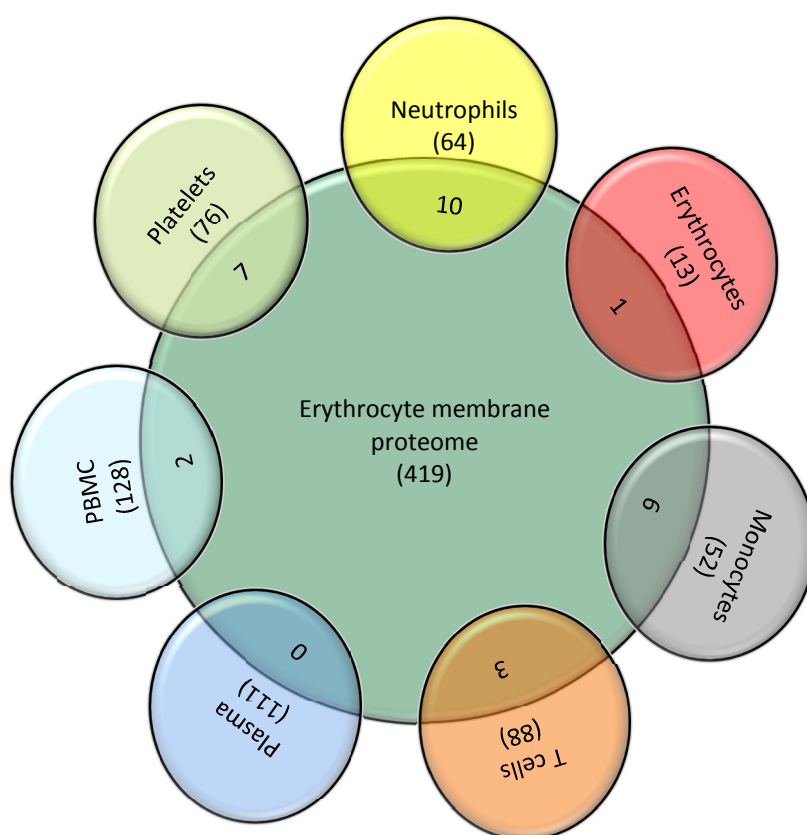


## Supporting Information to

Hegedűs *et al.* : Inconsistencies in the red blood cell membrane proteome analysis:  
generation of a database for research and diagnostic applications

**Figure S1.** Comparison between the “exclusive human blood peripheral proteome” (Haudek *et al.*, 2009) and the erythrocyte membrane proteome as determined in the present study. Additionally, 77 proteins are shared between more than one blood constituents proteome.



**Figure S2. RBCC (Red Blood Cell Collection) search options.** Complex full text queries with examples and syntax at the bottom of the page can be entered. By default the search is constrained to membrane proteins. Depending on the objective of the query, the confidence of the presence of the matches can be set to low (only semi-automatic identification from reviews), medium (present in either hRBCD or BSc\_CH), and high (present in both hRBCD and BSc\_CH; a blood group or CD marker; experimentally tested in the Sarkadi-lab). The sources to use in the query can be also selected.

---

[Home](#)
[Browse](#)
[Search](#)
[Sources](#)
[Statistics](#)
[About](#)
[Contact](#)

---

### Search

(You can leave this field empty to find all proteins satisfying the filters below.)

**Restrict to membrane proteins:** ☒

**Confidence level:** ☐ Low ☒ Medium ☐ High

**Select sources to search:**

☒ ALL

☒ [hRBCD](#); Human Red Blood Cell Database

☒ [PM19886704](#); D'Alessandro A, Righetti PG, Zolla L., The red blood cell proteome and interactome: an update. J Proteome Res. 2010 Jan;9(1):144-63.

☒ [BGMUT](#); The Blood Group Antigen Gene Mutation Database (NCBI)

☒ [BSc\\_HU](#); Balazs Sarkadi's collection

☒ [BSc\\_CH](#); Bruno Stieger's collection

☒ [BD\\_CD](#); BD\_Reagents\_CDMarkerHuman

☒ [PM23856902](#); Goodman SR, Daescu O, Kakhniashvili DG, Zivanic M. Exp Biol Med (Maywood). 2013 May 1;238(5):509-18.

**Full text search query syntax:**

Find protein entries that contain at least one of the two words.

