the typing of malignant lymphomas and other lymphoproliferative disorders
CD21	24887, 25355, 24827, 24992	Mature B cells, FDC, T cell subset	Signal transduction	
CD22	25267, 24971, 25369, 21890, 25135	Mature B cells	B cell adhesion; signal transduction	Mature B cells; plt; Baso; cancers - useful in phenotyping mature leukemias
CD23	25457, 46908, 24999, 24957, 710	Mature B cells, activated mac, eos, FDC, plt	Low affinity receptor for IgE; ligand for CD19; CD21 and CD81	Activated mac; plt; activated eos; activated B cells

CD	Antigen AbID	Cellular expression	Functions	Reported markers of...*
CD24	51535, 25657, 25646, 25658, 31622	B cells, gran, epi cells, mono	Regulation of B cell proliferation and differentiation	Pancreatic cancers; Pro B lph; neutrophil/Baso
CD26	30359, 30360, 42897, 3154	Mature thy, T cells (upregulated on activation), activated B cell, NK cells, epi cells, mac	Exoprotease; HIV pathogenesis	Activated B and T cells; mac
CD27	30366, 30367, 10456	T cells, medullary thy, B cell subset, NK cells	Costimulation of T cell and B cell activation	B cell malignancies
CD28	25488, 24908, 25487, 25178, 13463	Most T cells, thy, plasma cells, NK cells, activated B cells	Costimulation	Activated B cells
CD29	36468, 23834, 30393, 23825, 7168	Lk	Interacts with CD49a in VLA-1 integrin	
CD30	24976, 25187, 25186, 23766	Activated T and B cells, mono, activated NK cells, Reed-Sternberg cells	Regulates lymphocyte proliferation and cell death. Has a critical role in the pathophysiology of Hodgkin's disease and other CD30+ lymphomas	ESC; activated T and B cells; cell surface antigen of Hodgkin's and Reed-Sternberg cells
CD31	25563, 23359, 25644, 7389, 7388	Mono, plt, gran, endo, lymphocyte subset, epi cells	Cell adhesion	Mesenchymal stem cells; plt; mono and mac; gran; T cells (with CD4+ suppressor/inducer T cells; with CD8+ cytotoxic/suppressor T cells)
CD32	30356, 30357, 30355, 45143	B cells, mono, gran, plt, endo cells	Regulation of B cell fuction; induces phahocytosis and mediator release	Monocyte and mac; neu
CD33	25773, 25906, 21892, 30371	Mono, gran, mast cells, myeloid progenitors	Lectin activitiy; adhesion	Myeloid cells; mono
CD34	18225, 46924, 46970, 21252, 8158	HSC and progenitors, capillary endo cells	Cell adhesion (via L-selectin)	Pro and pre B lph; eryth; stem cell and early and late progenitors; lymphoid stem cells; endo progenitors
CD35	51567, 25	Eryth, B cells, mono, neu, eos, FDC, T cell subset	C3b and C4b; mediates adhesion and phagocytosis	Mono; neu; T cells (with CD4+ suppressor/inducer T cells; with CD8+ cytotoxic/suppressor T cells)
CD36	48311, 51566, 39024, 36978, 17044	Plt, mono/macrophage, endo and thyroid precursors	Scavenger receptor; mediates adhesion and phagocytosis	Endo progenitors; plt; monocyte and mac
CD37	30414, 518, 19701	Mature B cells, myeloid cells. Low level of expression in T cells, gran and mono	Signal transduction	
CD38	25041, 24978, 24977, 25004, 2577	Variable expression levels on most hematopoietic and some non-hematopoietic cells. High levels on plasma cells, early T and B cells, activated T cells, germinal centre B cells	Regulates cell activation, proliferation and adhesion	Immature and activated B and T cells; plasma cells; mono; Baso; thy; hematopoietic/lymphoid stem cells
CD39	30423, 30424, 3042	Mac, Langerhans, DC, activated B cells, NK cells, microglial cells	B cell adhesion; protects activated cells from lysis	Neuronals; potential marker of NK cells
CD40	25567, 27281, 25270, 27927, 25298	B cells, mono/mac, FDC, endo, fib, keratinocyte	Costimulation of B cell growth; differentiation and isotype switching	Mono
CD41	19687, 19690, 30434, 15021	Plt, megaK	Plt activation and aggregation	Plt
CD42a	30398, 30399, 30397, 19729	Plt, megaK	Plt adhesion and aggregation	Plt
CD42b	30401, 30402, 30400, 2578	Plt, megaK	Plt adhesion and aggregation	Plt
CD42d	23773	Plt, megaK	Plt adhesion and aggregation	Plt
CD43	46727, 33873, 13471, 28101, 9088	Ik (except resting B cells) Low expression in plt	Anti-adhesion; binds CD45 to mediate adhesion	Mono; granulocyte/neutrophil/basophils; T cells (with CD4+ suppressor/inducer T cells; with CD8+ cytotoxic/suppressor T cells)

CD	Antigen AbID	Cellular expression	Functions	Reported markers of...*
CD44	25451, 19622, 25224, 25171, 6124	Hematopoietic and non-hematopoietic cells (not plt)	Lk rolling, homing and aggregation. Adhesion of Lk to endo cells, stromal cells, and the extracellular matrix.	Mesenchymal stem cells; eryth
CD45	25519, 27287, 25603, 19592, 8216	Hematopoietic cells (not eryth and plt)	Critical for T cell and B cell receptor mediated activation.	Lk; hematopoietic progenitors
CD45RA	30507, 27290, 27292, 30476, 22363	B and T cell subset (naïve T), mono, medullary thy	Critical for T cell and B cell receptor mediated activation.	naïve T cell subsets; B cell subsets; mono
CD45RB	28331, 25006, 25647, 28110, 8218	T cell subset, B cells, mono, mac, gran, DC, NK cells	Critical for T cell and B cell receptor mediated activation.	Mono and mac
CD45RB	24937, 25521, 25213, 3135	B cells, NK cells, CD8+ T cells, subset of CD4+ T, medullary thy, mono, DC	Critical for T cell and B cell receptor mediated activation.	
