Human CD antigens

| Hi | ıma | n | CD and | tidens | | | | | | | |
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| CD1a | Alternate names T6, Leu-6, R4, HTA1 R1, T6 | Molec. mass 49 kDa 45 kDa | Expression Cortical thymocytes, Langerhans cells, DCs Cortical thymocytes, Langerhans cells, DCs | | Ligand/receptor CD1-restricted TCR CD1-restricted TCR | Antigen CD66b | Alternate names CD67, CGM6, NCA-95, CEACAM8 | Molec. mass 95–100 kDa | Expression Granulocytes | Function Adhesion, neutrophil activation | Ligand/receptor |
| CD1c | BDCA-1, R7, T6, M241 R3 | 43 kDa 49 kDa | | Antigen presentation with $\beta\text{-}2\text{-microglobin}$ Antigen presentation with $\beta\text{-}2\text{-microglobin}$ | | CD66c | NCA, CEACAM6 CGM1, CEACAM3 | 90 kDa 35 kDa | Neutrophils, colon carcinoma Granulocytes | Adhesion Putative role in cell adhesion and signaling | CD62E, CD66a, CD66b, CD66c, CD66e |
| | R4 T11, LFA-2, SRBC-R T11-3 | 28 kDa 45–58 kDa 50 kDa | DCs Thymocytes, T cells, NK cells Tall cells | Antigen presentation with β -2-microglobin Adhesion, T cell activation Activation-dependent form of CD2 | | CD66e CD66f | CEA, CEACAM5 PSG, Sp-1 | | Colon epithelial cells, colon cancer Pregnancy-specific glycoprotein, placental syncytiotrophoblasts, fetal liver | Adhesion Immune regulation, protection of fetus from maternal immune system | CD66a, CD66c, CD66e |
| CD3 δ | T3 | 20-30 kDa 20 kDa | T cells, thymocyte subsets Thymocytes, T cell subsets | With TCR, TCR surface expression/signal transduction With TCR, TCR surface expression/signal transduction | - | CD68 | Macrosialin, GP110 | 110 kDa | Intracellularly in monocytes, macrophages, neutrophils, basophils, large lymphocytes, mast cells, DCs, myeloid progenitors, liver | Unknown | Oxidized LDL |
| CD4 CD5 | T4, Leu3a T1, Tp67, Leu1, Ly-1 | 55 kDa 67 kDa | Thymocyte subsets, T cell subsets, monocytes, macrophages Thymocytes, T cells, B cell subsets, B cell chronic lymphocytic leukemia | MHC class II co-receptor, HIV receptor, T cell differentiation/activation TCR or BCR signaling, T and B cell interaction | MHC class II, HIV | CD69 | Activation inducer marker (AIM), very early activation (VEA) Ki-24, CD27L, TNFSF7 | 75, 95, 170 | Tact, Bact, and NKact cells; granulocytesact, resting BM memory T cells, thymocytes, Langerhans DCs Activated T and B cells, and macrophages | Unknown, early activation antigen, signal transduction T and B cell co-stimulation | CD27 |
| CD6 CD7 | T12 Leu9, gp40 | 100–130 kDa 40 kDa | Thymocytes, T cells, B cell subsets Hematopoietic progenitors, thymocytes, T cells, NK cells | T cell differentiation/co-stimulation T cell co-stimulation; marker for T cell acute lymphatic leukemia and pluripotent stem | CD166 K12 in epithelial cells | CD71 | Transferrin receptor (TFR), T9 Lyb-2 | kDa 95 kDa 42 kDa | Proliferating cells, reticulocytes, erythroid precursors B cells, follicular DCs | Iron uptake Unknown, maybe CD5, CD100 receptor, | Transferrin |
| CD8a | T8, Leu-2, Ly-2 | 32-34 kDa | Thymocyte subsets, T cell subsets, NK cells | cell leukemias MHC class I co-receptor, receptor for some mutated HIV-1, T cell differentiation/activation | MHC class I | CD73 | NT5E, ecto-5'-nucleotidase | | B cell subsets, T cell subsets B cells, macrophages, monocytes, | B cell proliferation Ecto-5'-nucleotidase, nucleoside uptake, T cell co-stimulation, lymphocyte adhesion MHC class II traffic and function, binding to | AMP |
| CD8b | Lyt-3 p24, MRP-1, DRAP-27 | 32–34 kDa 22–27 kDa | Thymocyte subsets, T cell subsets Pre-B cells, eosinophils, basophils, | MHC class I co-receptor, receptor for some mutated HIV-1, T cell differentiation/activation Cellular adhesion and migration, | MHC class I PSG17, TGF-α | | II histocompatibility antigen γ chain, HLA-DR antigens- associated invariant chain | 43 kDa | MHC class II-positive cells | MIF, maturation of follicular B cells | MIF |
| CD10 | CALLA, NEP, gp100 | 100 kDa | platelets, Tacl cells, brain and peripheral nerves, vascular smooth muscle B and T cell precursors, bone marrow stromal cells | mediates platelet aggregation Zinc-binding metalloproteinase, B cell development | - | CD75 CD75s | Lactosamines Sialylated CD75 Gb3, Pk blood group | 67, 85 kDa - | B cell subsets, epithelial cells B cell subsets, T cell subsets Germinal center B cells, Burkitt | Lactosamines α-2,6-sialylated lactosamines (previously CDw75 and CDw76) Neutral glycosphingolipid | Shiga toxin, |
| | LFA-1, integrin L | 180 kDa | Lymphocytes, granulocytes, monocytes, macrophages | CD11a/CD18 receptor for ICAM-1, -2, and -3; intercellular adhesion; T cell costimulation | CD50, CD54, CD102 | CD79a | lg, MB-1 | 40-45 kDa | lymphomas ^{lugh} , follicular lymphomas ^{low} B cells | (Galα1->4Galβ1->4Galcβ1->ceramide), binds Shiga toxin, crosslinking induces apoptosis Component of BCR, BCR surface | verotoxin 1 |
| | Mac-1, integrin M p150, 95, CR4, integrin X, LeuM5 | 170 kDa 150 kDa | Myeloid cells, NK cells DCs, macrophages, monocytes, granulocytes, NK cells, T and B cell subsets, | iC3 adhesion | CD54, CD102, iC3b, fibrinogen, CD23 CD54, iC3b, fibrinogen, CD23 | CD79b | lgβ, B29 B7, B7-1, BB1 | 37 kDa 60 kDa | B cells Back cells, Taid cells, macrophages, DCs | expression, and signal transduction Component of BCR, BCR surface expression, and signal transduction T cell co-stimulation | - CD28, CD152 |
| DD12 DD13 | Aminopeptidase N, APN, GP150 | 90–120 KDa 150–170 kDa | leukemia cells Monocytes, granulocytes, platelets Myelomonocytic cells | Unknown Zinc-binding metalloproteinase, antigen processing, receptor for coronavirus strains | - Coronavirus receptor | CD81 | TAPA-1 R2, 4F9, C33, Kai1 | 26 kDa 50–53 kDa | T, B, and NK cells; thymocytes, DCs, endothelial cells, fibroblasts, neuroblastomas, melanomas | Complex with CD19 and CD21, signaling, T cell co-stimulation Unknown | |
| CD14 CD15 | LPS-R 3-FAL, X-hapten, Lewis-X, Lex antigen, SSEA-1 | 53–55 kDa | Monocytes, macrophages, Langerhans cells, granulocytes, myelomonocytic cells Granulocytes, neutrophils, eosinophils, monocytes, stem cells | Innate response via LPS binding and TLR signaling Terminal trisaccharide expressed on glycolipids and many cell-surface | CD62E, selectins | CD83 CD84 | HB15 GR6, SLAMF5 | 43 kDa 73 kDa | Leukocytes, fibroblasts, epithelial cells, endothelial cells Bact cells, Tact cells, DCs, Langerhans cells Monocytes, platelets, B cells, T cell subsets, | Unknown | - |
| CD15s | Sialyl-Lewis X | - | Neutrophils, eosinophils, monocytes, memory helper T cells, T ^{Nat} cells, B cells, NK cells, high endothelial venule | glycoproteins, cell adhesion Adhesion | CD62L, CD62P | CD85a CD85b | LIR3, ILT5, HL9, LILRB3 ILT8, LILRA6 | 110 kDa - | macrophage subsets Monocytes NK cells, T cell subsets, monocytes, macrophages, DCs, B cells | Signaling through FCg Activation of NK cell—mediated cytotoxicity, association with FcRy | - |
| CD15u CD16a | Sulfated-Lewis X FcgammaRIIIA | – 50–65 kDa | Myeloid subsets | Sulfated CD15, cell adhesion Component of low-affinity Fc receptor, phagocytosis, and antibody-dependent cell- | - IgG | CD85c | LIR8, LILRB5 LIR2, ILT4, MIR10, ILT8 | - 110 kDa | NK cells, T cell subsets, monocytes, macrophages, DCs, B cells NK cells, monocytes, macrophages | Activation of NK cell—mediated cytotoxicity, association with FcRy Suppression of NK cell—mediated cytotoxicity | - |