Find protein entries that contain any words starting with CD1, such as CD107, CD157, etc.

Find protein entries that contain the exact expression.

Find protein entries that contain both words.

Find protein entries that contain the word *CD1*, but rank entries higher if they also contain *CD2*.

Find protein entries that contain the word *CD1*, but not *CD2*.

**Figure S3. The protein entry page in RBCC.** List of sources, which have identified the presence of the protein in RBC, alternative names, genetic variants and links to other databases are shown in this page. A link to Antibodypedia aids to find an antibody for diagnostics development. Importantly, a pre-built PubMed query is also available to search for papers with all the alternative gene and protein names limiting the search containing alternatives of RBC (e.g. erythrocyte). If the user is logged in, he or she can leave comments for the entry in a box at the bottom of the page.

| Home Browse Search Sources Statistics About Contact |   |  |
|---|---|--|
| <b>ABCB6_HUMAN</b>                                  |   |  |
| <b>Source:</b>                                      | <a href="#">hRBCD</a> ; ID: <a href="#">IPI00014555</a><br><a href="#">PM19886704</a><br><a href="#">PM23856902</a><br><a href="#">BGMUT</a> ; ID: <a href="#">jr</a><br><a href="#">BSc_HU</a><br><a href="#">BSc_CH</a>   | Marked as 'Membrane'   |
| <b>Confidence:</b>                                  | high (experimentally tested in the Sarkadi-lab)   | <a href="#">Search PubMed for (RBC AND this entry)</a>                                       |
| <b>Gene names:</b>                                  | <b>ABCB6</b> , MTABC3, PRP, UMAT  |  |
| <b>Protein names and data:</b>                      | <b>ABCB6_HUMAN</b> , ATP-binding cassette sub-family B member 6, mitochondrial , Mitochondrial ABC transporter 3; Mt-ABC transporter 3; P-glycoprotein-related protein; Ubiquitously-expressed mammalian ABC half transporter   | <b>Lenght:</b> 842 a.a.<br><b>Mass:</b> 93886 Da<br><a href="#">fasta formatted sequence</a> |
| <b>Function:</b>                                    | Binds heme and porphyrins and functions in their ATP- dependent uptake into the mitochondria. Plays a crucial role in heme synthesis.   |  |
| <b>Disease:</b>                                     | ( OMIM: <a href="#">111600</a> <a href="#">605452</a> <a href="#">614497</a> ) Microphthalmia, isolated, with coloboma, 7 (MCOPCB7) [MIM:614497]: A disorder of eye formation, ranging from small size of a single eye to complete bilateral absence of ocular tissues. Ocular abnormalities like opacities of the cornea and lens, scarring of the retina and choroid, and other abnormalities may also be present. Ocular colobomas are a set of malformations resulting from abnormal morphogenesis of the optic cup and stalk, and the fusion of the fetal fissure (optic fissure). Note=The disease is caused by mutations affecting the gene represented in this entry. |  |
| <b>Cellular location:</b>                           | Cell membrane. Mitochondrion outer membrane; Multi-pass membrane protein. Endoplasmic reticulum. Golgi apparatus.   |  |
| <b>Tissue specificity:</b>                          | Widely expressed. High expression is detected in the retinal epithelium.  |  |

**Table S1. Proteins and peptide fragments identified in RBC ghosts by MS.**

**Table S2. Hallmark proteins of different blood cell types present in our samples.**

These supplemental tables can be downloaded from  
[http://rbcc.hegelab.org/Supplemental\\_Tables\\_1\\_2.xlsx](http://rbcc.hegelab.org/Supplemental_Tables_1_2.xlsx)

