

1. Record Nr.	UNINA9910813685003321
Autore	Daniels Geoff
Titolo	Human blood groups // Geoff Daniels ; foreword by Ruth Sanger
Pubbl/distr/stampa	Chichester, West Sussex, : John Wiley & Sons, 2013
ISBN	1-118-49359-1 1-299-24140-9 1-118-49362-1
Edizione	[3rd ed.]
Descrizione fisica	1 online resource (544 p.)
Disciplina	612.1/1825
Soggetti	Blood groups
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover -- Title page -- Copyright page -- Contents -- Foreword to 1st edition -- Preface to the third edition -- Some abbreviations used -- 1: Human Blood Groups: Introduction -- 1.1 Introduction -- 1.2 Blood group terminology -- 1.2.1 An internationally agreed nomenclature -- 1.2.2 Antigen, phenotype, gene and genotype symbols -- 1.2.3 Blood group systems -- 1.2.4 Collections -- 1.2.5 Low frequency antigens, the 700 series -- 1.2.6 High frequency antigens, the 901 series -- 1.2.7 Blood group terminology used in this book -- 1.3 Chromosomal location of blood group genes -- 1.4 DNA analysis for blood group testing -- 1.4.1 Clinical applications of molecular blood grouping -- 1.4.2 Current and future technologies -- 1.5 Structures and functions of blood group antigens -- 1.5.1 Membrane transporters -- 1.5.2 Receptors and adhesion molecules -- 1.5.3 Complement regulatory glycoproteins -- 1.5.4 Enzymes -- 1.5.5 Structural components -- 1.5.6 Components of the glycocalyx -- 1.5.7 What is the biological significance of blood group polymorphism? -- References -- 2: ABO, H, and Lewis Systems -- Part 1: History and introduction -- Part 2: Biochemistry, inheritance, and biosynthesis of the ABH and Lewis antigens -- 2.2 Structure of ABH, Lewis, and related antigens -- 2.2.1 Glycoconjugates expressing ABH and Lewis antigens -- 2.2.2 Carbohydrate determinants -- 2.3 Biosynthesis, inheritance, and molecular genetics -- 2.3.1 H antigen -- 2.3.2 ABO antigens -- 2.3.3