| CD16b | FcgammaRIIIB | 48 kDa | Neutrophils | mediated cytotoxicity Component of low-affinity Fc receptor, phagocytosis, and antibody-dependent cell- mediated cytotoxicity | - | Cd85e | ILT6, LIR4, LILRA3 | - | B and NK cells Monocytes, neutrophils, macrophages, DCs | Activation of NK cell—mediated cytotoxicity, association with FcRy Activation of NK cell—mediated cytotoxicity, | |
| CD17 CD18 | Lactosylceramide Integrin β2, ITGB2 | 95 kDa | Neutrophils, monocytes, platelets Broad, all leukocytes | Lactosylceramide, a cell-surface glycosphingolipid Heterodimer with CD11a, b, or c; adhesion | - CD50, CD54, CD102, iC3b, | CD85g CD85h CD85i | LIR4, ILT7 LIR7, ILT1, LILRA2 LIR6, LILRA1 | 5 kDa 53 kDa | Plasmacytoid DCs Monocytes T cell subsets, monocytes, macrophages, | association with FcRy Signaling for cytokine production Activation of NK cell—mediated cytotoxicity Activation of NK cell—mediated cytotoxicity. | |
| | B1, Bp35, Ly-44 | 95 kDa 33–37 kDa | B cells, follicular DCs B cells, T cell subsets ^{tow} | Complex with CD21 and CD81; BCR co-receptor; B cell activation/differentiation B cell activation | fibrinogen HMG-box protein | CD85j CD85k | LIR1, ILT2, MIR7 LIR5, ILT3, HM18, LILRB4 | 110 kDa 60 kDa | DCs, B cells NK cells, DCs, monocytes, T cells DCs, macrophages, monocytes, | association with FcRy Inhibitory receptor for MHC class I antigens Putative inhibitory receptor | |
| CD21 | C3DR, CR2, EBV-R | 110, 145 kDa | Mature B cells, follicular dendritic cells, T cell subsets | Complement C36 and EBV receptor, complex with CD19 and CD81, BCR co- receptor | C3d, CD23, EBV | CD85I | ILT9, LILRP1 | - | plasmacytoid DCs NK cells, T cell subsets, monocytes, macrophages, DCs, B cells NK cells, T cell subsets, monocytes, | Association with FcRy Association with FcRy | - |
| CD22 | BL-CAM, Siglec-2, Leu-14 | 150 kDa | Mature B cells | Binds sialoconjugates, cell adhesion, B cell and monocyte interactions, B and T cell interactions | α2,6-linked sialic acid glycans on proteins, CD22, B cell receptor IgM | CD86 CD87 | B70, B7-2 Urokinase plasminogen activator (uPA), PLAUR | 80 kDa 39–66 kDa | macrophages, DCs, B cells Monocytes, DCs, Bact cells, Tiet cells Granulocytes, monocytes, macrophages, T cells, NK cells, wide variety of | T cell co-stimulation Inflammatory cell invasion, metastasis | CD28, CD152 uPA, vitronectin |
| CD23 | BA-1, HSA (heat-stable antigen) | 45 kDa 35–45 kDa | B cells, macrophages ^{act} , follicular DCs, platelets, T cell subsets, eosinophils Thymocytes, erythrocytes, peripheral lymphocytes, myeloid, B cells, granulocytes | CD19-CD21-CD81 receptor, IgE low-affinity receptor, signal transduction GPI-linked receptor for signal transduction | IgE, CD21, CD11b, CD11c CD62P | CD88 | C5aR | 43 kDa | nonhematopoietic cell types Polymorphonuclear leukocytes, macrophages, mast cells | Granulocyte activation | C5a receptor |
| CD25 CD26 | Tac, p55 Dipeptidyl peptidase IV (DD | 55 kDa 110 kDa | Activated B and T cells, macrophages, lymphocyte progenitors, monocytes Activated B and T cells, macrophages, | IL-2Rα, with IL-2Rβ and IL-2Rγ to form high- affinity complex for IL-2, signal transduction Peptidase role, T cell co-stimulation/ | FAP, HIV Tat, | CD89 | FcaR Thy-1 | 55–75 kDa 25–35 kDa | Monocytes, macrophages, granulocytes, neutrophils, B cell subsets, T cell subsets CD34+ hematopoietic subsets, neurons | Phagocytosis, degranulation, respiratory burst Hematopoietic stem cell and neuron differentiation, adhesion, signal transduction | IgA1, IgA2 CD11b/CD18 |
| CD27 CD28 | IV), Ta1 S152, S152. LPFS2, T14, TNFRSF7, Tp55 Tp44, T44 | 50–55 kDa 44 kDa | thymocyte subsets Medullary thymocytes, T cells, B cell subsets, NK cell subsets Most T cells, thymocytes, plasma cells | activation, HIV entry, glucose metabolism CD70 receptor, co-stimulator for B and T cells T cell co-stimulation | collagen, CD45 CD70 CD80, CD86 | CD91 CD92 | LPR1, A2MR GR | 85, 515 kDa 70 kDa | Monocytes, macrophages, neurons, fibroblasts, DCs Neutrophils, monocytes, platelets, endothelial cells, fibroblasts | Ligand clearance Unknown | a-2-macroglobulir LDLs, HSP96 Choline |
| CD29 CD30 | Integrin β1, platelet GPIIa, MSK12, VLAB Ki-1, Ber-H2, TNFRSF8 | 130 kDa | Lymphocytes, monocytes, granulocytes, platelets, mast cells, fibroblasts, endothelial cells Baci, Taci, and NKaci cells; Reed–Sternberg | | CD106, MAdCAM-1, ECM proteins | CD93 CD94 | GR11 KP43, KLRD1 | 120 kDa 43 kDa | Neutrophils, monocytes, endothelial cells NK cells, T cell subsets | Unknown Complex with NKG2, inhibition of NK function | C1q, MBL2, SPA |
| | | | cells, anaplastic large-cell lymphoma | apoptosis, adhesion molecule mediating both leukocyte—endothelial and endothelial—endothelial interactions | | CD95 CD96 CD97 CD98 | Apo-1, Fas, TNFRSF6 TACTILE GR1 | 45 kDa 160 kDa 75–85 kDa | Lymphocytes ^{act} , monocytes, neutrophils NK cells, T ^{act} cells B ^{act} cells, T ^{act} cells, monocytes, granulocytes T, B, and NK cells; granulocytes, all human | | CD178 (FasL) CD155 CD55 |
| CD31 | Platelet endothelial cell adhesion molecule (PECAM-1), endoCAM FcgRII | 40 kDa | Monocytes, platelets, granulocytes, endothelial cells, lymphocyte subsets Monocytes, granulocytes, B cells, platelets | Adhesion, signal transduction Low-affinity Fc receptor for aggregated Ig | CD31, CD38 Polymeric or | CD99 CD99R | 4F2, CD98hc MIC2, E2 E2 | 40, 80 kDa 32 kDa 32 kDa | cell lines Peripheral blood lymphocytes, thymocytes T, NK, and myeloid cells | | - |
| CD33 | gp67, Siglec-3 MY10, mucosialin, gp105- | 67 kDa 105–120 kDa | Myeloid progenitors, monocytes, granulocytes, DCs, mast cells Hematopoietic precursors, capillary | and immune complexes Cell adhesion, binds sialoconjugates Stem cell marker, adhesion | aggregated IgG Sialic acid CD62L | CD100 CD101 | GR3 V7, p126 | 150 kDa 120 kDa | Hematopoietic cells except immature bone marrow cells, RBCs, and platelets Monocytes, granulocytes, DCs, T cells | T cell activation | CD72, plexin B1 |
| CD35 | 120 Complement receptor 1 (CR1) | 250 kDa | endothelial cells, embryonic fibroblasts Erythrocytes, B cells, monocytes, neutrophils, eosinophils, follicular dendritic | Complement receptor 1, adhesion, phagocytosis | C3b, C4b | CD102 CD103 | ICAM-2 HML-1, a6, integrin E β4 integrin | 55–65 kDa 25, 150 kDa 220 kDa | Leukocytes, endothelial cells Intra-epithelial cells, lymphocytesact, lymphocyte subsets, Treg cells Epithelial cells, Schwann cells, | Co-stimulation Complex with integrin β7, binds E-cadherin, lymphocyte homing/retention Complex with integrin 6 (CD49f), cell | CD11a/CD18 E-cadherin |
| CD36 | GPIV, GPIIIb, fatty acid translocase, SCARB3, GP88 | 88 kDa | cells, T cell subsets Platelets, monocytes, macrophages, endothelial cells, early erythrocytes | ECM receptor, adhesion, phagocytosis | Collagen (I, IV, V), thrombospondin, oxidized LDL | CD105 | Endoglin VCAM-1 | 95 kDa 110 kDa | keratinocytes, some tumor cells Endothelial cells, bone marrow subsets, macrophages ^{act} Activated endothelial cells, follicular DCs | adhesion, differentiation, metastasis Cellular response to TGF-β1, adhesion, embryonic angiogenesis Leukocyte adhesion, migration, | TGFβ1, TGFβ3 |
| CD37 CD38 | gp40-52, TSPAN26 T10, cyclic ADP ribose hydrolase | 40–52 kDa 45 kDa | Mature B cells, mature T cells, myeloid cells Variable levels on majority of hematopoietic cells; high expression on plasma cells, early B and T cells, activated T cells, and | | - CD31, hyaluronic acid | CD107a | LAMP-1 | 110 kDa | Activated platelets, T cells, endothelial cells, metastatic tumors | co-stimulation Lysosomal membrane protein, metastasis | CD49d/β7 Galectin-3, CD62l CD62E, CD62P |