CD45RO	51564, 19758, 19741, 23	Activated T and memory T and B cells subset, mono/mac, gran, cortical thy, DC subset	Critical for T cell and B cell receptor mediated activation	Monocyte and mac; gran; helper/inducer T cells
CD46	28068, 26014, 28067, 789	Lk, plt, endo cells, epi cells, placental trophoblasts, sperm and some tumor cells, hematopoietic and non hematopoietic nucleated cells	Co-factor for factor 1 proteolytic cleavage of C3b and C4b; sets protective barrier threshold against inappropriate complement activation	
CD47	33950, 33953, 48517, 9089	Hematopoietic cells, epi cells, endo cells, mesenchymal cells	Adhesion	
CD48	48314, 51595, 30478, 28111, 9185	Lk	Cell adhesion, T cell costimulation	T cells (with CD4+ suppressor/inducer T cells; with CD8+ cytotoxic/suppressor T cells)
CD49a	33672, 34160, 34445	Activated T cells, mono, melanoma cells, endo cells	Adhesion, embryo development	
CD49b	41460, 30486, 42775, 30485, 30487	Plt, B cells, mono, activated T cells, epi cells, endo cells, NK cell subset, megaK	Adhesion, platelet aggregation; receptor for echovirus 1	NK cells; plt; mono; activated T cells
CD49c	30488, 30489, 20140	Most adhesion cell lines. Low expression on B and T cells	Adhesion and signal transduction	
CD49d	25796, 25666, 24944, 220	T and B cells, thy, mono, eos, Baso, NK cells, mast cells, DC, erythroblastic precursors	Adhesion, cell migration, homing and activation	T cells (with CD4+ suppressor/inducer T cells; with CD8+ cytotoxic/suppressor T cells); neuronal stem cells
CD49e	23815, 25461, 25189, 24694	Thy, T cell, mono, plt, early and activated B cells, endo cells, epi cells	Adhesion, regulation of cell survival and apoptosis	Mono; activated T cells
CD49f	30496, 30497, 28080, 20142	Memory B cells, T cells, thy, mono, plt, megaK, epi, endo, cytotrophoblasts	Adhesion and cell migration, embryogenesis	ESC; mono; plt; activated T cells
CD50	47029, 42907, 21895, 10804	Lk, thy, Langerhas, endo cells, T and B cells, gran, mono	Adhesion and costimulation	
CD51	33078, 48520, 34226	Plt, activated T cells, endo cells, osteoblasts, melanoma cells, megaK	Adhesion and signal transduction	
CD52	33083, 36443, 2576	Thy, lph (not plasma cells), mono/mac, epi cells	Glycosylphosphatidylinositol (GPI) anchored antigen which may play a role in carrying and orienting carbohydrate	Gran
CD53	33864, 667	Lk, DC, osteoblasts, osteoclasts	Signal transduction	
CD54	24869, 25553, 25007, 2213	Endo, mono, hematopoietic and non-hematopoietic cells. Low expression on resting lph, upregulation on activation	Adhesion and cell migration, embryogenesis	Endo cells

CD	Antigen AbID	Cellular expression	Functions	Reported markers of...*
CD55	25634, 25540, 25635, 1422	Hematopoietic and non-hematopoietic cells	Regulates complement activation; ligand or protective molecular in fertilization; signal transduction	Eryth
CD56	48524, 7169, 48522, 19774, 9272	Neural tissues, NK cells, T cell subset, samll cell lung carcinoma	Homophilic and heterophilic adhesion	Neuronals; NK cells
CD57	25605, 25577, 25614, 8597	NK cell subset, T cell subset, mono	Adhesion	NK subsets
CD58	26006, 27301, 21897, 1420	Lk, eryth, epi cells, endo cells, fib, hematopoietic and non-hematopoietic cells	APC-T, killer target cell interaction, costimulation	
CD59	36467, 15686, 42788, 28114, 9182	Hematopoietic and non-hematopoietic cells	Prevents complement polymerizaiton, protects cells from complement mediated lysis	Hematopoietic stem cells; eryth
CDw60	22384, 25755	Subset of CD4+ and CD8+ peripheral T cells, plt, mono	Costimulation of T cells	Plt
CD61	33271, 33272, 19784, 7167	With CD41 on plt, with CD51 on mac, endo, fib, megaK, osteoclasts, mast cells, mac	Mediates cell adhesion to diverse matrix proteins	MegaKaryocyte and plt
CD62E	51241, 13481, 51529, 6630	Activated endo cells, E-selectin	Lk rolling, tumor cell adhesion, angiogenesis	Endo progenitors
CD62L	41459, 24876, 25600, 3920	B and T cell subset, mono, gran, NK cells, thy	Lk rolling and homing (L-selectin)	Naive/effector memory T cells
CD62P	33279, 42795, 6632	Activated plt, endo cells, megaK, P-selectin	Lk terythering and rolling	
CD63	19787, 18236, 1318	Activated plt, mono, mac, gran, endothelium	Translocated to cell surface on activation of plt, endo cells and gran. Associated with the early stages of melanoma tumor progression (in regulation of motility and adhesion of melanoma cells).	Plt, endo cell, and granulocyte activations; monocyte and mac; melanomas - involved in early stages of melanoma tumor progression
CD64	34224, 23890, 27928, 9248	Mono, mac	High affinity receptor for IgG	Monocyte and mac; activated neutrophil, eosinophil and Baso
CD65	51913, 51912	Gran, myeloid cells. Low expression on mono		Useful for studies of stages of myeloid cell proliferation
CD66	51569 CD66a, c, d, e	Neu		Activated neutrophil, eosinophil and Baso
CD66a		Mature gran, eptithelial cells, hematopoietic tissues, neu, colon and liver	Homophilic and heterophilic adhesion; neutrophil activation	Neu
CD66b	51534, 48589	Gran		Gran, nue
CD66c		Neu, epi cells, colon carcinoma	Cell adhesion; neutrophil activation	Gran
CD66d		Neu	Neu activation	Neu
CD66e		Adult colon epi, colon carcinoma	Homophilic and heterophilic adhesion	
CD66f		Eptithelial, placental syncytiotrophoblasts, fetal liver	Immune regulation and protection of fetus from maternal immune system; pregnancy specific glycoprotein.	