**Table S3. Erythrocyte membrane antigens listed in the CD system**  
(<http://www.hcdm.org>).

| <b>RBC<br/>membrane<br/>protein</b> | <b>alternative names</b>   | <b>listed in<br/>RBCC<br/>databases</b> |
|-------------------------------------|--|---|
| CD109                               | CPAMD7, CD109 antigen, 150 kDa TGF-beta-1-binding protein, C3 and PZP-like alpha-2-macroglobulin domain-containing protein 7, Platelet-specific Gov antigen, p180, r150, CD109   | BD_CD                                   |
| CSF1R                               | FMS, Macrophage colony-stimulating factor 1 receptor, CSF-1 receptor, CSF-1-R, CSF-1R, M-CSF-R, 2.7.10.1, Proto-oncogene c-Fms, CD115  | BD_CD                                   |
| CSF2RA                              | CSF2R, CSF2RY, Granulocyte-macrophage colony-stimulating factor receptor subunit alpha, GM-CSF-R-alpha, GMCSFR-alpha, GMR-alpha, CDw116, CD116   | BD_CD                                   |
| CSF2RB                              | IL3RB, IL5RB, Cytokine receptor common subunit beta, CDw131, GM-CSF/IL-3/IL-5 receptor common beta subunit, CD131  | BD_CD                                   |
| CSF3R                               | GCSFR, Granulocyte colony-stimulating factor receptor, G-CSF receptor, G-CSF-R, CD114  | BD_CD                                   |
| ENG                                 | END, Endoglin, CD105   | PM19886704,<br>PM23856902,<br>BD_CD     |
| IFNGR1                              | Interferon gamma receptor 1, IFN-gamma receptor 1, IFN-gamma-R1, CDw119, CD119   | BD_CD                                   |
| IL1R1                               | IL1R, IL1RA, IL1RT1, Interleukin-1 receptor type 1, IL-1R-1, IL-1RT-1, IL-1RT1, CD121 antigen-like family member A, Interleukin-1 receptor alpha, IL-1R-alpha, Interleukin-1 receptor type I, p80, CD121a, Interleukin-1 receptor type 1, membrane form, mIL-1R1, mIL-1RI, Interleukin-1 receptor type 1, soluble form, sIL-1R1, sIL-1RI               | BD_CD                                   |
| IL1R2                               | IL1RB, Interleukin-1 receptor type 2, IL-1R-2, IL-1RT-2, IL-1RT2, CD121 antigen-like family member B, CDw121b, IL-1 type II receptor, Interleukin-1 receptor beta, IL-1R-beta, Interleukin-1 receptor type II, CD121b, Interleukin-1 receptor type 2, membrane form, mIL-1R2, mIL-1RII, Interleukin-1 receptor type 2, soluble form, sIL-1R2, sIL-1RII | BD_CD                                   |

|       |   |                                 |
|-------|---|---------------------------------|
| IL2RB | Interleukin-2 receptor subunit beta, IL-2 receptor subunit beta, IL-2R subunit beta, IL-2RB, High affinity IL-2 receptor subunit beta, p70-75, p75, CD122   | BD_CD                           |
| IL2RG | Cytokine receptor common subunit gamma, Interleukin-2 receptor subunit gamma, IL-2 receptor subunit gamma, IL-2R subunit gamma, IL-2RG, gammaC, p64, CD132  | BD_CD                           |
| IL3RA | IL3R, Interleukin-3 receptor subunit alpha, IL-3 receptor subunit alpha, IL-3R subunit alpha, IL-3R-alpha, IL-3RA, CD123  | BD_CD                           |
| IL4R  | IL4RA, 582J2.1, Interleukin-4 receptor subunit alpha, IL-4 receptor subunit alpha, IL-4R subunit alpha, IL-4R-alpha, IL-4RA, CD124, Soluble interleukin-4 receptor subunit alpha, Soluble IL-4 receptor subunit alpha, Soluble IL-4R-alpha, sIL4Ralpha/prot, IL-4-binding protein, IL4-BP | BD_CD                           |
| IL5RA | IL5R, Interleukin-5 receptor subunit alpha, IL-5 receptor subunit alpha, IL-5R subunit alpha, IL-5R-alpha, IL-5RA, CDw125, CD125  | BD_CD                           |
| IL6R  | Interleukin-6 receptor subunit alpha, IL-6 receptor subunit alpha, IL-6R subunit alpha, IL-6R-alpha, IL-6RA, IL-6R 1, Membrane glycoprotein 80, gp80, CD126   | BD_CD                           |
| IL6ST | Interleukin-6 receptor subunit beta, IL-6 receptor subunit beta, IL-6R subunit beta, IL-6R-beta, IL-6RB, CDw130, Interleukin-6 signal transducer, Membrane glycoprotein 130, gp130, Oncostatin-M receptor subunit alpha, CD130  | BD_CD                           |
| IL7R  | Interleukin-7 receptor subunit alpha, IL-7 receptor subunit alpha, IL-7R subunit alpha, IL-7R-alpha, IL-7RA, CDw127, CD127  | BD_CD                           |
| IL9R  | Interleukin-9 receptor, IL-9 receptor, IL-9R, CD129   | BD_CD                           |
| KIT   | SCFR, Mast/stem cell growth factor receptor Kit, SCFR, 2.7.10.1, Piebald trait protein, PBT, Proto-oncogene c-Kit, Tyrosine-protein kinase Kit, p145 c-kit, v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog, CD117  | BD_CD                           |
| LAMP1 | Lysosome-associated membrane glycoprotein 1, LAMP-1, Lysosome-associated membrane protein 1, CD107 antigen-like family member A, CD107a   | PM23856902,<br>BD_CD,<br>BSc_CH |
| LAMP2 | Lysosome-associated membrane glycoprotein 2, LAMP-2, Lysosome-associated membrane protein 2, CD107 antigen-like family member B, CD107b   | BD_CD                           |
| LIFR  | Leukemia inhibitory factor receptor, LIF receptor, LIF-R, CD118   | PM23856902,                     |