| CD39 | ENTPD-1, Gp80, EC3.6.1.5 | 78 kDa | germinal center B cells B cells, NK cells, macrophages, Langerhans cells, DCs, Treg cells, T ^{scl} cell subset | Ectoenzyme to remove extracellular ATP, support immune responses to anti-inflammatory conditions | АТР | CD107b | LAMP-2 GR2, John Milton Hagen blood group antigen | 120 kDa 80 kDa | Activated platelets, T cells, endothelial cells, metastatic tumors Erythrocytes, lymphoblasts, resting lymphoblasts ^{low} | Lysosomal membrane protein Unknown | Galectin-3, CD62l CD62E, CD62P CD232 |
| CD40 CD41 | Bp50, TNFRSF5 GPIIb, Ilb integrin, ITGA2B | | B cells, macrophages, dendritic cells, basal epithelial cells Platelets, megakaryocytes | B cell differentiation/co-stimulation, isotype switching, rescues B cells from apoptosis Heterodimer with CD61; binding of | Vitronectin, | CD109 CD110 | Platelet activation factor, GR56 TPO-R, C-mpl | 170 kDa 82-84 kDa | T ^{act} cells, platelets, CD34 ⁺ subsets, endothelial cells Megakaryocytes, platelets, some CD34 ⁺ stem cells ^{low} | Unknown Megakaryocyte progenitor cell growth/differentiation | TGF-β Thrombopoietin |
| CD42a | Glycoprotein IX, GP9 | 125 kDa, GPIIbb: 22 kDa 22 kDa | Platelets, megakaryocytes | fibrinogen, fibronectin, vWF, and thrombospondin; platelet activation and aggregation Complex with CD42b, c, and d; receptor | fibrinogen, fibronectin, vWF, thrombospondin vWF, thrombin | CD111 CD112 | PRR1, Nectin-1 PRR2, Nectin-2 | 64-72 kDa 64-72 kDa | Stem cell subsets, macrophages, neutrophils Monocytes, neutrophils, CD34* subsets, | Intercellular adhesion Adhesion | CD112, CD113, CD155, nectin-4 CD111, CD113, |
| CD42b | GPlb | 145 kDa | Platelets, megakaryocytes | for vWF and thrombin; platelet adhesion to sub-endothelial matrices Complex with CD42a, c, and d; binds to vWF and thrombin; platelet | vWF, thrombin | CD113 | PVRL3, Nectin3 | 83 kDa | megakaryocytes, endothelial cells, epithelial cells Testis, placenta | Adhesion molecule that interacts with afadin | CD155 CD111, CD112, CD155 |
| CD42c CD42d CD43 | GPIbβ gpV Leukosialin, sialophorin | 24 kDa 82 kDa 115–135 kDa | Platelets, megakaryocytes Platelets, megakaryocytes Leukocytes except resting B cells; | adhesion/activation Complex with CD42a, b, d Complex with CD42a–c Inhibition of T cell interaction, adhesion | vWF, thrombin vWF, thrombin CD54, hyaluronic | CD114 CD115 | GCSFR MCSFR, c-fms | 150 kDa 150 kDa | Myeloid progenitors, granulocytes, monocytes Monocytes, macrophages, monocytic progenitors | Myeloid differentiation/proliferation Monocytic differentiation/proliferation | G-CSF M-CSF |
| CD44 | H-CAM, Pgp-1, Hermes antigen, lymphocyte | 80-95 kDa | platelets ^{low} Hematopoietic and nonhematopoietic cells except platelets; hepatocytes, testis | | acid Hyaluronin, osteopontin, | CD116 CD117 | GMCSFR c-kit, SCFR | 70-85 kDa 145 kDa | Monocytes, neutrophils, eosinophils, endothelium Hematopoietic progenitors, mast cells | Association with CD131, myeloid differentiation/proliferation Hematopoietic progenitor | GM-CSF SCF |
| CD44std | homing receptor, ECM-III, hyaluronate receptor, HUTCH-1 CD44 variant 1–10 | - 33 | Heterogeneous expression on CD44 | Adhesion, metastasis | fibronectin Hyaluronin, | CD118 | LIFR, gp190 | 190 kDa | Epithelial cells in adults and embryos | development/differentiation Membrane-bound involved in signal transduction; soluble form inhibits activity of LIF | LIF |
| CD44var | CD44 variant 1–10 | - | variants; constitutive expression on epithelial cells, monocytes; upregulated on activated leukocytes Heterogeneous expression; constitutive | Adhesion, metastasis | osteopontin, fibronectin Hyaluronin | CD119 CD120a CD120b | TNFR-I, p55 TNFR-II, p75 | 90–100 kDa 50–60 kDa 75–85 kDa | Macrophages, monocytes, B cells, T cells, NK cells, neutrophils, endothelial cells Hematopoietic and nonhematopoietic cells Hematopoietic and nonhematopoietic cells | Complexes with IFN-yR, with IFN-y AF-1, host defense Signal transduction Signal transduction | TNF, TNFβ TNF, TNFβ |
| CD44var | CD44 variant 1–10 | - | expression on epithelial cells, monocytes, and leukocytes ^{act} Heterogeneous expression; constitutive expression on epithelial cells, monocytes, | Adhesion, metastasis | Hyaluronin | CD121a CD121b | IL-1R type I IL-1R, type II | 80 kDa 60-70 kDa | Thymocytes, T cells B cells, macrophages, monocytes, T cell subsets | Signaling Negative signals | IL-1, IL-1β, IL-1R IL-1, IL-1β, IL-1R |
| CD44var (v7–v8) | CD44 variant 1–10 | | and leukocytesect Heterogeneous expression; constitutive expression on epithelial cells, monocytes, and leukocytesect | Adhesion, metastasis | Hyaluronin | CD122 CD123 | IL-2Rβ IL-3R | 75 kDa 70 kDa | NK cells, T cells, B cells, monocytes Lymphocyte subsets, basophils, hematopoietic progenitors, macrophages, DCs, megakaryocytes, plasmacytoid DCs | Signal transduction Complex with CD131, signal transduction | IL-2, IL-15 IL-3 |
| | CD44 variant 1–10 | 700 | Heterogeneous expression; constitutive expression on epithelial cells, monocytes, and leukocytes ^{set} | Adhesion, metastasis | Hyaluronin | CD124 CD125 | IL-4R IL-5R | 60 kDa | Lymphocytes'ow, monocytes, hematopoietic precursors, fibroblasts, epithelial cells Eosinophils, basophils | Complex with CD132 or CD213a, T cell growth/differentiation Complex with CD131, signal transduction | IL-4, IL-13 |
| | CD44 variant 1–10 CD44 variant 1–10 | | Heterogeneous expression; constitutive expression on epithelial cells, monocytes, and leukocytes ^{act} Heterogeneous expression; constitutive | Adhesion, metastasis Adhesion, metastasis | Hyaluronin Hyaluronin | CD126 | IL-7R | 80 kDa 65–75 kDa | T cells, B ^{act} cells, macrophages, granulocytes, fibroblasts, epithelial cells Bone marrow lymphoid precursors, pro-B cells, mature T cells, monocytes | Complex with CD130, signal transduction Complex with CD132, B and T cell development | IL-6 |
| CD44 (v7) | CD44 variant 1–10 | | expression on epithelial cells, monocytes, and leukocytes ^{set} Heterogeneous expression; constitutive expression on epithelial cells, monocytes, | Adhesion, metastasis | Hyaluronin | CD128 CD130 CD131 | IL-8R IL-6Rβ, gp130 Common β | 58-67 kDa 130 kDa 140 kDa | Bact cells, plasma cells, leukocytes(maj) ^{low} , endothelial cells Monocytes, granulocytes, early B cells | Signal transduction Complex with a subunits of IL-3R, IL-5R, | Oncostatin M, IL-6, LIF |
| CD45 | LCA, protein tyrosine phosphatase receptor type C200 (PTPRC) | 180-240 kDa | and leukocytes ^{act} Hematopoietic cells, multiple isoforms from alternative splicing | Tyrosine phosphatase, enhanced TCR and BCR signals | - | CD132 | Common y | 64 kDa | T, B, and NK cells; monocytes, granulocytes | and GM-CSFR; signal transduction Subunit of IL-2R, IL-4R, IL-7R, IL-9R, and IL-15R; signal transduction | |
| CD45RA | B220 gp220 T200 | | B cells, T cell subsets B cells, naïve T cells, monocytes B cells, T cell subsets, monocytes, | Protein tyrosine phosphatase receptor Exon A isoforms of CD45 Exon B isoforms of CD45 | - | CD133 | AC133, prominin-like 1 OX-40 | 120 kDa 48-50 kDa | Hematopoietic stem cell subsets, epithelial cells, endothelial cells, leukemias, tumor cells Tact cells | Unknown T cell activation, differentiation, apoptosis | - CD252 |
