

References

Description

- Ando, S., et al., *A novel pentaglycosyl ceramide containing di-beta-N-acetylgalactos-aminyl residue (Para-Forssman glycolipid) isolated from human erythrocyte membrane*. *Adv Exp Med Biol*, 1982. **152** : p. 71-81.
- Anstee, D.J., *Blood group-active surface molecules of the human red blood cell*. *Vox Sang*, 1990. **58** (1) : p. 1-20.
- Bennett, E.P., et al., *Genomic cloning of the human histo-blood group ABO locus*. *Biochem Biophys Res Commun*, 1995. **211**(1) : p. 347.
- Breimer, M.E., *Chemical and immunological identification of the Forssman pentaglycosylceramide in kidney*. *Glycoconjugate J*, 1985. **2** : p. 375-385.
- Bremer, E.G., et al., *Characterization of a glycosphingolipid antigen defined by the monoclonal antibody MBr1 expressed in normal and neoplastic epithelial cells of human mammary gland*. *J Biol Chem*, 1984. **259**(23) : p. 14773-7.
- Calafell, F., et al., *Evolutionary dynamics of the human ABO gene*. *Hum Genet*, 2008. **124**(2) : p. 123-35.
- Chester, M.A. and M.L. Olsson, *The ABO blood group gene : a locus of considerable genetic diversity*. *Transfus Med Rev*, 2001. **15**(3) : p. 177-200.
- Clausen, H., et al., *Blood group A glycolipid (Ax) with globo-series structure which is specific for blood group A1 erythrocytes : one of the chemical bases for A1 and A2 distinction*. *Biochem Biophys Res Commun*, 1984. **124**(2) : p. 523-9.
- Clausen, H., et al., *Blood group A determinants with mono- and difucosyl type 1 chain in human erythrocyte membranes*. *Biochemistry*, 1985. **24**(14) : p. 3578-86.
- Clausen, H., et al., *Repetitive A epitope (type 3 chain A) defined by blood group A1-specific monoclonal antibody TH-1 : chemical basis of qualitative A1 and A2 distinction*. *Proc Natl Acad Sci U S A*, 1985. **82**(4) : p. 1199-203.
- Clausen, H., et al., *Novel blood group H glycolipid antigens exclusively expressed in blood group A and AB erythrocytes (type 3 chain H). I. Isolation and chemical characterization*. *J Biol Chem*, 1986. **261** (3) : p. 1380-7.
- Clausen, H., et al., *Further characterization of type 2 and type 3 chain blood group A glycosphingolipids from human erythrocyte membranes*. *Biochemistry*, 1986. **25**(22) : p. 7075-85.
- Clausen, H., E. Holmes, and S. Hakomori, *Novel blood group H glycolipid antigens exclusively expressed in blood group A and AB erythrocytes (type 3 chain H). II. Differential conversion of different H substrates by A1 and A2 enzymes, and type 3 chain H expression in relation to secretor status*.

J Biol Chem, 1986. **261**(3) : p. 1388-92.

Clausen, H. and S. Hakomori, *ABH and related histo-blood group antigens ; immunochemical differences in carrier isotypes and their distribution*. Vox Sang, 1989. **56**(1) : p. 1-20.

Colley, K.J., *Golgi localization of glycosyltransferases : more questions than answers*. Glycobiology, 1997. **7**(1) : p. 1-13.

Daniels, G., *Human Blood Groups*. Second ed. 2002 : Blackwell Science Ltd.

Dejter-Juszynski, M., et al., *Blood-group ABH-specific macroglycolipids of human erythrocytes : isolation in high yield from a crude membrane glycoprotein fraction*. Eur J Biochem, 1978. **83**(2) : p. 363-73.

de Vries, T., et al., *Acceptor specificity of different length constructs of human recombinant alpha 1,3/4-fucosyltransferases. Replacement of the stem region and the transmembrane domain of fucosyltransferase V by protein A results in an enzyme with GDP-fucose hydrolyzing activity*. J Biol Chem, 1995. **270**(15) : p. 8712-22.