|          |   |  |
|----------|---|--|
|          |   | BD_CD  |
| MPL      | TPOR, Thrombopoietin receptor, TPO-R, Myeloproliferative leukemia protein, Proto-oncogene c-Mpl, CD110  | BD_CD  |
| PVRL1    | HVEC, PRR1, Poliovirus receptor-related protein 1, Herpes virus entry mediator C, Herpesvirus entry mediator C, HveC, Herpesvirus Ig-like receptor, HIgR, Nectin-1, CD111   | PM23856902,<br>BD_CD,<br>BSc_CH                                    |
| PVRL2    | HVEB, PRR2, Poliovirus receptor-related protein 2, Herpes virus entry mediator B, Herpesvirus entry mediator B, HveB, Nectin-2, CD112   | BD_CD  |
| PVRL3    | PRR3, Poliovirus receptor-related protein 3, CDw113, Nectin-3, CD113  | BD_CD  |
| SEMA7A   | CD108, SEMAL, Semaphorin-7A, CDw108, JMH blood group antigen, John-Milton-Hargen human blood group Ag, Semaphorin-K1, Sema K1, Semaphorin-L, Sema L, CD108  | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>BD_CD,<br>PM23856902 |
| TNFRSF1A | TNFAR, TNFR1, Tumor necrosis factor receptor superfamily member 1A, Tumor necrosis factor receptor 1, TNF-R1, Tumor necrosis factor receptor type I, TNF-RI, TNFR-I, p55, p60, CD120a, Tumor necrosis factor receptor superfamily member 1A, membrane form, Tumor necrosis factor-binding protein 1, TBPI   | BD_CD  |
| TNFRSF1B | TNFBR, TNFR2, Tumor necrosis factor receptor superfamily member 1B, Tumor necrosis factor receptor 2, TNF-R2, Tumor necrosis factor receptor type II, TNF-RII, TNFR-II, p75, p80 TNF-alpha receptor, CD120b, Etanercept, Tumor necrosis factor receptor superfamily member 1b, membrane form, Tumor necrosis factor-binding protein 2, TBP-2, TBPII | BD_CD  |
| VCAM1    | L1CAM, Vascular cell adhesion protein 1, V-CAM 1, VCAM-1, INCAM-100, CD106  | BD_CD  |

**Table S4. Erythrocyte membrane proteins listed in the human blood group database (BGMUT) at the NCBI web site (<http://www.ncbi.nlm.nih.gov/projects/gv/rbc/xslcgi.fcgi?cmd=bgmut/home>).**