| CD45RC CD45R0 | gp180, UCHL1 | 190–220 kDa 180 kDa | macrophages, granulocytes B cells, T cell subsets, NK cells Tact cells, memory T cells, B cell subsets, monocytes, macrophages, granulocytes | Exon C isoforms of CD45 Isoform of CD45 lacking A, B, and C exons | - CD22 | CD135 | Flt3/Flk2 MSP-R, RON | 130–150 kDa 180 kDa | Myelomonocytic, primitive B progenitors, mDCs Epithelial cells, CNS, PNS, hematopoietic subsets | Tyrosine kinase, early lymphocyte development Migration, morphological change and proliferation of different target cells | FLT3 ligand MSP, HGF1 |
| CD46 CD47 | Membrane cofactor protein (MCP) IAP, MER6, OA3 | 56, 66 kDa 47–52 kDa | Hematopoietic and nonhematopoietic nucleated cells Hematopoietic cells, epithelial cells, | Membrane cofactor protein, degradation by Factor I Leukocyte adhesion, migration, activation, thrombospondin receptor | C3b, C4b, measles virus receptor Thrombospondin | CD137 CD138 | 4-1BB Syndecan-1 | 30 kDa 80–150 kDa | IJ ^{act} , T, and B cells; DCs, macrophages Plasma cells, pre-B cells, basolateral surface of epithelial cells, neurons | T cell co-stimulation Cell morphology, adhesion | 4-1BB ligand ECM |
| CD47R CD48 | MEM-133 Blast-1, BCM1, Sgp-60, | 120 kDa 45 kDa | New designation for CDw149; similar distribution as CD47 but dimmer Broad, most leukocytes; absent on | - GPI-linked receptor, adhesion, activation | CD2 (low-affinity), | CD139 CD140a | PDGFRa | 228, 229 kDa 180 kDa | B cells, monocytes, granulocytes, erythrocytes ^{low} , follicular DCs Stromal cells, some endothelial cells | Unknown Signal transduction | PDGF-A, PDGF-B, PDGF-C |
| | SLAMF2 VLA-1, integrin 1 VLA-2, integrin 2 | 200 kDa 160 kDa | granulocytes, erythrocytes, and platelets Activated T cells, monocytes, neuronal cells, smooth muscle B cells, monocytes, platelets, | Adhesion; CD49a/CD29 binds collagen and laminin Adhesion; CD49b/CD29 binds collagen | CD244 Collagen, laminin Collagen, laminin | CD140b CD141 | PDGFRβ Thrombomodulin Tissue factor | 180 kDa 105 kDa 45–47 kDa | Stromal cells, some endothelial cells Monocytes, neutrophils, endothelial cells, smooth muscle cells, DC subset Monocytes, endothelial cells, keratinocytes, | Signal transduction Initiation of protein C anticoagulant signal Binding of clotting factor VIIa, initiator | PDGF-B Thrombin Factor VIIa |
| CD49c | VLA-3, integrin 3 | 125 kDa | megakaryocytes; neuronal, epithelial, and endothelial cells; osteoclasts Most adherent cells, B cell lymphoma | and laminin Adhesion; CD49c/CD29 binds laminin, fibronectin, and collagen | Collagen, laminin, fibronectin | CD142 | Angiotensin-converting enzyme (ACE) | | epithelial cells, epithelial cells, neurons, fibroblasts, activated macrophages | of clotting Angiotensin-converting enzyme, angiotensin II, and bradykinin metabolism | |
| | VLA-4, integrin 4 VLA-5, integrin 5 | 150 kDa 25, 135 kDa | T, B, and NK cells; thymocytes, monocytes, eosinophils, mast cells, DCs Thymocytes, T cells, monocytes, platelets, | Adhesion; CD49d/CD29 binds fibronectin, CD106 (VCAM-1), and MAdCAM-1 | CD106, fibronectin, MAdCAM-1 Fibronectin | CD144 CD145 | VE-cadherin, cadherin-5 | 130 kDa 25, 90, 110 kDa | Endothelial cells, stem cells Endothelial cells, some stromal cells | Adhesion – | Homotypic binding CD144, β-catenin – |
| CD49f | VLA-6, integrin 6 | 25, 125 kDa | early and B ^{act} cells Memory T cells, thymocytes, monocytes, platelets, megakaryocytes, epithelial and endothelial cells | Adhesion, CD49f/CD29 binds laminin | Laminin, merosin | CD146 CD147 | MUC18, S-endo Neurothelin, basoglin, | 130 kDa 55–65 kDa | Endothelial cells, melanomas, follicular DCs, Tact cells Leukocytes, erythrocytes, platelets, and other cells | Adhesion, T cell activation, | Netrin-1 CD62E |
| CD50 CD51 | ICAM-3 Vitronectin receptor, | 130 kDa 24, 125 kDa | Thymocytes, T cells, B cells, monocytes, granulocytes Platelets, endothelial cells, osteoblasts, | Adhesion, co-stimulation, binds integrin CD11a/CD18 Adhesion; CD51/CD61 binds vitronectin, | CD11a/CD18, integrin d/CD18, CD209 Vitronectin, | CD148 CD150 | PTPRJ, PTP-eta SLAM | 240–260 kDa 75–95 kDa | endothelial cells Granulocytes, monocytes, DCs, Tiet cells T cell subsets (high upon activation); B, DC, and endothelial cells | thymocyte cycling Tyrosine phosphatase receptor type III Co-stimulation, proliferation, Ig production, measles virus receptor, T and B cell | - CD150 |
| CD52 | integrin V Cambridge pathology antigen 1 (CAMPATH-1), | 21–28 kDa | melanomas, megakaryocytes Thymocytes, T cells, B cells (not plasma cells), monocytes, macrophages, Treg cells | vWF, fibrinogen, and thrombospondin Unknown function | vWF, fibrinogen, thrombospondin Siglec-10 | CD151 | PETA-3 | 32 kDa 33 kDa | Endothelial cells, megakaryocytes, platelets, epithelial cells Taxt and Bact cells, Treg cells | activation Adhesion Negative regulation of T cell co-stimulation | α3β1, α6β1 CD80, CD86 |
| | HE5 OX-44, TSPAN25 ICAM-1 | 35–42 kDa 75–115 kDa | Leukocytes, DCs, osteoblasts, osteoclasts Hematopoietic and nonhematopoietic cells | Unknown, maybe signal transduction Receptor for CD11a/CD18 (LFA-1), CD11b/ | - CD11a/CD18, | CD153 CD154 CD155 | CD30L CD40L, gp39, TRAP Polio virus receptor (PVR) | 40 kDa 32–39 kDa 80–90 kDa | Neutrophils, B cells, T ^{act} cells, macrophages T ^{act} cells Monocytes, macrophages, | • | CD30 CD40 |
| CD55 | DAF, decay accelerating factor | 60-70 kDa | Hematopoietic and nonhematopoietic cells | CD18 (Mac-1), and rhinovirus; intracellular adhesion Decay accelerating factor (DAF), binds C3b, complement regulation | CD11b/CD18, rhinovirus C3b, C4b, CD97, echovirus, coxsackie | CD156a CD156b | ADAM8 TACE/ADAM 17 | 69 kDa 100 kDa | CD34+ thymocytes Neutrophils, monocytes Broad | Leukocyte extravasation Cleavage of membrane proteins (TNF, TGF) to generate soluble forms | - - |
| CD56 | NCAM, Leu-19, NKH-1 | 135–220 kDa | NK cells, NKT cells, neurons, some large granular lymphocyte leukemias, myeloid leukemias | Adhesion | B virus Chondroitin sulfate proteoglycans | CD156c | ADAM10 | 98 kDa | Lymphoid organs, peripheral blood leukocytes, cartilage, chondrocytes, fetal liver | Proteolytic cleavage of cell-surface molecules including Notch, TNF, APP, and ephrin-A2 | - |
| CD57 CD58 | HNK-1, Leu-7 LFA-3 | 110 kDa 55–70 kDa | NK cells; subsets of T cells, B cells, and monocytes Hematopoietic, nonhematopoietic cells | Oligosaccharide, found on many cell- surface glycoproteins Leukocyte function—associated antigen-3 (LFA-3), binds CD2, adhesion molecule | CD62L, CD62P | CD157 | p58.1 | 42-45 kDa 50-58 kDa | Granulocytes, monocytes, bone marrow stromal cells, vascular endothelial cells, follicular dendritic cells NK and T cell subsets | ADP-ribosyl cyclase and ADP-ribose hydrolase activities, pre-B cell growth Inhibition of NK cell cytolytic activity, | NAD HLA-C |
| | Protectin, H19, 1F-5Ag, HRF, MAC-inhibitor protein, MAC-IP, membrane inhibitor of reactive lysis, MIRI | 19 kDa | Hematopoietic, nonhematopoietic cells | (LFA-3), binds CD2, adhesion molecule Blocking of assembly of membrane attack complex | C8, C9 | CD158b | p58.2 KIR2DL3, p58.2 | 50–58 kDa 50–58 kDa | NK and T cell subsets NK and T cell subsets | MHC class I–specific NK receptor Inhibition of NK cell cytolytic activity, MHC class I–specific NK receptor Inhibition of NK cell cytolytic activity, | HLA-C |
| CD60a | of reactive lysis, MIRL GD3 | | cells, astrocytes, tumor cells, T cell leukemic lymphoblasts | Co-stimulation | - | CD158d | KIR2DL4 | 41 kDa | NK and T cell subsets | MHC class I—specific NK receptor Inhibition of NK cell cytolytic activity, MHC class I—specific NK receptor | HLA-G |