CD68	955	Mono, mac, nue, Baso, DC, myeloid progenitors	Possibly has a role in phagocytic activities of tissue mac, both in intracellular lysosomal metabolism and extracellular cell-cell and cell-pathogen interactions; binds to tissue - and organ - specific lectins or selectins, allowing homing of macrophage subsets toparticular sites; recirculation of CD68 from endosomes and lysosomes to the plasma membrane; may allow mac tocrawl over selectin bearing substrates or other cells.	Mac; mono and microgilals

CD Antigen	AbID	Cellular expression	Functions	Reported markers of...*
CD69	24848, 25570, 25008, 51862	Activated Ik, NK cells, thy subset, plt, Langerhas, activated mac	High affinity receptor for IgG	Monocyte and mac; activated neutrophil, eosinophil and Baso
CD70	24538, 21950	Activated B and T cells, mac	Induces proliferation of costimulated T cells; enhances the generation of Tc cells and contributes to T cell activation. This cytokine is also reported to play a role in regulating B-cell activation, cytotoxic function of NK cells; and immunoglobulin sythesis.	Activated B and T cells
CD71	33996, 25622, 7350, 8598	Proliferating cells, reticulocytes, erythroid precursors, activated Ik	Transferin receptor 1 - controls iron uptake during cell proliferation	Erythroblasts; mac; activated B and T cells
CD72	33286, 18223, 8091	B (not plasma) cell, mac, FDC, epi and endo cells	B cell activation and proliferation	Pro and pre B lph
CD74	54213, 49782	B cells, activated T cells, mac, Langerhans, DC, endo cells, epi cells	Intracellular sorting of MHC class II molecules	Mono and mac
CDw75	33287	B cells subset, T cell subset, eryth	Cell adhesion	
CD77	19795	Germinal centre B cells, mac. High expression in Burkitt's lph	Induces apoptosis	
CD78	24151	B cells (expression increases on B cell activation), tissue mac, epi cells	Expressed as part of the MHC class II molecule	
CD79a	33290, 42798 49782	B cells	Subunit of B cell antigen receptor (CD79a+CD79b); signal transduction	Pro and pre B cells; Cancers - majority of acute leukemias of precursor B cell type, B cell lymphomas and in some myelomas
CD79b	25169, 24939, 25522, 26275, 23826	B cells	Subunit of B cell antigen receptor (CD79a+CD79b); signal transduction	B cells
CD80	25555, 42803, 42925, 24970, 53003	Activated B and T cells, mac, DC	Costimulation of T cell activation and proliferation	Activated B cells
CD81	24940, 25513, 25675, 33697	T and B cells, NK cells, mono, thy, DC, endo cells, fib	Signal transduction	
CD82	27338, 47098	Lk (upregulation on activation), plt	Signal transfection	
CD83	48245, 48318, 48320, 49324	Activated T and B cells, circulating DC, Langerhans	Regulates immune response	
CD84	33217, 33218 3202	Mature B cells, T cell subset, mono/mac, plt, thy	Homophilic adhesion molecule; enhances T cell activation and cytokine production	Hematopoietic stem cells; plt; mono
CD86	25556, 24862, 25594, 25239, 53004	Mono, activated B and T cells, endo	Costimulation of T cell activation and proliferation	Mono; activated B cells
CD87	27423, 3129	Gran, mono, NK cells, T cells, endo cells, fib, hepatocytes	Cell chemotaxis; adhesion	Mono and mac; gran; activated T cells
CD88	33951, 21652, 54378, 12962	Gran, mono, DC, astrocytes	Gran activation	Reactive astrocytes and microglia; mac; gran
CD89	33221, 33211, 22520	Mono, mac, gran, neu, B and T cell subset	Induces phagocytosis, degranulation and respiratory burst	Mono; neu
CD90	25322, 25672, 54378, 8872	Hematopoietic cells, neurons, fib, stromal cells, HEV endo cells, mouse T cells	Costimulation of lph; possible infibition of stem cell and neuron differentiation	Hematopoietic/lymphoid stem cells; neuronals
CD91	33201, 34024, 33200, 28320	Mono, mac, neurons, fib	Alpha 2 mac; globulin receptor	Mono

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CD93	33223	Mono, gran, endo cells, neu	May mediate the enhancement of phagocytosis in mono and mac upon interaction with soluble defense collagens; may play a role in intercellular adhesion	Mono; neu; endo cells
CD94	25020, 33204, 33203, 19740	NK cells, T cell subset	Inhibition of NK cell function; induces cytolytic activity and cytokine production	NK cells
CD95	25290, 33227, 25405, 25559, 2437	Mono, neu, lph, fib	Fas: Induces apoptosis	
CD97	23490, 33229, 13023	Gran, mono, low expression in lph, mac, DC	Neu migration	
CD98	33236, 42928, 26009, 33232	Mono, lph, NK cells, gran. All human cell lines.	Cell activation; cell aggregation	Mono; T cell (with CD4+ suppressor/inducer T cells; with CD8+ cytotoxic/suppressor T cells)
CD99	48530, 48531, 48529, 9087	Lph, NK cells, mono, gran, endo cells, epi cells, some tumor cells, thy	Lk migration; T cell activation; cell adhesion	