Donald, A.S., *A-active trisaccharides isolated from A1 and A2 blood-group-specific glycoproteins*. Eur J Biochem, 1981. **120**(2) : p. 243-9.

Engelsen, S.B., Hansen, P.I. and Perez, S., *Polys 2.0 : An Open Source Software Package for Building Three-Dimensional Structures of Polysaccharides*. Biopolymers, 2014. **101**(3) p. 733-743.

Ferguson-Smith, M.A., et al., *Localisation of the human ABO : Np-1 : AK-1 linkage group by regional assignment of AK-1 to 9q34*. Hum Genet, 1976. **34**(1) : p. 35-43.

Fernandez-Mateos, P., et al., *Point mutations and deletion responsible for the Bombay H null and the Reunion H weak blood groups*. Vox Sang, 1998. **75**(1) : p. 37-46.

Finne, J., et al., *Alkali-stable blood group A- and B-active poly(glycosyl)-peptides from human erythrocyte membrane*. FEBS Lett, 1978. **89**(1) : p. 111-5.

Finne, J., *Identification of the blood-group ABH-active glycoprotein components of human erythrocyte membrane*. Eur J Biochem, 1980. **104**(1) : p. 181-9.

Finne, J., et al., *Molecular nature of the blood-group ABH antigens of the human erythrocyte membrane*. Rev Fr Transfus Immunohematol, 1980. **23**(5) : p. 545-52.

Fredriksson, S.A., et al., *ABH blood group antigens in N-glycan of human glycophorin A*. Arch Biochem Biophys, 2010. **498**(2) : p. 127-35.

Fukuda, M. and M.N. Fukuda, *Changes in cell surface glycoproteins and carbohydrate structures during the development and differentiation of human erythroid cells*. J Supramol Struct Cell Biochem, 1981. **17**(4) : p. 313-24.

Fukuda, M.N. and S. Hakomori, *Structures of branched blood group A-active glycosphingolipids in human erythrocytes and polymorphism of A- and H-glycolipids in A1 and A2 subgroups*. J Biol Chem,

1982. **257**(1) : p. 446-55.

Fukuda, M., et al., *Structure of branched lactosaminoglycan, the carbohydrate moiety of band 3 isolated from adult human erythrocytes.* J Biol Chem, 1984. **259**(13) : p. 8260-73.

Gardas, A., *Structure of an (A-blood-group)-active glycolipid isolated from human erythrocytes.* Eur J Biochem, 1978. **89**(2) : p. 471-3.

Grabenhorst, E. and H.S. Conradt, *The cytoplasmic, transmembrane, and stem regions of glycosyltransferases specify their in vivo functional sublocalization and stability in the Golgi.* J Biol Chem, 1999. **274**(51) : p. 36107-16.

Grahn, A., et al., *Determination of Lewis FUT3 gene mutations by PCR using sequence-specific primers enables efficient genotyping of clinical samples.* Hum Mutat, 2001. **18**(4) : p. 358-9.

Goldstein, J., et al., *Further evidence for the presence of A antigen on group B erythrocytes through the use of specific exoglycosidases.* Vox Sang, 1989. **57**(2) : p. 142-6.

Hakomori, S., K. Stellner, and K. Watanabe, *Four antigenic variants of blood group A glycolipid : examples of highly complex, branched chain glycolipid of animal cell membrane.* Biochem Biophys Res Commun, 1972. **49**(4) : p. 1061-8.

Hakomori, S., S.M. Wang, and W.W. Young, Jr., *Isoantigenic expression of Forssman glycolipid in human gastric and colonic mucosa : its possible identity with "A-like antigen" in human cancer.* Proc Natl Acad Sci U S A, 1977. **74**(7) : p. 3023-7.

Hakomori, S., *Tumor-associated carbohydrate antigens.* Annu Rev Immunol, 1984. **2** : p. 103-26.

Hakomori, S., *Antigen structure and genetic basis of histo-blood groups A, B and O : their changes associated with human cancer.* Biochim Biophys Acta, 1999. **1473**(1) : p. 247-66.