| CD60c | – gpIlla, Integrin β3 | - - 110 kDa | T cell subsets, B ^{set} cells T cell subsets Platelets, megakaryocytes, macrophages, endothelial cells | 9-0-acetyl GD3 7-0-acetyl GD3 Heterodimer with CD41- or CD51-mediated adhesion to ECM | - Vitronectin, vWF, fibrinogen, and | CD158e | KIR2DL5 | 70 kDa 50–58 kDa | NK and T cell subsets NK and T cell subsets | Inhibition of NK cell cytolytic activity, MHC class I-specific NK receptor Inhibition of NK cell cytolytic activity, MHC class I-specific NK receptor | HLA-B |
| CD62E | E-selectin, ELAM-1, LECAM-2 | 140 kDa | endothelial cells Endothelium | Endothelium leukocyte adhesion molecule (ELAM), binds sialyl-Lewis X, mediates | fibrinogen, and fibronectin CD15s, CD162 | CD158g CD158h | KIR2DS5 | – 50 kDa | NK and T cell subsets NK and T cell subsets | Activation of NK cell cytolytic activity, MHC class I—specific NK receptor Activation of NK cell cytolytic activity, MHC class I—specific NK receptor | |
| | L-selectin, LECAM-1, LAM-1 | 150 kDa | B cells, naïve and memory T cells, monocytes, granulocytes, NK cells, thymocytes | rolling interaction of neutrophils Leukocyte homing, tethering, and rolling | CD15s, CD34, CD57, CD162, GlyCAM-1, MAdCAM-1 | CD158i | KIR2DS4 KIR2DS2 | 35, 58 kDa 50 kDa | NK and T cell subsets NK and T cell subsets | Activation of NK cell cytolytic activity, MHC class I–specific NK receptor Activation of NK cell cytolytic activity, MHC | |
| | P-selectin, GMP-140, PADGEM LIMP, MLA1, LAMP-3 | 140 kDa 53 kDa | Platelets, megakaryocytes, endothelium Intracellular on resting platelets and | Adhesion, neutrophil rolling, platelet— neutrophil and platelet—monocyte interactions Unknown, is a lysosomal membrane protein | CD15s, CD162 | CD158k | KIR3DL2 KIR3DL3 | 70 kDa | NK and T cell subsets NK and T cell subsets | class I-specific NK receptor Inhibition of NK cell cytolytic activity, MHC class I-specific NK receptor Inhibition of NK cell cytolytic activity, | - |
| | , 2 0 | | basophils; surface on basophils ^{act} , platelets ^{act} , monocytes ^{act} , macrophages ^{act} , granulocytes ^{act} , endothelial cells, fibroblasts, smooth muscle cells | translocated to cell surface after activation | , | CD159a CD159c | NKG2A NKG2C | 43 kDa 40 kDa | T cell subsets, NK cells NK cells | MHC class I—specific NK receptor With CD94, NK cell receptor | HLA-E HLA-E |
| CD64 CD65 | FcgRI VIM2, ceramide- dodecasaccharide, | 72 kDa | Monocytes, macrophages, DCs; interferon- or G-CSF-activated granulocytes Granulocytes, monocyte subsets, myeloid leukemias | High-affinity receptor for IgG, phagocytosis, and ADCC Oligosaccharide component of a ceramide dodecasaccharide | Monomeric and aggregated IgG CD62E (E-selectin) | CD160 CD161 | BY55 NKR-P1A | 27 kDa 40 kDa | NK and T cell subsets T cell subsets (TH17, CD8 subsets, γδ, CD3 thymocytes), NK cells | Co-stimulation NK cell–mediated cytotoxicity | HLA-C Lectin-like transcr |
| | fucoganglioside Type II VIM2, sialylated CD65 | - 160 190 kDa | Granulocytes, monocytes, myeloid leukemias | Phagocytosis | - CDGGE CDGGG | CD162 | PSGL-1 | 120 kDa | Monocytes, neutrophils, granulocytes, peripheral T cells, Blon cells, and a subset of CD34+ hematopoietic progenitor cells (HPCs) in bone marrow | Adhesion, rolling | CD62P, CD62E, CD62L |
| | BGP-1, NCA-160, CEACAM1 | rou-iou kDa | Neutrophils, epithelial cells | Adhesion | CD62E, CD66a, CD66c, CD66e | CD162R | PEN-5 | = | NK subsets | Unknown | - |

| C | Antigen CD163 | Alternate names Hemoglobin scavenger receptor, macrophage | Molec. mass | Expression Monocytes, macrophages | Function Unknown | Ligand/receptor Hemoglobin |
|---|--------------------------|---|----------------------------|--|---|---|
| 0 | CD164 | receptor, macrophage marker MGC-24, MUC24 | 80 kDa | Hematopoietic progenitors, cell–stromal cell interaction | Unknown | - |
| 0 | CD165 | AD2, gp37 | 37 kDa | Interaction Mesothelial cells, T-cell acute lymphoblastic leukemia (T-ALL) cells, epithelial cells, fibroblasts, platelets | Adhesion between thymocytes and thymic epithelium | - |
| L | CD166 CD167a | ALCAM Discoidin domain receptor | 105 kDa 63, 64 kDa | Neurons, monocytes, epithelial cells, fibroblasts, Taxt cells Epithelial cells, myoblasts | Adhesion Tyrosine kinase, adhesion to collagen | CD6 |
| | CD167a | family-1 (DDR1) Hyaluronan-mediated motility receptor (HMMR) | Five isoforms: 58, 60, 64, | Monocytes, T cell subsets, thymocyte subsets, intracellularly in breast cancer cells | Tyrosine kinase, adhesion to collagen Adhesion, tumor migration, metastasis | Collagen |
| (| CD169 | Sialoadhesin, Siglec-1 | 70, 84 kDa 185 kDa | Tissue macrophage subsets, DCs | Adhesion, cell-cell and cell-matrix interactions, binding with CD227 on breast | CD43, CD206, CD227, hyaluronan |
| (| CD170 | Siglec-5, CD33-like-2 | 67 kDa homodimer | Macrophage subsets, neutrophils, eosinophils | cancer cells and CD43 on T cells Adhesion | 2,3- and 2,6-linked sialic acid |
| 0 | CD171 | L1 cell adhesion molecule | 200–210 kDa | cNS, PNS, glial cells, monocytes, T cell subsets, B cells, DCs, several human tumor cells | Kidney morphogenesis, lymph node architecture, T cell co-stimulation, neurohistogenesis, homotypic interaction | CD9, CD24, CD56, CD142, CD166, CD171, neurocan, |
| | CD172a CD172b | SIRP SIRPß, SIRB1 | 110 kDa 50 kDa | Monocytes, T cell subsets, stem cells Monocytes, DCs | Adhesion Negative regulation of | phosphocan, laminin CD47 |
| | CD172b CD172g | SIRPβ, SIRB1 SIRPγ, SIRPB2 | 50 kDa 45–50 kDa | Monocytes, DCs mRNA: liver and at lower levels in many tissues | Negative regulation of RTK-coupled signaling | CD47 |
| (| CD173 CD174 | Blood group H type 2 Lewis Y | - | All cells All cells | Blood group H type 2, carbohydrate moiety Lewis Y blood group, carbohydrate moiety | - - |
| 0 | CD175 CD175s CD176 | Tn Sialyl-Tn Thomsen-Friedenreich | - | All cells All cells All cells | Tn blood group, carbohydrate moiety Sialyl-Tn blood group, carbohydrate moiety TF blood group, carbohydrate moiety | - - |
| 0 | CD177 CD178 | antigen NB1 FasL, CD95L | 56–62 kDa 38–42 kDa | Neutrophil subsets I®at cells, testis, neutrophils, monocytes, | Migration Apoptosis, immune privilege, soluble form | _ CD95 |
| | CD179a CD179b | VpreB Lambda 5 | 16–18 kDa 22 kDa | NK cells Pro- and pre-B cells Pro- and pre-B cells | in serum B cell differentiation/signaling with IgM B cell differentiation/signaling with IgM | |
| (| CD180 CD181 | RP-105 CXCR1, IL-8RA | 95–105 kDa 39 kDa | B cell subsets, monocytes, DCs Neutrophils, basophils, NK cells, T cell | B cell activation, LPS signaling with MD-1 Binding of IL-8 induces chemotaxis of | |
| (| CD182 | CXCR2, IL-8RB | 40 kDa | subsets, monocytes Neutrophils, basophils, NK cells, T cell subsets, monocytes | neutrophils, phospholipase D activation, respiratory burst Binding of IL-8 induces chemotaxis of neutrophils | IL-8, GRO-α, β, γ, and NAP-2 |
| (| CD183 | CXCR3 | 46-52 kDa | Eosinophils, T cells, NK cells, GM-CSF-activated CD34+ progenitors | T cell recruitment to inflammatory sites, enhancement of Th1 response, chemotaxis | CXCL10 (IP-10), CXCL9 (MIG), CXCL11 (I-TAC) |
| ı | CD184 | CXCR4, fusin | 46–52 kDa | B cells, DCs, T cell subsets, monocytes, endothelial cells Mature B cells. Burkitt lymphoma cells. | Inhibition of chemotaxis and Ca2+ flux induced by SDF1 With chemokine BLC, possible regulatory | CXCL12, HIV-1 (X4 tropic) next to HIV |