CD100	33259, 33261, 33260	Lk, oligodendrocytes	Mono migration; T and B activation; T cell-B cell and T cell-DC interaction	
CD101	33263, 33264, 24039	Mono, gran, DC, activated T cells, Langerhans	T cell activation and proliferation	Mono and mac; gran
CD102	47207, 25524, 25262, 35045	Resting lph, mono, plt, vascular endo cells	Adhesion; costimulation; lymphocyte recirculation	Mono; T cell (with CD4+ suppressor/inducer T cells; with CD8+ cytotoxic/suppressor T cells; endo cells
CD103	24938, 25517, 48246, 25198	Intraepi lph, some peripheral blood lph, activated lph	Lph retention; activation	
CD104	22486, 41342, 25254	Epi cells, endo cells, Shwann cells, keratinocytes	Cell adhesion; migration, tumor metastasis	
CD105	18278, 53321, 49228	Endo, mesenchymal stem cells, erythroid precursors, activated mono, mac	Angiogenesis; modulates cellular response to TGF beta 1	Mesenchymal stem cells; endo progenitors; activated mac
CD106	24853, 25452, 7224, 19264	Activated endo cells, FDC	Lk adhesion; transmigration and costimulation of T cells	Activated endo cells
CD107a	24871, 25367, 48247, 25245	Activated plt, activated T cells, activated endo cells, activated gran	LAMP1: Promotes adhesion of human PBMC to vascular endothelium; possibly involved in the adhesion of PBMCs to the site of inflammation	
CD107b	25082, 24945, 25368, 25447, 25631	Activated plt, activated T cells, activated endo cells	LAMP2: Lysosomes play a critical role in cellular metabolism. LAMP2 may be involved in leucocyte adhesion; important in autophagy - process of bulk degradation of cellular protein	Lysosomes
CD108w	26012, 8222	Activated T cells, eryth		Activated T ciles
CD109	27343, 47211	Activated T cells, activated plt, subset of CD34+ cells, endo cells		Plt; activated T cells; endo cells
CD112	16912	Mono, neu, subset of CD34+ cells, endo cells, epi cells, myeloid cells	Intracellular adhesion	Mono; neu
CD114	11411, 10657	Myeloid progenitor cells, endo and trophoblastic cells	Myeloid cell proliferation and differentiation	Gran; neu; Baso
CD115	37858	Mono, mac, monocytic progenitors, neuronal cells, osteoclasts	Monocytic cell proliferation and differentiation	Mono
CD116	10670	Mono, mac, gran, DC, endo cells, eos	Myeloid cell hematopoiesis and differentiation	Mono; neu; endo cells
CD117	21321, 42776, 25364, 21322, 16832	HSC and progenitors	c-kit: Crucial for development of gonadal and pigment stem cells	Hematopoietic/lymphoid stem cells and progenitors

CD	Antigen AbID	Cellular expression	Functions	Reported markers of...*
CD119	11286, 21431, 11285	Lph, NK cells, mono/mac, gran, endo cells, epi cells	Role in host defence and immunopathological processes	
CD120	25472, 36251, 16920, 19139	Hematopoietic and non-hematopoietic cells, epi cells	Cell differentiation; apoptosis; necrosis; anti bacterial; viral and parasitic	
CD121a	25074, 20876	Low expression in fib, lph, mono/mac, gran, DC, epi cells, neural cells	IL-1 receptor I: Mediates IL-1 signaling	Stromal cells; endo cells
CDw121b	34838	B cells, mono/mac, some T cells, keratinocytes	IL-1 receptor II: Mediates negative signaling	Mono, mac
CD122	25516, 24943, 21466, 33956, 21467	NK cells, resting T cells, subset of B cells, mono	IL-2 receptor beta: IL-2 and IL-15 receptor beta chain signaling	
CD123	21469, 21468, 50277	Vasophils, eos, hematopoietic progenitors, mac, DC, endo cells, small subset of lph	IL-3 receptor alpha chain	Baso; mono; granulocyte/nue; pluripotent stem cells
CD124	50277	Low expression on lk and progenitors, endo and epi cells, fib, mature T and B cells	Receptor for IL-4 and IL-13	Lymphoid stem cells; endo cells; Pro B lph; T cell (with CD4+ suppressor/inducer T cells; with CD8+ cytotoxic/suppressor T cells)
CD125	10759	Eos, Baso, activated B cells, mast cells	Receptor for IL-5 (IL5RA)	Baso
CD126	34304, 47215	Activated B and plasma cells, T cells, mono, epi cell, fib	IL-6 receptor subunit	Plasma cells
CD127	33704, 48527, 48526	B precursors, mature T cells, thy, mono	IL-7 receptor alpha chain	Lymphoid stem cells; pro B lph; mono
CD128	38989, 38991, 8042, 13018	Neu, Baso, T cell subset	IL-8 receptor	
CD129	48497, 10773		IL-9 receptor	
CD130	47218, 27359	T cells, activated B cells, plasma cells, mono, endo cells	Transmits activities of IL-6, IL-11, LIF and CNF	
CD131	21581, 45176	Mono, gran, early B cells, hematopoietic stem cells	Transducing signal from IL-3R, IL-5R and GM-CSFR	Hematopoietic stem cells; mono; neutrophil/Baso
CD133	16518, 5558	Hematopoietic stem cell subset, epi and endo precursors, neural precursors		Stem and early progenitor cells (including neural and ESC)
CD134	33960, 34009, 6415	Activated T cells, regulatory T cells	OX40: T cell activation, proliferation and differentiation; apoptosis; cell adhesion	Activated T cells