Haslam, D.B. and J.U. Baenziger, *Expression cloning of Forssman glycolipid synthetase : a novel member of the histo-blood group ABO gene family.* Proc Natl Acad Sci U S A, 1996. **93**(20) : p. 10697-702.

Helenius, A., *How N-linked oligosaccharides affect glycoprotein folding in the endoplasmic reticulum.* Mol Biol Cell, 1994. **5**(3) : p. 253-65.

Henry, S., R. Oriol, and B. Samuelsson, *Lewis histo-blood group system and associated secretory phenotypes.* Vox Sang, 1995. **69**(3) : p. 166-82.

Holgersson, J., M.E. Breimer, and B.E. Samuelsson, *Basic biochemistry of cell surface carbohydrates and aspects of the tissue distribution of histo-blood group ABH and related glycosphingolipids.* APMIS Suppl, 1992. **27** : p. 18-27.

Hosseini-Maaf, B., et al., *New and unusual O alleles at the ABO locus are implicated in unexpected blood group phenotypes.* Transfusion, 2005. **45**(1) : p. 70-81.

Kannagi, R., S.B. Levery, and S. Hakomori, *Blood group H antigen with globo-series structure. Isolation and characterization from human blood group O erythrocytes.*

FEBS Lett, 1984. **175**(2) : p. 397-401.

Karhi, K.K. and C.G. Gahmberg, *Identification of blood group A-active glycoproteins in the human erythrocyte membrane*. Biochim Biophys Acta, 1980. **622**(2) : p. 344-54.

Kleene, R. and E.G. Berger, *The molecular and cell biology of glycosyltransferases*. Biochim Biophys Acta, 1993. **1154**(3-4) : p. 283-325.

Koscielak, J., et al., *Isolation and characterization of poly(glycosyl)ceramides (megalogycolipids) with A, H and I blood-group activities*. Eur J Biochem, 1976. **71**(1) : p. 9-18.

Koscielak, J., *ABH blood group active glycoconjugates from human red cells*. Transfus Med, 2001. **11**(4) : p. 267-79.

Koscielak, J., et al., *Immunochemistry of li-active glycosphingolipids of erythrocytes*. Eur J Biochem, 1979. **96**(2) : p. 331-7.

Koscielak, J., *Blood Group a Specific Glycolipids from Human Erythrocytes*. Biochim Biophys Acta, 1963. **78** : p. 313-28.

Henry, S., R. Oriol, and B. Samuelsson, *Lewis histo-blood group system and associated secretory phenotypes*. Vox Sang, 1995. **69**(3) : p. 166-82.

Larson, G., et al., *Typing for the human lewis blood group system by quantitative fluorescence-activated flow cytometry : large differences in antigen presentation on erythrocytes between A(1), A(2), B, O phenotypes*. Vox Sang, 1999. **77**(4) : p. 227-36.

Lloyd, K.O., E.A. Kabat, and E. Licerio, *Immunochemical studies on blood groups. 38. Structures and activities of oligosaccharides produced by alkaline degradation of blood-group Lewis-a substance. Proposed structure of the carbohydrate chains of human blood-group A, B, H, Le-a, and Le-b substances*. Biochemistry, 1968. **7**(8) : p. 2976-90.

Lloyd, K.O. and E.A. Kabat, *Immunochemical studies on blood groups. XLI. Proposed structures for the carbohydrate portions of blood group A, B, H, Lewis-a, and Lewis-b substances*. Proc Natl Acad Sci U S A, 1968. **61**(4) : p. 1470-7.

Maccioni, H.J., R. Quiroga, and W. Spessott, *Organization of the synthesis of glycolipid oligosaccharides in the Golgi complex*. FEBS Lett, 2011. **585**(11) : p. 1691-8.

Maccioni, H.J., R. Quiroga, and M.L. Ferrari, *Cellular and molecular biology of glycosphingolipid glycosylation*. J Neurochem, 2011. **117**(4) : p. 589-602.