| ĺ | JD 100 | CXCR5, BLR1 | 45 kDa | Mature B cells, Burkitt lymphoma cells, T follicular helper cells | With chemokine BLC, possible regulatory function in Burkitt lymphomagenesis and/ or B cell differentiation, activation of mature B cells | UNULIO |
| (| CD186 | CXCR6, BONZO | 40 kDa | T ^{act} cells | | CXCL16 SIV, receptor for CXCL16 and co-receptor for |
| , | CD191 | CCR1, MIP-1 receptor, | 39 kDa | T cells, monocytes, stem cell subsets | Binding of CC-type chemokines and | and co-receptor for SIV, strains of HIV-2 and m-tropic HIV-1 CCL4, CCL5, CCL6, |
| | CD191 | CCR1, MIP-1 receptor, RANTES receptor CCR2, MCP-1 receptor | 39 kDa 40 kDa | I cells, monocytes, stem cell subsets Monocytes, macrophage subset (M1), NKact | Binding of CC-type chemokines and transduction of signal by increasing intracellular calcium ion levels Alternative co-receptor with CD4 for HIV-1 | CCL4, CCL5, CCL6, CCL14, CCL15, CCL16, CCL23 CCL2, CCL8, CCL16 |
| ľ | CD193 | CCR2, MCP-1 receptor | 40 kDa 45 kDa | monocytes, macrophage subset (M1), NK ^{act} cells, basophils, T ^{act} cell subsets, B ^{act} cells, endothelial cells Eosinophils, basophils, mast cells, lower | Alternative co-receptor with CD4 for HIV-1 infection Alternative co-receptor with CD4 for HIV-1 | CCL11, CCL26, |
| | J 190 | OSHO, OKHO | ND ND d | Eosinophils, basophils, mast cells, lower expression in neutrophils and monocytes, T cell subsets (Th2) | Alternative co-receptor with CD4 for HIV-1 infection, eosinophil migration | CCL11, CCL26, CCL7, CCL13, CCL15, CCL24, CCL5, CCL28 |
| (| CD195 | CCR5 | 40 kDa | Monocytes, T cell subsets, mDCs, pDCs | R5 HIV-1 co-receptor, chemotaxis | CCL5, CCL3, CCL4, CCL5, CCL11, CCL13, CCL14, |
| (| CD196 | CCR6, LARC receptor, DRY6 | 45 kDa | T cell subsets, B cells, DC subsets | Inflammation, differentiation | CCL16 CCL20 |
| | CD197 CD198 | CCR7, EBI-1 CCR8, GPRCY6, TER1 | 45 kDa 50 kDa | T cell subsets, DC subsets, B cell subsets T cells, Th2 ^{nigh} , NK cells, monocytes | T cell migration Allergic inflammation, alternative co-receptor with CD4 for HIV-1 infection | CCL19, CCL21 CCL1 |
| L | CD199 | CCR9, GPR-9-6 | 43 kDa | Thymic progenitors, T cell subsets Thymic progenitors, T cell subsets | Alternative co-receptor with CD4 for HIV-1 infection | CCL25 (TECK) |
| | CD200 CD200R | 0X-2 0X2R | 45–50 kDa 48 kDa | Thymocytes, endothelial cells, B cells, Tact cells Hematopoietic cells | Inhibition of immune response Inhibitory receptor, inhibition of TNE secretion | OX-2R CD200 |
| | CD201 | EPC-R | 50 kDa | Endothelial cell subsets | TNF secretion Activated protein receptor; role in coagulation, inflammation, migration | Protein C |
| (| CD202b CD203c | Tie2, Tek NPP3/PDNP3, ENpp1, PD-1β | 150 kDa 101 kDa | Stem cells, endothelial cells Basophils, mast cells, glioma cells, megakaryocytes | Angiogenesis, hematopoiesis Ectoenzyme, binding to and clearance of extracellular nucleotides | Angiopoletin-1 Nucleotides |
| L | CD204 CD205 | Macrophage scavenger receptor DEC-205 | 220 kDa 205 kDa | Macrophages (M2) DCs, thymic epithelial cells | Endocytosis of macromolecules Mediates antigen processing | LDL |
| 0 | CD206 | Macrophage mannose receptor | 175–190 kDa | DC subsets, macrophages, monocytes | and presentation Phagocytosis and pinocytosis of mannose- containing molecules | Oligomannose- containing |
| (| CD207 | Langerin | 40 kDa | Langerhans cells | Endocytosis, antigen processing | carbohydrates Mannose-bearing glycoproteins and |
| | CD208 CD209 | DC-LAMP DC-SIGN | 70–90 kDa 44 kDa | Activated DCs, interdigitating DCs DC subsets | Putative role in sorting MHC class II HIV-1 binding protein, recognition of | glycolipids — CD50, CD102 |
| 1 | CD210 | IL-10Ra | 90–110 kDa | T, B, and NK cells; monocytes, macrophages | pathogens, signal transduction Signal transduction | IL-10 |
| ı | CD210b | IL10RB, IL-10Rβ | 130 kDa | T, B, and NK cells; monocytes, macrophages Activated CD4, CD8, and NK cells | Binding of IL-12 with high affinity. | IL-10, IL-22 |
| l | | IL-12Rβ1 | 13 1 | | Binding of IL-12 with high affinity, association with IL-12 receptor β2, signal transduction Binding of IL-13 with low affinity, association | |
| L | CD213a1 CD213a2 | IL-13R1 | 60–70 kDa 65 kDa | B cells, monocytes, fibroblasts, endothelial cells B cells, monocytes, fibroblasts, endothelial cells | Binding of IL-13 with low affinity, association with CD124, signal transduction Binding of IL-13 with high affinity, signal transduction | IL-13 |
| 0 | CD215 | IL15R, interleukin 15 receptor a | 28 kDa | cells Brain tissue, activated monocytes, macrophages, NK cells | High-affinity receptor for IL-15, signal transduction, development and survival of | IL-15 |
| | CD217 CD218a | IL-17R IL-18R, IL-1Rrp | 120 kDa 70 kDa | Activated memory T cells T cell subset (Th1 and Tc17), NK cells, DCs, | NK cells Signal transduction Activation of NF-kB | IL-17 IL-18 |
| | CD218b | IL-18Rβ, IL18RAP | 70 kDa | neutrophils | TO A STATE OF THE PARTY OF THE | IL-18 |
| | CD220 CD221 | Insulin receptor IGF-1R | 140, 70 kDa 70, 140 kDa | Nonlineage molecules Nonlineage molecules | Signal transduction via kinase domain Binding of IGF with high affinity, signaling, cell proliferation/differentiation | Insulin IGF-I, IGF-II, insulin |
| (| CD222 | IGF-IIR, mannose-6 phosphate-R | 250 kDa | Nonlineage molecules | Adhesion, tumor growth | TGFβ-LAP, plasminogen, proliferin, LIF, IGFII, |
| | CD223 | LAG-3 Gamma-dlutamyltransferase | 70 kDa 27 68 kDa | T ^{act} cells, Treg cells, NK ^{act} cells | Downregulation of TCR signal transduction Maintenance of cellular redox | MHC class II |
| (| CD224 CD225 | Gamma-glutamyltransferase 1 (GGT1) Leu-13 DNAM 1 DTA 1 TLISA1 | 17 kDa | Leukocytes, stem cells Broad T and NIK cells, managettes, platelate | Maintenance of cellular redox B cell activation Activation of cell modisted outstayioity | - CD110 OF |
| ļ | CD226 | DNAM-1, PTA-1, TLiSA1 | 65 kDa | T and NK cells, monocytes, platelets, activated human umbilical vein endothelial cells | Activation of cell-mediated cytotoxicity, soluble form (50 kDa) found in normal serum | CD112, CD155 |
| l | CD227 | MUC1, EMA | 300 kDa | Epithelial cells, stem cell subsets, follicular DCs, monocytes, B cell subsets, some myelomas | Adhesion, signaling | CD54, CD169, selectins |
| (| CD228 | Melanotransferrin Ly-9 | 80–95 kDa 95, 110 kDa | Stem cells, melanomas T and B cells | Tumor-associated antigen (melanoma), involved in iron uptake Adhesion | Iron, pro-UPA, plasminogen CD229 |
| (| CD230 | Prion protein TALLA-1, A15, TSPAN7 | 35 kDa 150 kDa | Expressed both in normal and infected cells T cell leukemias, neuroblastomas, | Homeostasis under oxidative stress, signal transduction Marker for T-cell acute | - |
| L | CD232 | Virus-encoded semaphorin protein receptor (VESP-R) | 200 kDa | brain neurons Broad | lymphoblastic leukemia Possible role in DC function | - |
| L | CD233 | Band 3, SLC4A1 Duffy, DARC | 90 kDa 35–45 kDa | Erythrocytes Erythrocytes | Anion exchanger pump, transport of CO ₂ , linking red cell membrane to cytoskeleton Decoy receptor, inflammation | CXCL1, CXCL5, |
| | CD235a | Glycophorin A | 35–45 KDa 31 kDa | Erythrocytes | Major carbohydrate-rich sialoglycoprotein of | CXCL1, CXCL5, CXCL8, CCL2, CCL5, CCL7 CD170, influenza |
| | | | | | human erythrocyte membrane | virus, erythrocyte binding antigen (EBA-175) of |
| (| CD235b | Glycophorin B | 20 kDa | Erythrocytes | Minor sialoglycoprotein in human | Plasmodium falciparum |