CD135	18463, 33285, 23895, 33283, 37847	Multipotential, myelocytic mono and primitive B cell progenitors	Receptor tyrosine kinase	Pluripotent stem cells
CD137	33289, 3169	Activated T cells, FDC, mono, activated B cells, epi cells		
CD138	27390, 27329, 27362, 34164	Plasma cells, pre-B cells, epi cells, neural cells,	ECM receptor/Syndecan	Breast cancers; Plasma cells
CD139	35664	B cells, mono, gran, FDC, eryth		
CD140	48204, 49310	Fib, mesenchymal cells, plt, glial cells, chondrocytes	Cell proliferation, differentiation and survival	Stromal cells
CD141	27396, 6980	Mono, neu, plt, endo cells	Activation of protein C and initiation of protein C anti-coagulant pathway	Myeloid DC; endo cells
CD142	35807	Mono, epi, astrocytes, Schwann cells, endo cells	Initiates blood clotting	Mono; endo cells

CD	Antigen AbID	Cellular expression	Functions	Reported markers of...*
CD143	11709, 33318, 11739, 11738	Endo, epi cells, DC, neuronal cells, activated mac	Angiotensin converting enzyme	
CD144	33321, 7047	Endo cells, stem cell subset	Cell adhesion	Stem cell subsets; endo cells
CD146	33300, 25435, 24577	Endo cells, melanoma, FCD, activated T cells	Cell adhesion	Endo progenitors; activated T cells; FDC
CD147	34044, 23876, 21898, 666	Lk, eryth, plt, endo cells	Cell adhesion; T cell activation	Eryth; plt; mono; endo cells
CD148	10639	Gran, mono, DC, plt, B cells, T cells	Tyrosine phosphatase; cell growth and differentiation	
CD150	33314, 42814, 33313, 33311	T cells (up regulaed on activation), regulatory T cells, B cells, DC, endo cells	Costimulaiton; measles viral infection	Hematopoietic progenitors; T cells (with CD4+ suppressor/inducer T cells; with CD8+ cytotoxic/ suppressor T cells)
CD151	33316, 33317, 33315,	Endo cells, megaK, plt, epi cells	Essential for proper assembly of the glomerular and tubular basement membranes in kidney	Plt
CD152	33967, 33319, 49319, 19792	Activated T cells, activated B cells	Negative regulation of T cell activation	Activated T cells; endo cells
CD153	36434	Activated T cells, activated mac, activated neu, activated B cells	Costimulation of T cell activation; ligand for CD30	Activated T cells
CD154	33967, 33319, 49319, 19792	Activated T cells, activated B cells	Costimulation; ligand for CD40	Activated CD4+ T cells; Baso
CD155	3142	Mono, mac	Cell migration and adhesion; polio virus infection	Monocyte and mac
CD156a	38981	Mono, gran	Cell adhesion	Monocyte and mac; gran
CD156b	39162	Lph, mono, gran, DC, endo cells, epi cells	Cleaves transmembrane form of TNF- α and TGF-B to generate soluble forms	
CD157		Gran, mono, B cell progenitors, endo cells, T cell subset	ADP-ribosyl-cyclic ADP-ribose hydrolase activities; pre B cell growth	Mono; neu; endo cells
CD158	21564, 27954, 21566, 14825	Most NK cells, T cell subset	Most CD158 subtypes inhibit NK cell cytotoxicity; other subtypes activate NK cell cytotoxicity	
CD159a	24983	NK cells, some T cell subset	Negative regulation of NK cell activation	
CD159c		NK cells, CD8+ T cells	Activates NK cell cytotoxicity	
CD161	21651, 25905, 22516, 23624	Most NK cells, NK-T cells, memory T cells, thy	NK cell mediated cytotoxicity; induces immature thy proliferation	NK cells; T cells (with CD4+ suppressor/inducer T cells; with CD8+ cytotoxic/suppressor T cells)
CD162	19794, 19793	Mono, gran, most T cells, stem cells	Adhesion; lk rolling	Mono
CD163	15676, 17051	Mono, mac	Endocytosis	Mono and mac
CD165	3276	Lph subset, mono, immature thy, plt, epi cells	Important for adhesion of thy to thymic epi cells	Cortical thy
CD166	33404, 53442	Activated T and B cells, NK cells, mono, epi cells, fib, neurons, mesenchymal stem/progenitor cells	Adhesion; T cell activation	Activated B and T cells; stromal cells; endo cells; neuronals
CD167	37838	Epi cells, DC, inducible expression in lk	Collagen receptor	Mono
CD169	18619	Mono, T cell subset, thy subset, activated lph	Hyaluronic acid receptor; cell adhesion	Mac

CD	Antigen AbID	Cellular expression	Functions	Reported markers of...*
CD170	38582	Mac, neu, DC	Adhesion	Mac; neu
CD171	24345	T cell subset, B cell subset, DC, mono, neurons	Adhesion	Mono
CD172	34076, 34059, 33987, 53721	Mono, gran, DC, brain, stem cells	Adhesion	Potential stem cell marker; Mono
CD173	33404	Eryth (human only), stem cell subset, plt	H antigen: Is a precursor to the A and B blood group antigens (humans only).	Potential stem cell marker; eryth; plt
CD174	3359	Stem cell subset, eryth, epi cells	Blood Group Lewis y antigen	Potential stem cell marker
CD175s	54464	Erythroblasts, endo cells, epi cells	Binds CD22, Siglec-3-5 and 6; implicated in the induction of metastasis and invasiveness of tumors. Overexpressed in several carcinomas and is associated with poor prognosis.	