Miller-Podraza, H., *Polyglycosylceramides, Poly-N-acetyllactosamine-Containing Glycosphingolipids : Methods of Analysis, Structure, and Presumable Biological Functions*. Chem Rev, 2000. **100**(12) : p. 4663-82.

Mollicone, R., A. Cailleau, and R. Oriol, *Molecular genetics of H, Se, Lewis and other fucosyltransferase genes*. Transfus Clin Biol, 1995. **2**(4) : p. 235-42.

-
- Morgan, W.T. and W.M. Watkins, *Unravelling the biochemical basis of blood group ABO and Lewis antigenic specificity*. Glycoconj J, 2000. **17**(7-9) : p. 501-30.
- Nagai, M., et al., *Human blood group glycosyltransferases. I. Purification of n-acetylgalactosaminyltransferase*. J Biol Chem, 1978. **253**(2) : p. 377-9.
- Nagai, M., et al., *Human blood group glycosyltransferase. II. Purification of galactosyltransferase*. J Biol Chem, 1978. **253**(2) : p. 380-1.
- Obukhova, P., et al., *Natural anti-A and anti-B of the ABO system : allo- and autoantibodies have different epitope specificity*. Transfusion, 2012. **52**(4) : p. 860-9.
- Okada, Y., et al., *Glycolipid antigens with blood group I and i specificities from human adult and umbilical cord erythrocytes*. J Immunol, 1984. **133**(2) : p. 835-42.
- Olsson, M.L. and M.A. Chester, *Polymorphisms at the ABO locus in subgroup A individuals*. Transfusion, 1996. **36**(4) : p. 309-13.
- Olsson, M.L., et al., *Genomic analysis of clinical samples with serologic ABO blood grouping discrepancies : identification of 15 novel A and B subgroup alleles*. Blood, 2001. **98**(5) : p. 1585-93.
- Olsson, M.L. and M.A. Chester, *Polymorphism and recombination events at the ABO locus : a major challenge for genomic ABO blood grouping strategies*. Transfus Med, 2001. **11**(4) : p. 295-313.
- Oriol, R., J. Le Pendu, and R. Mollicone, *Genetics of ABO, H, Lewis, X and related antigens*. Vox Sang, 1986. **51**(3) : p. 161-71.
- Oriol, R., *ABH and related tissue antigens*. Biochem Soc Trans, 1987. **15**(4) : p. 596-9.
- Oriol, R., B.E. Samuelsson, and L. Messeter, *ABO antibodies—serological behaviour and immunochemical characterization*. J Immunogenet, 1990. **17**(4-5) : p. 279-99.
- Palcic, M.M., N.O. Seto, and O. Hindsgaul, *Natural and recombinant A and B gene encoded glycosyltransferases*. Transfus Med, 2001. **11**(4) : p. 315-23.
- Patenaude, S.I., et al., *The structural basis for specificity in human ABO(H) blood group biosynthesis*. Nat Struct Biol, 2002. **9**(9) : p. 685-90.
- Patnaik, S.K., W. Helmberg, and O.O. Blumenfeld, *BGMUT : NCBI dbRBC database of allelic variations of genes encoding antigens of blood group systems*. Nucleic Acids Res, 2012. 40(Database issue) : p. D1023-9.
- Paulson, J.C., *Glycoproteins : what are the sugar chains for ?* Trends Biochem Sci, 1989. **14**(7) : p. 272-6.