| (| D236 D236R | Glycophorin C/D Glycophorin C | 32, 23 kDa 32 kDa | Erythrocytes, stem cell subsets Erythrocytes, stem cell subsets | erythrocyte membrane Plays an important role in regulating the | - |
| | U | шусорнони о | LNDU | | Plays an important role in regulating the mechanical stability of red blood cells and is a putative receptor for the merozoites of Plasmodium falciparum | |
| L | CD238 | Kell B-CAM | 93 kDa 78–85 kDa | Erythrocytes, stem cell subsets Erythrocytes, stem cell subsets; endothelial, | Kell blood group antigen; homology to a family of zinc metalloglycoproteins A type I membrane protein, upregulated | Laminin 5 chain |
| ı | CD239 | B-CAM Rh30CE | 78-85 kDa 30-32 kDa | Erythrocytes, stem cell subsets; endothelial, epithelial cells Erythrocytes | A type I membrane protein, upregulated following malignant transformation in some cell types May be part of an oligomeric complex that is | |
| ı | CD240CE | Rh30D | 30–32 kDa | Erythrocytes | May be part of an oligomeric complex that is likely to have a transport or channel function in the erythrocyte membrane May be part of an oligomeric complex that is | |
| ı | | | | | likely to have a transport or channel function in the erythrocyte membrane | |
| L | CD241 | RhAg, Rh50 | 50 kDa | Erythrocytes | May be part of an oligomeric complex that is likely to have a transport or channel function in the erythrocyte membrane Adhesion Landsteiner-Wiener blood group | |
| ı | CD242 | MDR-1 n170 P-an | 42 kDa | Erythrocytes Stem cells small intesting kidney stem | Adhesion, Landsteiner-Wiener blood group | CD11a/CD18, CD11b/CD18, CD51, CD29, integrin β5 |
| L | CD243 | MDR-1, p170, P-gp 2B4, p38 | 170 kDa 66 kDa | Stem cells, small intestine, kidney stem cells NK cells, T cell subsets, monocytes, hasophils mast cells ensinophils | Efflux transporter of various drugs NK cell activation, co-stimulatory ligand for | - CD48 |
| L | CD245 | p220/240 | 220-240 kDa | basophils, mast cells, eosinophils Granulocytes, resting peripheral blood lymphocytes, platelets, monocytes, NK cells | NK and T cells Signal transduction, co-stimulation of T and NK cells | - |
| ı | CD246 CD247 | ALK CD3 zeta | 177 kDa 16 kDa | Anaplastic T cell leukemias, small intestine, testis, brain, not on normal lymphocytes T and NK cells | Brain development, implicated in ALK lymphomas TCR complex subunit, coupling of antigen | Pleiotrophin, midkine |
| (| CD248 CD249 | TEM1, endosialin Aminopeptidase A | 175 kDa 160 kDa | Endothelial tissue, stromal fibroblasts Epithelial cells, endothelial cells | recognition to signaling Tumor progression and angiogenesis Renin–angiotensin system | - - |
| (| D249 D252 D253 | OX-40 ligand, gp34 TRAIL, Apo-2L, TL2, | 34 kDa 32 kDa | Bact cells, cardiac myocytes Tica cells, many tissues, B cells, NK cells | T cell co-stimulation Apoptosis | CD134 CD261, CD262, CD263, CD264 |
| (| CD254 | TRANCE, RANKL, OPGL | 35 kDa | Lymph node, bone marrow stroma, T ^{act} cells | | CD263, CD264, OPG CD265, OPG |
| (| CD255 | TNFSF12, TWEAK, AP03L | 18, 30–35 | Endothelial cells, smooth muscle, fibroblasts | DCs to stimulate naïve T cell proliferation, regulation of Bcl-XL expression Induces apoptosis, promotes angiogenesis | CD266 |
| L | CD256 | APRIL, TALL-2 | kDa 16 kDa | Leukocytes, pancreatic cells, monocytes, macrophages | Binds TACI and BCMA, B cell proliferation, aids metastasis | CD267, CD269 |
| L | CD257 | BLYS, BAFF, TALL-1 LIGHT, HVEM-L | 31 kDa 28 kDa | B cells, plasma cells, monocytes, macrophages, T cells, and DCs Tact cells, immature DCs | Co-stimulator of B cells, T cells, and Ig production T cell proliferation | CD267, CD268, CD269 CD270, LTβR |
| (| CD261 | TRAIL-R1, DR4 | 57 kDa | T ^{act} cells, peripheral blood leukocytes | Presence of death domain, apoptosis via FADD and caspase-8 | CD253 |
| (| D262 D263 | TRAIL-R2, DR5 TRAIL-R3, DcR1, LIT | 60 kDa | Widely expressed, peripheral blood lymphocytes Peripheral blood lymphocytes | Presence of death domain, apoptosis via FADD and caspase-8 Lack of death domain in receptor | CD253 |
| (| CD264 CD265 | TRAIL-R4, TRUNDD, DcR2 RANK, TRANCE-R, ODFR | 35 kDa 97 kDa | Peripheral blood leukocytes Broad expression, DCs | Presence of truncated death domain Binds TRANCE, osteoclastogenesis, T cell–DC interactions | CD253 CD254 |
| | CD266 | TWEAK-R, FGF-inducible 14 TACI, TNFR, SF13B | 14 kDa 32 kDa | Heart, placenta, and kidney; human umbilical vein endothelial cells B and Tact cells | Cell–matrix interactions; growth and migration of endothelial cells B cell development | CD255 CD256, CD257 |

Mature B cell survival 268 BAFFR, TR13C 25 kDa B cells 20 kDa Mature B cells (membrane and perinuclear) Receptor for CD256 and CD257, B cell BCMA, TNFRSF13B CD256, CD257 70 TNFRSF14, tumor necrosis 30 kDa Broad, Bhi cells Viral entry, signal transduction factor receptor superfamily, entry mediator), TR2, ATAR, HVEA, HVEM, LIGHTR NGFR, p75(NTR) 45 kDa Neurons (Schwann cells, growing neurites), Tumor suppressor; cell survival and death NGF, BDNF, NT-3, bone marrow mesenchymal cells 72 BTLA 33 kDa Lymphocytes, macrophages, progenitor B Inhibitory response CD270 and T cells, mature BM DCs B7DC, PD-L2, PDCD1L2 25 kDa DC subsets, monocytes, macrophages Co-stimulation or suppression of CD279 T cell proliferation Co-stimulation of lymphocytes CD279 B7-H1, PD-L1 33 kDa Leukocytes, broad B7-H2, ICOSL, B7-RP1, 60 kDa B cells, DCs, monocytes 276 B7-H3 40-45 kDa In vitro-cultured DCs and monocytes, Co-stimulation, T cell activation -T^{act} cells, mammary tissue BT3.1, butyrophilin SF3 56 kDa T, B, and NK cells; monocytes, DCs, endothelial cells, CD34⁺ cells, tumor cell 278 ICOS, AILIM 55–60 kDa T^{act} and Th2 cells T cell co-stimulation CD275 PD1, SLEB2 55 kDa Tact and Bact cells Autoimmune disease and peripheral CD273, CD274 tolerance, checkpoint in tumors 280 ENDO180, UPARAP 180 kDa Chondrocytes, fibroblasts, endothelial cells, Collagen matrix remodeling and macrophages endocytic recycling fucose on glycans 90 kDa Low levels in peripheral blood mononuclear Innate immunity with TLR2 cells, monocytes, possibly DCs 282 TLR2 90 kDa Monocytes, neutrophils, upregulated in Binds dsRNA, response to bacterial Lipoproteins and macrophages lipoproteins, innate immunity, induces IFN glycans, pathogen-100 kDa Alveolar macrophages 100 kDa PBMCs (weak in monocytes, immature DCs, Binds LPS, innate immunity, development of LPS 284 TLR4 and neutrophils), neuronal cells nervous system 98 kDa DCs, monocytes, epithelial cell subsets Innate recognition to bacteria 90 kDa Macrophages, monocytes, epithelial cells, Innate immune response to bacterial LPS, LPS endothelial cells association with MD2 and CD14 Pathogen recognition, activation of 110 kDa Leukocytes, monocytes, DCs lipopeptides 120 kDa Pre-DCs (intracellular), peripheral blood Innate immunity Pathogen-associated leukocytes molecular patterns 90 kDa B cells, monocytes, Treg cells, pDCs Pathogen recognition, activation of _____ 92 BMPR1A, ALK3 57 kDa Bone progenitor BMP 2 and 4 receptor, bone development, BMP-2, BMP-4 57 kDa Bone progenitor CRTH2, GPR44 55-70 kDa Th2 cells, eosinophils, basophils, Stimulatory effects on Th2 cells, Prostaglandin D2 T cell subsets allergic inflammation 132 kDa Broad Adipose metabolism, immune dysfunction in Leptin 296 ART1, RT6, ART2 37 kDa Heart and skeletal muscle, peripheral Modification of integrins during differentiation, ADP ribosylation of target proteins ART4, Dombrock blood 38 kDa Erythroid, monocytes^{act} ADP ribosylation of target proteins -298 Na⁺/K⁺-ATPase β3 subunit 52 kDa Broad Transport Na⁺ and K⁺ ions across membrane -299 DC-SIGN-related, LSIGN, 45 kDa Endothelial subsets, DCs, macrophages Co-receptor with DC-SIGN, HIV infection CD50, HIV-1 gp120 300a CMRF35H, IRC1, IRp60 60 kDa NK cells, monocytes, neutrophils, T and B Unknown CLM-8, MAIR-1, LMIR-1 cell subsets, lymphocytic cell lines, AML 300c CMRF35A, LIR 23 kDa Monocytes, neutrophil monocytic cell lines, Unknown 300e CMRF35L 45 kDa Monocytes, macrophages, DCs Unknown