CD176	44859	Stem cell subset, epi cells	Thomsen Friedenreich antigen: acts as an oncofoetal antigen, with low expression in normal adult tissues but increasing to fetal levels of expression in hyperplasia or malignancy.	Pan Carcinomas
CD177	26013, 33332, 8090	Neu, Baso, NK cells, T cell subset, mono, endo cells		
CD178	16105, 27409, 18340	Activated T cells, DC, tumor cells, testis	Fas Ligand: Apoptosis induction	Activated T cells
CD179a	17245	Pro and early pre-B cells	Early B cell differentiation	
CD180	33329, 21328, 17233, 45429	B cell subset, mono, DC	LPS recognition and signaling; B cell activation	Mono; DC
CD181	38989, 38991, 8042, 10400	Neu, baso, NK cells, T cell subset, mono, endo cells	CXCR1: neutrophil chemotaxis and activation. neoangiogenesis; hematopoiesis	Neu
CD182	38998, 39007, 10401	Neu, baso, NK cells, T cell subset, mono, endo cells	CXCR2: neutrophil chemotaxis and activation. neoangiogenesis; hematopoiesis	Gran
CD183	10402	T cell subset, B cells, NK cells, mono, mac	CXCR3: T cell chemotaxis	Activated T cells
CD184	7199	T cell subset, B cells, DC, mono, endo cells	CXCR4: Cell migration; hemotopoietic progenitor cell homing; HIV-1 cell entry	Mono
CD185	10405	T cell subset, B cells, cerebellar nuurons	CXCR5: Cell migration	Cerebellar neurons
CD186		Th1 cells, B cell subset, NK cell subset	CXCR6: T cell recruiment; HIV-1 coreceptor	
CD191		Mono, mac, lph, DC, stem cells	CCR1: Leukocyte chemotaxis	Potential stem cell marker; mono
CD192	32144	Mono, B cells, activated T cells, DC	CCR2: Leukocyte chemotaxis; HIV-coreceptor	Mono; Baso; endo cells
CD193	21342, 16581, 16123	Eos, Baso, T cell subset, DC, microglia	CCR3: Leukocyte chemotaxis; HIV-1 coreceptor	Baso; DC; microglia
CD195	11466, 11465, 32048	Mono, T cell subset,	CCR5: Leukocyte chemotaxis; HIV infection	Mono
CD197	25790, 36432, 32361	T cell subset, DC	CCR7: T lymphocyte adhesion; thy regulation	Helper/inducer T cells
CD198		Mono, T cell subset, DC, HUVEC cells	Cell migration; HIV-1 coreceptor	Mono
CD199		Thy, intraepi lph, melanoma cells	Cell migration; HIV-1 coreceptor	Mono
CD200	33364, 33365, 33363, 33734	Thy, B cells, activated T cells, endo cells	Down-regulatory signal for myeloid cell fuction	Thy

CD	Antigen AbID	Cellular expression	Functions	Reported markers of...*
CD201	15604	Endo cell subset	Protein C activation	
CD202b	27852, 24859	Endo cells, stem cell subset	Angiogenesis	
CD204		Mac in cortical and medullary regions (thymus), lymph nodes, alveoli, Kupffer cells (liver), mono. Widely expressed by mac lineage cells in the spleen	LKL uptake; host defense	Mac
CD205	33367, 33368, 24042	DC, thymic epi cells	Endocytosis; enhances antigen presentation	DC
CD206	8919, 8918	Mac, mono, inflammatory dendritic epidermal cells,	Endocytosis	Monocyte and mac; DC
CD207		Langerhans, DC	Facilitates antigen recognition and uptake	DC
CD209	37220	DC subset	Antigen endocytosis and degradation; attachment of some viruses (including HIV)	DC
CD209	37220	DC subset	Antigen endocytosis and degradation; attachment of some viruses (including HIV)	DC
CD210	33405, 21478, 10778	T cells, B cells, NK cells	IL-10 receptor	Monocyte and mac
CD213a1	3772	B cells, mono, endo cells	IL-13 receptor	Mono
CD213a2	34931, 3772	B cells, mono	IL-13 receptor	
CD218a		Th1 cells, B cell subset, NK cells, monocytes, gran	Signal transduction through binding to IL-18	
CD218B	47269, 47258	NK cells, T cell subset, mono, endo cells	Signal transduction	
CD220		LI, fib, endo cells, epi cells	Insulin receptor	
CD221	8093	Lk, some non-hematopoietic cells	Signaling; cell proliferation and differentiation	
CD222	8093	Lph, mono, gran, fib	Cell adhesion; migration	
CD223	41346, 41332	Activated T cells, activated NK cells	Negative regulation of T cell expansion and homeostasis	Eryth; activated T cells
CD226	33335, 33337, 33393, 24041	T cells, NK cells, mono, plt	Activation of T cells or NK cytotoxicity	Mono
CD227	45167	Epi cells, stem cell subset, lymphocyte subset, mono	Cell adhesion and signaling	
CD229	33400, 51847, 33399, 33398	T cells, B cells, thy	Lph differentiation	
CD230	51666	Heamatopoietic and non-hematopoietic cells	Prevents apoptosis	
CD231		T-ALL cells, neurons	May be involved in cell proliferation and cell motility	Neuronals; Luekaemias - expressed in acute myelocytic leukemia cells of some patients
CD233		Eryth, kidney cell	Anion exchanger	