Lewis antigens -- 2.3.4 Lex, Ley, and sialyl-Lex -- 2.3.5 Other fucosyltransferase genes -- Part 3: ABO, H, and secretor -- 2.4 A1 and A2 -- 2.4.1 A1- and A2-transferases (GTA1 and GTA2) and the genes that produce them -- 2.4.2 A1 and A2 determinants differ quantitatively and qualitatively -- 2.4.3 Aint -- 2.5 ABO phenotype and gene frequencies -- 2.6 Secretion of ABO and H antigens. 2.6.1 Frequencies -- 2.6.2 Quantitative aspects -- 2.6.3 Sew -- 2.6.4 A, B, and H in plasma -- 2.7 Subgroups of A -- 2.7.1 A3 -- 2.7.2 Aend (Afinn, Abantu) -- 2.7.3 Ax -- 2.7.4 Am -- 2.7.5 Ay -- 2.7.6 Ael -- 2.7.7 Aw -- 2.7.8 Do non-deletional O alleles produce any A antigen? -- 2.8 Subgroups of B -- 2.8.1 B3 -- 2.8.2 Bx -- 2.8.3 Bm -- 2.8.4 Bel -- 2.8.5 Other subgroups of B -- 2.9 Amos and Bmos -- 2.10 A and B gene interaction -- 2.10.1 Allelic competition -- 2.10.2 Allelic enhancement -- 2.11 Overlapping specificities of A- and B-transferases (GTA and GTB) -- 2.11.1 B(A) and A(B) -- 2.11.2 cisAB -- 2.12 H-deficient phenotypes -- 2.12.1 Genetics of red cell H-deficient phenotypes -- 2.12.2 Red cell H-deficient, non-secretor -- the Bombay phenotype -- 2.12.3 Red cell H-partially deficient, non-secretor -- 2.12.4 Red cell H-deficient, secretor -- 2.12.5 Other H-deficient phenotypes -- 2.12.6 I and i expression in H-deficient phenotypes -- 2.13 Acquired alterations of A, B, and H antigens on red cells -- 2.13.1 Acquired B -- 2.13.2 Alterations in leukaemia patients -- 2.13.3 Other acquired changes in ABO antigens -- 2.13.4 In vitro enzymatic degradation of A, B, and H antigens -- 2.13.5 Modification of antigen expression by polyethylene glycol (PEG) -- 2.14 ABH antibodies and lectins -- 2.14.1 Anti-A and -B -- 2.14.2 Anti-A,B of group O serum -- 2.14.3 Clinical significance of ABO antibodies -- 2.14.4 ABO autoantibodies -- 2.14.5 ABO and transplantation -- 2.14.6 Monoclonal antibodies -- 2.14.7 Anti-H -- 2.14.8 Anti-HI and -Hi -- 2.14.9 Lectins -- Part 4: Lewis system -- 2.15 Lea and Leb antigens and phenotypes -- 2.15.1 Red cells -- 2.15.2 Secretions -- 2.15.3 Plasma -- 2.15.4 Uptake of Lewis antigens by red cells -- 2.15.5 Development of Lewis antigens -- 2.15.6 Lewis antigens during pregnancy -- 2.16 Antigen, phenotype, and gene frequencies. 2.16.1 Red cells -- 2.16.2 Secretions -- 2.17 Lewis antibodies -- 2.17.1 Anti-Lea -- 2.17.2 Anti-Leb -- 2.17.3 Anti-ALeb -- 2.17.4 Clinical significance of Lewis antibodies -- 2.17.5 Lewis antibodies and renal transplantation -- 2.18 Other antigens associated with Lewis -- 2.18.1 Leabx, the antigen originally called Lex -- 2.18.2 Lec and Led -- 2.18.3 Lex, Ley, and sialyl-Lex -- Part 5: Tissue distribution, disease associations, and functional aspects -- 2.19 Expression of ABH and Lewis antigens on other blood cells and in other tissues -- 2.19.1 Leucocytes -- 2.19.2 Platelets -- 2.19.3 Other tissues -- 2.19.4 Tumours -- 2.20 Associations with disease -- 2.20.1 Bacterial infections -- 2.20.2 Viral infections -- 2.20.3 Malaria -- 2.20.4 Clotting -- 2.20.5 Pancreatic cancer -- 2.20.6 Fucosidosis -- 2.21 Functional aspects -- References -- 3: MNS Blood Group System -- 3.1 History and introduction -- 3.2 Biochemistry and molecular genetics -- 3.2.1 Glycophorins -- 3.2.2 Glycophorin A (CD235A) -- 3.2.3 Glycophorin B (CD235B) -- 3.2.4 Cloning and organisation of the genes for GPA, GPB, and GPE -- 3.3 MN and Ss polymorphisms -- 3.3.1 M and N antigens (MNS1 and MNS2) -- 3.3.2 S and s antigens (MNS3 and MNS4) -- 3.3.3 Antigen, gene, and phenotype frequencies -- 3.3.4 Inheritance -- 3.4 Effects of enzyme treatment on the MNSs antigens -- 3.4.1 Proteases -- 3.4.2 Sialidase -- 3.5 The rare glycophorin A-deficient phenotypes En(a) and MK -- 3.5.1 En(a) -- 3.5.2 MK -- 3.5.3 Anti-Ena, anti-Wrb, and the determinants they define -- 3.5.4 Pr and Sa antigens and antibodies -- 3.6 U antigen and the GPB-deficient

phenotypes S- s- U and S- s- U+var -- 3.6.1 U (MNS5) and anti-U -- 3.6.2 Biochemistry -- 3.6.3 Molecular genetics -- 3.6.4 Frequency studies -- 3.7 M and N variants representing amino acid substitutions within the N-terminal region of GPA and GPB.