-
- Perez, S., *Three-Dimensional Representations of Complex Carbohydrates and Polysaccharides. Sweet Unity Mol : A Video Game Based Computer Graphic Software*. Glycobiology, 2015, **25** (5), p. 483-491.
- Paulson, J.C. and K.J. Colley, *Glycosyltransferases. Structure, localization, and control of cell type-specific glycosylation*. J Biol Chem, 1989. **264**(30) : p. 17615-8.
- Podbielska, M. and H. Krotkiewski, *Identification of blood group A and B antigens in human glycophorin*. Arch Immunol Ther Exp (Warsz), 2000. **48**(3) : p. 211-21.
- Podbielska, M., et al., *ABH blood group antigens in O-glycans of human glycophorin A*. Arch Biochem Biophys, 2004. **429**(2) : p. 145-53.
- Rege, V.P., et al., *Three New Trisaccharides Obtained from Human Blood-Group a, B, H and Lea Substances : Possible Sugar Sequences in the Carbohydrate Chains*. Nature, 1963. **200** : p. 532-4.
- Romans, D.G., C.A. Tilley, and K.J. Dorrington, *Monogamous bivalency of IgG antibodies. I. Deficiency of branched ABH-active oligosaccharide chains on red cells of infants causes the weak antiglobulin reactions in hemolytic disease of the newborn due to ABO incompatibility*. J Immunol, 1980. **124**(6) : p. 2807-11.
- Sano, R., et al., *Expression of ABO blood-group genes is dependent upon an erythroid cell-specific regulatory element that is deleted in persons with the B(m) phenotype*. Blood, 2012. **119**(22) : p. 5301-10.
- Schachter, H., *The joys of HexNAc. The synthesis and function of N- and O-glycan branches*. Glycoconj J, 2000. **17**(7-9) : p. 465-83.
- Schenkel-Brunner, H., *Blood-group-ABH antigens of human erythrocytes. Quantitative studies on the distribution of H antigenic sites among different classes of membrane components*. Eur J Biochem, 1980. **104**(2) : p. 529-34.
- Schenkel-Brunner, H., *Human Blood Groups, Chemical and Biochemical Basis of Antigen Specificity*. 2nd ed. 2000, Wien : Springer-Verlag.
- Seltsam, A., et al., *The nature of diversity and diversification at the ABO locus*. Blood, 2003. **102**(8) : p. 3035-42.
- Siddiqui, B., et al., *Structures of ceramide tetrasaccharides from various sources : uniqueness of rat kidney ceramide tetrasaccharide*. J Lipid Res, 1972. **13**(5) : p. 657-62.
- Storry, J.R. and M.L. Olsson, *The ABO blood group system revisited : a review and update*. Immunohematology, 2009. **25**(2) : p. 48-59.
- Soya, N., et al., *Comparative study of substrate and product binding to the human ABO(H) blood group glycosyltransferases*. Glycobiology, 2009. **19**(11) : p. 1224-34.
- Svensson, L., A. Petersson, and S.M. Henry, *Secretor genotyping for A385T, G428A, C571T, C628T, 685delTGG, G849A, and other mutations from a single PCR*.

- Transfusion, 2000. **40**(7) : p. 856-60.
- Svensson, L., et al., *Novel glycolipid variations revealed by monoclonal antibody immunochemical analysis of weak ABO subgroups of A*. Vox Sang, 2005. **89**(1) : p. 27-38.
- Svensson, L., et al., *Blood group A(1) and A(2) revisited : an immunochemical analysis*. Vox Sang, 2009. **96**(1) : p. 56-61.
- Svensson, L., et al., *The structural basis of blood group A-related glycolipids in an A3 red cell phenotype and a potential explanation to a serological phenomenon*. Glycobiology, 2011. **21**(2) : p. 162-74.
- Svensson, L., et al., *Forssman expression on human erythrocytes : biochemical and genetic evidence of a new histo-blood group system*. Blood, 2012.
- Svensson, L., et al., *Forssman expression on human erythrocytes : biochemical and genetic evidence of a new histo-blood group system*. Blood, 2013. **121**(8) : p. 1459-68.
- Takasaki, S., K. Yamashita, and A. Kobata, *The sugar chain structures of ABO blood group active glycoproteins obtained from human erythrocyte membrane*. J Biol Chem, 1978. **253**(17) : p. 6086-91.
- Thorn, J.J., et al., *Structural characterization of x2 glycosphingolipid, its extended form, and its sialosyl derivatives : accumulation associated with the rare blood group p phenotype*. Biochemistry, 1992. **31**(28) : p. 6509-17.
- Tuppy, H. and W.L. Staudenbauer, *Microsomal incorporation of N-acetyl-D-galactosamine into blood group substance*. Nature, 1966. **210**(5033) : p. 316-7.
- Varki, A., *Biological roles of oligosaccharides : all of the theories are correct*. Glycobiology, 1993. **3**(2) : p. 97-130.
- Varki, A., et al., *Symbol nomenclature for graphical representations of glycans*. Glycobiology, 2015, **25** (12) : p. 1323-1324.
- Watkins, W.M. and W.T. Morgan, *Possible genetical pathways for the biosynthesis of blood group mucopolysaccharides*. Vox Sang, 1959. **4**(2) : p. 97-119.
- Watkins, W.M., et al., *Regulation of expression of carbohydrate blood group antigens*. Biochimie, 1988. **70**(11) : p. 1597-611.
- White, T., et al., *Purification and cDNA cloning of a human UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase*. J Biol Chem, 1995. **270**(41) : p. 24156-65.
- Wilczynska, Z., H. Miller-Podraza, and J. Koscielak, *The contribution of different glycoconjugates to the total ABH blood group activity of human erythrocytes*. FEBS Lett, 1980. **112**(2) : p. 277-9.