CD234	48194, 48195, 48196, 40821	Eryth, endo cells, epi cells, neurons, cerebellum	Chemokine decoy receptor	
CD235	51531, 42762, 6397	Eryth	Glycophorin A: Provides the cell with a large mucin like surface which may provide a barrier to cell fusion; minimizing aggregation between red blood cells in the circulation	Eryth

CD Antigen AbID		Cellular expression	Functions	Reported markers of...*
CD236	6398	Eryth, stem cell subset	Important role in regulating the stability of red cells	Stem cell subset; Eryth
CD238		Eryth, hematopoietic	Endothelin 3 conversion enzyme	Eryth
CD239	24147	Eryth, fib	Eryth differentiation and trafficking	Eryth
CD240		Eryth		Eryth
CD243	3364	Stem cell, drug resistant tumor cells	Influences uptake, tissue distribution and elimination of P-glycoprotein transported toxins and drugs	Pluripotent stem cells
CD244	51857, 54251	NK cells, T cells subset, Baso, mono	NK cell activation; NK cell-T cell interaction	NK cells
CD247	25616, 11505, 33395, 33772, 11281	T cells, NK cells	Component of CD3/TCR complex; antigen recognition an signal transduction	
CD249	24981, 25200, 25009, 36837	Epi cells, endo cells	Converts angiotensin II to angiotensin III	
CD252	7434	DC, activated B cells, endo cells, mast cells	Costimulation	DC; activated B cells
CD253	47230, 27322, 10516	Activated T cells, NK cells	Apoptosis: TRAIL or Apo 2L initiates apoptosis of tumor cells by binding to either of its receptors, DR4 or DR5	Apoptosis studies; activated B and T cells
CD254	21425, 21424, 13582	Activated T cells, stromal cells, osteoclasts	T cell-B cell and T cell-DC interaction; bone development	Stromal cells; activated T cells
CD255	21139, 21129, 21127	Widely expressed. High expression in heart placenta, lung, muscle, kidney, pancreas, and HUVEC	TWEAK: Induce apoptosis via multiple pathways in cell type specific manner; promotes proliferation and migration of endo cells as a regulator of angiogenesis	
CD256	10688	Lk, pancreatic cells, colon	T cell and B cell proliferation	
CD257	16082, 12381, 16081	Activated mono, DC	T cell and B cell growth and development	
CD258	17716, 40819	Activated T cells, activated mono	Costimulation of T cells; induces apoptosis	DC; activated T cells
CD261	34399, 18360, 8414	Activated T cells	TRAIL/Death receptor; induces apoptosis	
CD263	46861, 18346, 1674	Low expression in most cells. Negative in most tumor cells	Inhibits trail induced apoptosis	
CD264	18350, 18349, 2019	Low expression in most cells. Negative in most tumor cells	Inhibits trail induced apoptosis	
CD265	45092, 13918	DC, activated mono	Receptor for TRANCE	DC
CD266	21359	Endo cells, epi cells, keratinocytes	Receptor apoptosis and proliferation	
CD267	39124, 39006, 16230	B cells, myeloma cells	Inhibits B cell proliferation	Activated T cells
CD268	21103, 21159, 21107	DC, activated mono	Co-stimulation; inhibition	DC
CD274	28753	T cells, B cells, NK cells, DC, mac, epi cells	Co-stimulation; inhibition	DC
CD275	48567, 3774	Activated mono, mac, DC	Costimulation	DC; plasma cells; activated B cells
CD278	38319	Activated T cells, thy subset	T cell development	Activated T cells
CD279	26209, 26211, 52587	Activated T and B cells, thy subset	T cell tolerance	Activated B and T cells
CD279	51673	Mono, mac, DC, keratinocytes	Regulates TLR2 fuction	Mono; neu

CD	Antigen AbID	Cellular expression	Functions	Reported markers of...*
CD282	24996, 13553, 13464, 9101, 13463	Mono, gran, mac, DC, keratinocytes	Innate immunity to gram positive bacteria	Mono; neu
CD282	24996, 13553, 13464, 9101, 13463	Mono, gran, mac, DC, keratinocytes	Innate immunity to gram positive bacteria	Mono; neu
CD283	40593, 17264, 53424	DC, fib, epi cells	Innate immunity to viruses	DC; stromal cells
CD284	8378, 45104, 9105, 15556	Mono, mac, endo cells	Innate immunity to gram negative bacteria	Mono
CD288	45097, 53630	Lung, peripheral bolld Ik	TLR8; Role in pathogen recognition and activation of innate immunity	
CD294	53631	Highly expressed in spleen, lymph node, thymus and tonsil	TLR10: Participates in the innate immune response to microbial agents	Baso
CD295	5593	Hematopoietic cells, heart, liver, kidney, pancreatic cells	Regulates immune and inflammatory responses; induces Th2 cells, eos and basophil migration	
CD299	49862	Endo cells in liver and lymph nodes	T cell trafficking: HCV and HIV infection	Endo cells (liver and lymph nodes)