| <b>RBC<br/>membrane<br/>protein</b> | <b>alternative names</b>  | <b>listed in<br/>RBCC<br/>databases</b>                             |
|-------------------------------------|---|---|
| A4GALT                              | A14GALT, A4GALT1, Lactosylceramide 4-alpha-galactosyltransferase, 2.4.1.228, Alpha-1, 4-N-acetylglucosaminyltransferase, Alpha-1, 4-galactosyltransferase, Alpha4Gal-T1, CD77 synthase, Globotriaosylceramide synthase, Gb3 synthase, P1/Pk synthase, UDP-galactose:beta-D-galactosyl-beta1-R 4-alpha-D-galactosyltransferase   | BGMUT   |
| ABCB6                               | MTABC3, PRP, UMAT, ATP-binding cassette sub-family B member 6, mitochondrial, Mitochondrial ABC transporter 3, Mt-ABC transporter 3, P-glycoprotein-related protein, Ubiquitously-expressed mammalian ABC half transporter  | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_HU,<br>BSc_CH,<br>PM23856902 |
| ABCG2                               | ABCP, BCRP, BCRP1, MXR, ATP-binding cassette sub-family G member 2, Breast cancer resistance protein, CDw338, Mitoxantrone resistance-associated protein, Placenta-specific ATP-binding cassette transporter, Urate exporter, CD338   | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_HU,<br>BSc_CH,<br>PM23856902 |
| ABO                                 | Histo-blood group ABO system transferase, Fucosylglycoprotein 3-alpha-galactosyltransferase, Fucosylglycoprotein alpha-N-acetylgalactosaminyltransferase, Glycoprotein-fucosylgalactoside alpha-N-acetylgalactosaminyltransferase, 2.4.1.40, Glycoprotein-fucosylgalactoside alpha-galactosyltransferase, 2.4.1.37, Histo-blood group A transferase, A transferase, Histo-blood group B transferase, B transferase, NAGAT, Fucosylglycoprotein alpha-N-acetylgalactosaminyltransferase soluble form | BGMUT   |
| ACHE                                | Acetylcholinesterase, AChE, 3.1.1.7   | hRBCD,  |



|          |  |  |
|----------|--|--|
|          |  | PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902           |
| AQP1     | CHIP28, Aquaporin-1, AQP-1, Aquaporin-CHIP, Urine water channel, Water channel protein for red blood cells and kidney proximal tubule  | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902 |
| AQP3     | Aquaporin-3, AQP-3, Aquaglyceroporin-3   | BGMUT,<br>BSc_CH   |
| ART4     | DO, DOK1, Ecto-ADP-ribosyltransferase 4, 2.4.2.31, ADP-ribosyltransferase C2 and C3 toxin-like 4, ARTC4, Dombrock blood group carrier molecule, Mono(ADP-ribosyl)transferase 4, NAD(P)(+)-arginine ADP-ribosyltransferase 4, CD297   | hRBCD,<br>PM23856902,<br>BGMUT,<br>BSc_CH                |
| B3GALNT1 | B3GALT3, UNQ531/PRO1074, UDP-GalNAc:beta-1, 3-N-acetylgalactosaminyltransferase 1, Beta-1, 3-GalNAc-T1, 2.4.1.79, Beta-1, 3-galactosyltransferase 3, Beta-1, 3-GalTase 3, Beta3Gal-T3, Beta3GalT3, b3Gal-T3, Beta-3-Gx-T3, Galactosylgalactosylglucosylceramide beta-D-acetyl-galactosaminyltransferase, Globoside synthase, UDP-N-acetylgalactosamine:globotriaosylceramide beta-1, 3-N-acetylgalactosaminyltransferase | BGMUT  |
| BCAM     | LU, MSK19, Basal cell adhesion molecule, Auberger B antigen, B-CAM cell surface glycoprotein, F8/G253 antigen, Lutheran antigen, Lutheran blood group glycoprotein, CD239  | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902 |
| BSG      | UNQ6505/PRO21383, Basigin, 5F7, Collagenase stimulatory factor, Extracellular matrix metalloproteinase inducer, EMMPRIN, Leukocyte activation antigen M6, OK blood group antigen, Tumor cell-derived collagenase stimulatory factor, TCSF, CD147   | hRBCD,<br>PM19886704,<br>PM23856902,<br>BGMUT            |
| C1GALT1  | Glycoprotein-N-acetylgalactosamine 3-beta-galactosyltransferase 1, 2.4.1.122, B3Gal-T8, Core 1 O-glycan T-synthase, Core 1 UDP-galactose:N-acetylgalactosamine-alpha-R beta 1, 3-galactosyltransferase 1, Beta-1, 3-galactosyltransferase, Core 1  | BGMUT  |