3.7.1 Mg (MNS11) -- 3.7.2 Mc (MNS8) -- 3.7.3 Fine specificity of MN antibodies -- 3.7.4 He (MNS6) and Me (MNS13) -- 3.8 The Miltenberger series -- 3.9 Hybrid glycoporphins and the low frequency antigens associated with them -- 3.10 GP(A-B) variants -- 3.10.1 GP.Hil (Mi.V) and the Hil (MNS20) antigen -- 3.10.2 GP(A-B) hybrids associated with S antigen -- 3.10.3 SAT (MNS36) -- 3.10.4 En(UK) -- 3.11 GP(B-A-B) variants -- 3.11.1 GP.Mur (Mi.III), GP.Hop (Mi.IV), GP.Bun (Mi.VI), and GP.HF (Mi.X) -- 3.11.2 He (MNS6) -- 3.12 GP(A-B-A) variants -- 3.12.1 GP.Dane (Mi.IX) -- DANE (MNS32) and ENDA (MNS44) -- 3.12.2 GP.Vw and GP.Hut -- Vw (MNS9), ENEH (MNS40), and Hut (MNS19) -- 3.12.3 GP.Nob (Mi.VII) and GP.Joh (Mi.VIII) -- Hop (MNS26), Nob (MNS27), and ENKT (MNS29) -- 3.12.4 GP(A-B-A).KI -- 3.12.5 GP(A-B-A).Sat -- 3.13 Further details on Hil, TSEN, MINY, Mur, and Mia -- antigens associated with hybrid glycoporphins -- 3.13.1 Hil (MNS20), TSEN (MNS33), and MINY (MNS34) -- 3.13.2 Mur (MNS10) -- 3.13.3 Mia (MNS7) -- 3.14 GP (B-A)-associated variants -- 3.14.1 Dantu (MNS25) -- 3.14.2 Sta (Stones, MNS15) and ERIK (MNS37) -- 3.15 Antigens associated with GPA amino acid substitutions proximal to the membrane and with abnormal expression of Wrb -- 3.15.1 HAG (MNS41) and ENEP (MNS39) -- 3.15.2 MARS (MNS43) and ENAV (MNS42) -- 3.15.3 ENEV (MNS45) -- 3.16 Other low frequency antigens of the MNS system -- 3.16.1 Vr (MNS12) -- 3.16.2 Mta (Martin, MNS14) -- 3.16.3 Ria (Ridley, MNS16) -- 3.16.4 Cla (Caldwell, MNS17) -- 3.16.5 Nya (Nyberg, MNS18) -- 3.16.6 Mv (MNS21) -- 3.16.7 Far (MNS22) -- 3.16.8 sD (Dreyer, MNS23) -- 3.16.9 Mit (Mitchell, MNS24) -- 3.16.10 Or (Orriss, MNS31) -- 3.16.11 Osa (MNS38) -- 3.16.12 MNTD (MNS46) -- 3.17 Antigens associated with atypical glycoporphin glycosylation -- 3.17.1 Hu, M1, Tm, Sj, and Can -- 3.17.2 T, Tn, and Cad.

3.18 M, N, S, s, and U antibodies -- 3.18.1 Human anti-M -- 3.18.2 Human anti-N -- 3.18.3 Clinical significance of anti-M and -N -- 3.18.4 Anti-N and renal dialysis -- 3.18.5 Glucose-dependent antibodies -- 3.18.6 Monoclonal and recombinant anti-M and -N -- 3.18.7 Lectins -- 3.18.8 Anti-S -- 3.18.9 Anti-s -- 3.18.10 Anti-U -- 3.18.11 Anti-UZ and -UX -- 3.19 GYPA mutation assay -- 3.20 Association with Rh -- 3.21 Glycoporphins as receptors for pathogens -- 3.21.1 Glycoporphins and malaria -- 3.21.2 Other pathogens -- 3.22 Development and distribution of MNS antigens -- 3.23 Function and evolution of glycoporphins -- References -- 4: P1PK, Globoside, and FORS Blood Group Systems, plus Some Other Related Blood Groups -- 4.1 Introduction -- 4.2 Biochemistry, biosynthesis, and genetics -- 4.3 P1 (P1PK1) and anti-P1 -- 4.3.1 Frequency and inheritance -- 4.3.2 Variation in strength -- 4.3.3 Development and distribution -- 4.3.4 Other sources of P1 substance -- 4.3.5 Biochemistry and biosynthesis -- 4.3.6 Anti-P1 -- 4.4 Pk phenotype, Pk (P1PK3) antigen, and anti-Pk -- 4.4.1 Pk phenotype -- 4.4.2 Pk antigen, biochemistry, and biosynthesis -- 4.4.3 Pk on other cells -- 4.4.4 Anti-Pk -- 4.5 NOR (PIP4) antigen and polyagglutination -- 4.6 P (GLOB1) antigen and anti-P -- 4.6.1 P antigen -- 4.6.2 Biochemistry and biosynthesis -- 4.6.3 Anti-P -- 4.7 FORS1 and the Forssman glycolipid -- 4.8 LKE and anti-LKE -- 4.8.1 Frequency and inheritance of LKE -- 4.8.2 Biochemistry and biosynthesis -- 4.8.3 Variation in strength of LKE -- 4.8.4 Development and distribution -- 4.8.5 Involvement of other P antigens -- 4.8.6 Anti-LKE -- 4.9 Sialosylparagloboside and PX2 antigen -- 4.10 p Phenotype and anti-PP1Pk -- 4.10.1 Frequency and

inheritance of p phenotype -- 4.10.2 Molecular genetics of p phenotype -- 4.10.3 Biochemical effects of p phenotype. 4.10.4 Antibodies in serum of p individuals.

Sommario/riassunto

This new edition of an essential text for all those working within transfusion and blood banking is now even more biologically and clinically relevant, incorporating the latest information on the genes for various blood groups and including greater content on the functional significance of blood groups.