CD304	18130, 16786	DC, T cells, neurons, endo cells	Angiogenesis; dendritic cell-T cell interaction	Plasmacytoid dendritic cells
CD305	27744, 27755, 27743, 14826	T cells, B cells, NK cells, DC, mono, mac	Inhibits cellular activation and inflammation	Mono
CD307	37457	B cells	Ig receptor; possible role in B cell activation and neoplasia	Activated B cells
CD309	10975, 2349	Endo cells, primitive stem cells	Angiogenesis	Endo cells
CD312	49922	Mac, activated mono, DC, hepatocytes and lung cells	Immune and inflammatory response	Monocyte and mac; neu
CD314	35035, 39010, 39003, 36136	NK cells, T cell subset	NK activation	
CD317	14694	Plasma cells, lymphoplasmacytoid cells, stromal cells, fib	Possible role in pre-B cell growth	Pro B lph; mono; DC
CD318	1377	Hematopoietic stem cells, epi cells	May be involved in cell adhesion and cell matrix association; potential role in the regulation of anchorage versus migration or proliferation versus differentiation via its phosphorylation; possible marker for leukemia diagnosis and for immature hematopoietic stem cell subsets; belongs to the tetraspanin web involved in tumor progression and metastasis.	Pluripotent stem cells; colon and lung cancers - expression level is correlated with the metastatic ability of carcinoma cells; Possible novels for leukemia diagnosis
CD321	54252, 52647	Epi cells, endo cells, lk, plt, eryth, lung, placenta, kidney	Tight junction formation; regulation of leukocyte migration; epithelial barrier maintenance; platelet activation	
CD322	33425, 33423, 46950	HUVEC, HEV in tonsils and heart	Tight junction formation; cell polarization; lymphocyte homing	Mono; endo cells
CD324	48194, 48195, 48196, 1416	Epi cells, keratinocytes, trophoblasts, plt	Cell-cell and cell-matrix adhesion; tumor suppression; cell growth and differentiation	
CD326	49295, 8666, 48297, 8667	Epi cells, some carcinomas	Binds LAIR-1 and 2 to inhibit cellular activation and inflammation	Epi cells
CD328	38573	NK cells, T cell subset, mono, gran	Negative regulation of NK cell and T cell activity	Mono

CD	Antigen AbID	Cellular expression	Functions	Reported markers of...*
CD329	38578	Mono, neu, NK cell subset, B cells, T cells, hepatocytes	Negative regulation of immune response	Mono; gran
CD331	829	NK cells, T cell subset, mono, gran	Negative regulation of NK cell and T cell activity	Mono
CD329	38578	Widely expressed in adult and fetal tissues. Over expression in breast cancer	Limb induction; cardioskeletal, cardiomyocyte and liver development	Stromal cells
CD332	10648	Brain, liver, prostate, kidney, lung and spinal cord	Limb induction; craniofacial development	Stromal cells
CD333	10651	Brain, kidney, brain, testis in adult, samll intestine in fetus	Limb induction; craniofacial development	Stromal cells
CD334	49307, 49306, 5481	Liver, kidney, lung, pancreatic cells, lph and mac	Endoderm and skeletal muscle development; cancer metastasis	Stromal cells
CD335	54002	NK cells	NK cell activation	
CD336	48562, 48561, 25911	Activated NK cells	NK cell activation	
CD337	48565, 48564, 26250	NK cells	NK cell activation	
CD339	7771	Widely expressed in adult and fetal cells	NK cell activation	Stromal cells
CD340	24996, 13553, 13464, 9101, 13463		Essential component of a neuiregulin-receptor complex	Cancers - detectable in a proportion of breast and other adenocarcnomas, as well as transitional cell carcinomas. In breast cancer, expression determined by immunohistochemistry is associated with poor prognosis.
CD344	12992	Ubiquitous expression. Highly expressed in adult heart, skeletal muscle, ovary, fetal kidney	Frizzled 4: Receptor for Wnt proteins; may be involved in transduction and intercellular transmission of polarity information during tissue morphogenesis; plays a critical role in retinal angiogenesis	
CD349	13000	Highly expressed in brain, testis, eye, skeletal muscle, kidney	Frizzled 9: Receptor for Wnt proteins; may be involved in transduction and intercellular transmission of polarity information during tissue morphogenesis and/or in differentiated tissues	
CD350	12991	Placenta, fetal kidney, fetal lung, fetal brain	Frizzled 10: Receptor for Wnt proteins; may be involved in transduction and intercellular transmission of polarity information during tissue morphogenesis and/or in differentiated tissues	



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