- Yamakawa, T. and T. Iida, *Immunochemical study on the red blood cells. I. Globoside, as the agglutinin of the ABO system on erythrocytes*. Jpn J Exp Med, 1953. **23**(4) : p. 327-31.
- Yamakawa, T., S. Yokoyama, and N. Handa, *Chemistry of lipids of posthemolytic residue or stroma of erythrocytes. XI. Structure of globoside, the main mucolipid of human erythrocytes*. J Biochem, 1963. **53** : p. 28-36.
- Yamakawa, T., *A reflection on the early history of glycosphingolipids*. Glycoconj J, 1996. **13**(2) : p. 123-6.
- Yamamoto, F. and S. Hakomori, *Sugar-nucleotide donor specificity of histo-blood group A and B transferases is based on amino acid substitutions*. J Biol Chem, 1990. **265**(31) : p. 19257-62.
- Yamamoto, F., et al., *Cloning and characterization of DNA complementary to human UDP-GalNAc : Fuc alpha 1—2Gal alpha 1—3GalNAc transferase (histo-blood group A transferase) mRNA*. J Biol Chem, 1990. **265**(2) : p. 1146-51.
- Yamamoto, F., et al., *Molecular genetic basis of the histo-blood group ABO system*. Nature, 1990. **345** (6272) : p. 229-33.
- Yamamoto, F., P.D. McNeill, and S. Hakomori, *Human histo-blood group A2 transferase coded by A2 allele, one of the A subtypes, is characterized by a single base deletion in the coding sequence, which results in an additional domain at the carboxyl terminal*. Biochem Biophys Res Commun, 1992. **187**(1) : p. 366-74.
- Yamamoto, F., *Molecular genetics of the ABO histo-blood group system*. Vox Sang, 1995. **69**(1) : p. 1-7.
- Yamamoto, F. and P.D. McNeill, *Amino acid residue at codon 268 determines both activity and nucleotide-sugar donor substrate specificity of human histo-blood group A and B transferases. In vitro mutagenesis study*. J Biol Chem, 1996. **271**(18) : p. 10515-20.
- Yamamoto, F., Review : *ABO blood group system—ABH oligosaccharide antigens, anti-A and anti-B, A and B glycosyltransferases, and ABO genes*. Immunohematology, 2004. **20**(1) : p. 3-22.
- Yamamoto, F., et al., *ABO research in the modern era of genomics*. Transfus Med Rev, 2012. **26**(2) : p. 103-18.
- Yazer, M.H. and M.L. Olsson, *The O2 allele : questioning the phenotypic definition of an ABO allele*. Immunohematology, 2008. **24**(4) : p. 138-47.
- Yip, S.P., *Sequence variation at the human ABO locus*. Ann Hum Genet, 2002. **66**(Pt 1) : p. 1-27.
- Yoshida, A., et al., *An enzyme basis for blood type A intermediate status*. Am J Hum Genet, 1982. **34**(6) : p. 919-24.

-