|           |  |  |
|-----------|--|--|
|           | beta1, 3-galactosyltransferase 1, C1GalT1, Core 1 beta3-Gal-T1   |  |
| C1GALT1C1 | COSMC, HSPC067, MSTP143, UNQ273/PRO310, C1GALT1-specific chaperone 1, C38H2-like protein 1, C38H2-L1, Core 1 beta1, 3-galactosyltransferase 2, C1Gal-T2, C1GalT2, Core 1 beta3-Gal-T2, Core 1 beta3-galactosyltransferase-specific molecular chaperone   | BGMUT  |
| C4A       | CO4, CPAMD2, Complement C4-A, Acidic complement C4, C3 and PZP-like alpha-2-macroglobulin domain-containing protein 2, Complement C4 beta chain, Complement C4-A alpha chain, C4a anaphylatoxin, C4b-A, C4d-A, Complement C4 gamma chain   | PM23856902, BGMUT                                    |
| C4B       | CO4, CPAMD3, Complement C4-B, Basic complement C4, C3 and PZP-like alpha-2-macroglobulin domain-containing protein 3, Complement C4 beta chain, Complement C4-B alpha chain, C4a anaphylatoxin, C4b-B, C4d-B, Complement C4 gamma chain  | hRBCD, PM19886704, BGMUT, BSc_CH, PM23856902         |
| CD151     | TSPAN24, CD151 antigen, GP27, Membrane glycoprotein SFA-1, Platelet-endothelial tetraspan antigen 3, PETA-3, Tetraspanin-24, Tspan-24, CD151   | BGMUT  |
| CD44      | LHR, MDU2, MDU3, MIC4, CD44 antigen, CDw44, Epican, Extracellular matrix receptor III, ECMR-III, GP90 lymphocyte homing/adhesion receptor, HUTCH-I, Heparan sulfate proteoglycan, Hermes antigen, Hyaluronate receptor, Phagocytic glycoprotein 1, PGP-1, Phagocytic glycoprotein I, PGP-I, CD44 | hRBCD, PM19886704, BGMUT, BSc_CH, PM23856902         |
| CD55      | CR, DAF, Complement decay-accelerating factor, CD55  | hRBCD, PM19886704, BGMUT, BSc_HU, BSc_CH, PM23856902 |
| CD99      | MIC2, MIC2X, MIC2Y, CD99 antigen, 12E7, E2 antigen, Protein MIC2, T-cell surface glycoprotein E2, CD99   | hRBCD, PM19886704, BGMUT, BSc_CH, PM23856902         |
| CR1       | C3BR, Complement receptor type 1, C3b/C4b receptor, CD35   | hRBCD, PM19886704,                                   |

|       |  |  |
|-------|--|--|
|       |  | BGMUT,<br>BSc_CH,<br>PM23856902                          |
| DARC  | ACKR1, FY, GPD, Duffy antigen/chemokine receptor, Atypical chemokine receptor 1, Fy glycoprotein, GpFy, Glycoprotein D, Plasmodium vivax receptor, CD234   | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902 |
| ERMAP | RD, SC, Erythroid membrane-associated protein, hERMAP, Radin blood group antigen, Scianna blood group antigen  | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH                |
| FUT1  | H, HSC, Galactoside 2-alpha-L-fucosyltransferase 1, 2.4.1.69, Alpha(1, 2)FT 1, Blood group H alpha 2-fucosyltransferase, Fucosyltransferase 1, GDP-L-fucose:beta-D-galactoside 2-alpha-L-fucosyltransferase 1                                | BGMUT  |
| FUT2  | SEC2, Galactoside 2-alpha-L-fucosyltransferase 2, 2.4.1.69, Alpha(1, 2)FT 2, Fucosyltransferase 2, GDP-L-fucose:beta-D-galactoside 2-alpha-L-fucosyltransferase 2, SE2, Secretor blood group alpha-2-fucosyltransferase, Secretor factor, Se | BGMUT  |
| FUT3  | FT3B, LE, Galactoside 3(4)-L-fucosyltransferase, 2.4.1.65, Blood group Lewis alpha-4-fucosyltransferase, Lewis FT, Fucosyltransferase 3, Fucosyltransferase III, FucT-III  | BGMUT  |
| FUT6  | FCT3A, Alpha-(1, 3)-fucosyltransferase 6, 2.4.1.65, Fucosyltransferase 6, Fucosyltransferase VI, Fuc-TVI, FucT-VI, Galactoside 3-L-fucosyltransferase  | BGMUT  |
| FUT7  | Alpha-(1, 3)-fucosyltransferase 7, 2.4.1.-, Fucosyltransferase 7, Fucosyltransferase VII, Fuc-TVII, FucT-VII, Galactoside 3-L-fucosyltransferase, Selectin ligand synthase   | PM23856902,<br>BGMUT                                     |
| GBGT1 | UNQ2513/PRO6002, Globoside alpha-1, 3-N-acetylgalactosaminyltransferase 1, 2.4.1.-, Forssman glycolipid synthase-like protein  | BGMUT  |
| GCNT2 | GCNT5, II, NACGT1, N-acetylglucosaminide beta-1, 6-N-acetylglucosaminyl-transferase, isoform A, N-acetylglucosaminyltransferase, 2.4.1.150, I-branching enzyme, IGNT   | BGMUT  |
| GYPA  | GPA, Glycophorin-A, MN sialoglycoprotein, PAS-2,   | hRBCD,   |