 300f
 IREM1, MAIR-V
 60 kDa
 Myeloid
 Inhibitory receptor

 301
 MGL, HML2, DCASGPR,
 38 kDa
 Monocytes, macrophages, and DCs
 Binds Tn antigen, uptake of glycosylated
 CLECSF13, CLECSF14 granulocytes; Hodgkin cell lines DEC-205; cell adhesion, phagocytosis BDCA2, HECL, CLEC4C 38 kDa pDCs Inhibit IFN-alpha production, cytokine – production in PDCs 130 kDa Neurons, CD4+/CD25+ Treg cells, pDCs, Interaction with VEGF165 and semaphorins, Semaphorin-3A, endothelial cells, tumor cells co-receptor with plexin, axonal guidance, angiogenesis, cell survival, migration vascular endothelia growth factor A, BO5 LAIR1 32–40 kDa NK, B, and T cells; monocytes, DCs, Inhibitory receptor on NK and T cells eosinophils, basophils, mast cells 16 kDa NK, B, T, monocytes, macrophages O7 IRTA2, FcRL5, CD307e, 55–105 kDa B cell subsets, B cell lymphomas B cell development, translocation in some -FUHL1, FC 50 kDa Mature B cells receptor-like 1, FCRH1, lymphomas 307a FCRL1, Fc Putative role in B cell activation and -IFGP1, IRTA5, FCRL1 **307b** FCRL2, Fc 55 kDa Memory B cells Putative role in B cell development – IFGP4, IRTA4, SPAP1, SPAP1A, SPAP1B, SPAP1C receptor-like 3, FCRH3, 307c FCRL3, Fc IFGP3, IRTA3, SPAP2 FCRL4, Fc receptor-like 4, 57 kDa Memory B cells May inhibit B cell receptor -FCRH4, IGFP2, IRTA1 FCRL5, Fc receptor-like 5, 106 kDa B cells Putative role in B cell development and — BXMAS1, PR0820 09 VEGFR2, KDAR hemangioblasts signaling, proliferation, migration, and differentiation 90 kDa Monocytes, macrophages, Cell adhesion and migration for monocyte-derived DCs, granulocyteslow glycosaminoglycar 14 NKG2D, KLR 42 kDa NK cells, CD8+ activated; some Activation of cytolysis and cytokine MICA, MICB, ULBP production, co-stimulation ULBP2, ULBP3 myeloid cells 135 kDa Megakaryocytes, hepatocytes, epithelial Angiogenesis -16 EWI2, PGRL, CD81P3, 63–75 kDa B cells, T cells, low on NK cells Associates with CD81 and CD9, involved in cell migration 30–36 kDa B, T, and NK cells; monocytes, DCs, Pre-B cell growth, overexpressed in multiple -18 CDCP1, SIMA135 135 kDa HSCs (subset of CD34+), tumors Cell adhesion with ECM, metastasis – 66 kDa T cell, B cell, and DC subsets; NK cells; Regulate T and NK cells 319 CRACC, SLAMF7 B cell proliferation, tumor formation – 8D6A, 8D6 30 kDa Follicular DCs, germinal centers JAM1, F11 receptor 35 kDa Platelet receptor, epithelial cells, endothelial Tight junctions; cell proliferation cells, platelets JAM2, VE-JAM 43 kDa High endothelial venule, other Adhesion, lymphocyte homing to secondary PAR-3, CD49d/ endothelial cells lymphoid organs Non-neural epithelial cells, keratinocytes, Adhesion, homotypic interaction, and and platelets binding of aE/b7 N-cadherin, NCAD 140 kDa Brain, skeletal, cardiac muscle Adhesion, neuronal recognition catenins, FGFR, PS1 Ep-CAM, Ly74, tumor- 35–40 kDa Most epithelial cells, cell membranes, some Proliferation and differentiation of tumors associated calcium signal 49 kDa Placenta, spleen, B cells, sialic acid Adhesion, membrane-bound and secreted Sialyl-Tn motifs, dependent forms, sialic acid-dependent leptin 75 kDa Resting and activated NK cells; placenta, Sialic acid—dependent adhesion, inhibition 2,3- and 2,6-linked liver, and spleen; lower in granulocytes and of NK cell activation, hemopoiesis sialic acid SIGLEC9 50 kDa Neutrophils, monocytes Sialic acid-dependent adhesion molecule 2,3- and 2,6-linked kinase-2, KAL2, N-SAM fibroblast growth factors; muscle and bone FGFR2, BEK, KGFR 115–135 kDa Fibroblasts, epithelial cells High-affinity receptor for fibroblast aFGF, bFGF growth factors FGFR3, ACH, CEK2 115 kDa Fibroblasts, epithelial cells High-affinity receptor for fibroblast growth factors 334 FGFR4, JTK2, TKF 110 kDa Fibroblasts, epithelial cells High-affinity receptor for fibroblast aFGF, bFGF growth factors NKp46, Ly-94 homolog 46 kDa NK cells Activates NK cells upon non-MHC ligand binding sulfate proteoglyca NKp44, Ly-95 homolog 44 kDa NK^{act} cells, T cell subsets Activates NK cells upon non-MHC Viral HA ligand binding NKp30, Ly117 30 kDa NK cells Activates NK cells upon non-MHC ligand binding associated heparai ABCG2, BCRP, Bcrp1, MXR 73 kDa Stem cell subsets (side population) Multidrug resistance transporter – Jagged-1, JAG1, JAGL1, 135 kDa Stromal cells, epithelial cells, AML Hematopoiesis Notch 1, Notch 2, HER2/neu, ERBB2, 185 kDa Bone marrow mesenchymal stem cells Member of the ERBB family of receptor tyrosines, involved in a wide range of cellular responses Activation of the Wnt/β-catenin pathway, Wnt, norrin Frizzled-4, Fz-4, hFz-4, 59 kDa Adult kidney, lung, brain, liver, fetal 49 Frizzled-9, Fz-9, hFz-9 65 kDa Adult and fetal brain; testis, eye, skeletal Activation of the Wnt/β-catenin pathway, Wnt-2, Wnt-7a muscle, and kidney; bone marrow regulation of tissue and cell polarity mesenchymal stem cells Frizzled-10, Fz-10, hFz-10 65 kDa Placenta and kidney; fetal lung and brain Activation of the Wnt/β-catenin pathway, Wnt FCAMR, Fc receptor of IgA 57 kDa Mesangial cell and IgM, FCA/MR, FKSG87 SLAMF6, SLAM family 37 kDa NK, T, and B cells Triggers cytolytic activity of NK cells member 6, KALI, NTBA, KALIb, Ly108, NTB-A, SLAMF8, SLAM family 32 kDa Lymph node, spleen, thymus, bone marrow Putative role in B cell signaling and member 8, BLAME, SBBI42 differentiation TREM1, triggering receptor 26 kDa Myeloid, hepatocytes, osteoclasts, microglia Stimulation of neutrophils and monocytes -CRTAM, cytotoxic and 45 kDa NKact cells, CD8act cells, γδ T cells, Purkinje Cytotoxicity, tumor rejection cells, T cell activation TNFRSF21, tumor necrosis 72 kDa Fetal spinal cord, brain Promotion of apoptosis, elevated in APP member 21, DR6, BM-018 IL21R, interleukin 21 59 kDa B, T, and NK cells; DCs heparan sulfate S1PR1, sphingosine-1- 42 kDa Lymphocytes, B cells, NK cells, monocytes/ T cell migration macrophages, endothelial cells, neural progenitors, neurons, astrocytes, oligodendrocytes PI16, peptidase inhibitor 16, 49 kDa Prostate, testis, ovary, intestine dJ90K10.5, MGC45378, TIM-1, HAVCR1, HAVCR-1, 38 kDa Activated CD4+ T cells Role in Th cell development, involved in hepatitis A virus entry into cells TIM-3, HAVCR2, TIMD3 33 kDa Th1 cells, DC subsets Inhibitory receptor on Th1 cells CLEC4A, DCIR, DDB27, 27 kDa pDCs, myeloid cells, B cells Inhibitory receptor on DCs and B cells Mannose/fucose-59 CLEC7A, DECTIN-1, 27 kDa Monocytes, macrophages, DCs, neutrophils, TLR2-mediated inflammatory response β glycans CLECSF12, lymphocyteslow CLEC9A, HEEE9341, 27 kDa DC subsets, monocyte subsets CLEC12A, CLL-1, myeloid 30 kDa Neutrophils, eosinophils, monocytes, DCs Signal transduction inhibitory C-type lectin-like receptor (MICL), DCAL-2 OC: dendritic cell MHC: major histocompatibility complex TCR: T cell receptor Treg: regulatory T IKT: natural killer T PBMC: peripheral blood mononuclear cell AML: acute myeloid leukemia BCR: B cell receptor

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