|       |  |   |
|-------|--|---|
|       | Sialoglycoprotein alpha, CD235a  | PM19886704,<br>BGMUT,<br>BSc_HU,<br>BSc_CH,<br>PM23856902 |
| GYPB  | GPB, Glycophorin-B, PAS-3, SS-active sialoglycoprotein, Sialoglycoprotein delta, CD235b  | PM23856902,<br>BGMUT                                      |
| GYPC  | GLPC, GPC, Glycophorin-C, Glycoconnectin, Glycophorin-D, GPD, Glycoprotein beta, PAS-2', Sialoglycoprotein D, CD236  | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902  |
| GYPE  | GPE, Glycophorin-E   | BGMUT   |
| ICAM4 | LW, Intercellular adhesion molecule 4, ICAM-4, Landsteiner-Wiener blood group glycoprotein, LW blood group protein, CD242  | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902  |
| KEL   | Kell blood group glycoprotein, 3.4.24.-, CD238   | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902  |
| RHAG  | RH50, Ammonium transporter Rh type A, Erythrocyte membrane glycoprotein Rh50, Erythrocyte plasma membrane 50 kDa glycoprotein, Rh50A, Rhesus blood group family type A glycoprotein, Rh family type A glycoprotein, Rh type A glycoprotein, Rhesus blood group-associated ammonia channel, Rhesus blood group-associated glycoprotein, CD241 | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902  |
| RHCE  | RHC, RHE, Blood group Rh(CE) polypeptide, Rh polypeptide 1, RhPI, Rh30A, RhIXB, Rhesus C/E antigens, CD240CE   | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902  |
| RHD   | Blood group Rh(D) polypeptide, RHXIII, Rh polypeptide 2, RhPII, Rhesus D antigen, CD240D   | PM19886704,<br>PM23856902,                                |

|         |  |   |
|---------|--|---|
|         |  | BGMUT,<br>BSc_CH  |
| SEMA7A  | CD108, SEMAL, Semaphorin-7A, CDw108, JMH blood group antigen, John-Milton-Hargen human blood group Ag, Semaphorin-K1, Sema K1, Semaphorin-L, Sema L, CD108 | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>BD_CD,<br>PM23856902  |
| SLC14A1 | HUT11, JK, RACH1, UT1, UTE, Urea transporter 1, Solute carrier family 14 member 1, Urea transporter, erythrocyte   | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_HU,<br>BSc_CH,<br>PM23856902 |
| SLC4A1  | AE1, DI, EPB3, Band 3 anion transport protein, Anion exchange protein 1, AE 1, Anion exchanger 1, Solute carrier family 4 member 1, CD233                  | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902            |
| SMIM1   | Small integral membrane protein 1, Vel blood group antigen   | PM23856902,<br>BGMUT,<br>BSc_CH                                     |
| XG      | PBDX, Glycoprotein Xg, Protein PBDX  | BGMUT   |
| XK      | XKR1, XRG1, Membrane transport protein XK, Kell complex 37 kDa component, Kx antigen, XK-related protein 1   | hRBCD,<br>PM19886704,<br>BGMUT,<br>BSc_CH,<br>PM23856902            |