

Antibody Information

Rh Blood Group System

Anti-D is an IgG antibody directed against the D antigen in the Rh blood group system. Anti-D is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-D should receive D- blood (Rh negative).

Passive Anti-D due to Rh Immune Globulin administration is not implicated in Hemolytic Transfusion Reactions or Hemolytic Disease of the Fetus and Newborn. Passive Anti-D can cross the placenta and cause a positive DAT in a newborn. The patient should receive D(Rh)- blood, crossmatch compatible through the AHG phase of testing until the RhIG is no longer detectable in the patient's plasma.

Anti-C is an IgG antibody directed against the C antigen in the Rh blood group system. Anti-C is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-C must receive C- blood.

Anti-E is an IgG antibody directed against the E antigen in the Rh blood group system. Anti-E is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-E must receive E- blood.

Patients with anti-E who test negative for the c antigen, or are unable to be tested due to recent transfusion, are provided units that are negative for both E and c. This is due to the fact that the patient most likely has also been exposed to c positive blood. Anti-c may be present in addition to Anti-E, but Anti-c may be undetectable at the time of testing. Units that are E negative are most likely c positive and the risk of forming or stimulating an Anti-c is much higher.

Anti-c is an IgG antibody directed against the c antigen in the Rh blood group system. Anti-c is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-c must receive c- blood.

Anti-e is an antibody directed against the e antigen in the Rh blood group system. Anti-e is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-e must receive e- blood. The e antigen is a high incidence antigen. Approximately 2% of donors will be compatible.

Anti-f is a compound antibody directed against the c and e antigens when both antigens are present on the same haplotype (ce). Blood for transfusion must be either c- or e-.

Anti-G is an antibody directed against the G antigen in the Rh blood group system. The G antigen is found on red cells possessing C or D antigen. Anti-G has been implicated in Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-G must receive D(Rh)- and C- blood.

Anti-C^w is an IgG and IgM antibody directed against the C^w antigen in the Rh blood group system. Anti-C^w is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. The C^w antigen is a low incidence antigen. When antisera is not available for testing, donor units provided for transfusion are crossmatch compatible through the AHG phase of testing.

Anti-V is an IgG antibody directed against the V antigen in the Rh blood group system. Anti-V is implicated in mild Transfusion Reactions. When antisera is not available for testing, donor units provided should be crossmatch compatible through the AHG phase of testing.

Kell Blood Group System

Anti-K is an IgG antibody directed against the K antigen in the Kell blood group system. Anti-K is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-K must receive K- blood.

Anti-k is an IgG antibody directed against the k antigen in the Kell blood group system. Anti-k is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-k must receive k- blood. The k antigen is a high incidence antigen. Approximately 0.2% of donors will be compatible.

Anti-Kp^b is an IgG antibody directed against the Kp^b antigen in the Kell blood group system. Anti-Kp^b is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-Kp^b must receive Kp(b-) blood. The Kp^b antigen is a high incidence antigen. Blood for transfusion is not readily available and will require days to obtain. Anti-Kp^b is an extremely rare antibody.

Anti-Js^b is an IgG antibody directed against the Js^b antigen in the Kell blood group system. Anti-Js^b is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-Js^b must receive Js(b-) blood. The Js^b antigen is a high incidence antigen. Blood for transfusion is not readily available and will require days to obtain. Anti-Js^b is an extremely rare antibody.

Anti-Kp^a is an IgG antibody to the Kp^a antigen in the Kell blood group system. Anti-Kp^a is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. The Kp^a antigen is a low incidence antigen. When antisera is not available for testing, donor units provided are crossmatch compatible through the AHG phase of testing.

Anti-Js^a is an IgG antibody to the Js^a antigen in the Kell blood group system. Anti-Js^a is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. The Js^a antigen is a low incidence antigen. When antisera is not available for testing, donor units provided are crossmatch compatible through the AHG phase of testing.

Duffy Blood Group System

Anti-Fy^a is an IgG antibody directed against the Fy^a antigen in the Duffy blood group system. Anti-Fy^a is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-Fy^a must receive Fy(a-) blood.

Anti-Fy^b is an IgG antibody directed against the Fy^b antigen in the Duffy blood group system. Anti-Fy^b is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-Fy^b must receive Fy(b-) blood.

Anti-Fy³ is an IgG antibody reactive with all red cells except those of the Fy(a-b-) phenotype in the Duffy blood group system. Anti-Fy³ is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-Fy³ must receive Fy(a-b-) blood which is compatible at the AHG phase of testing.

African-American patients who test negative for the Fy^b antigen may have the DARC mutation. This mutation causes the Fy^b antigen to not form on red blood cells, but it is still present on other tissues in the body. In these patients, although their red blood cells lack the Fy^b antigen, they cannot form the antibody. DNA testing can be performed to determine if the patient has the DARC mutation.

Kidd Blood Group System

Anti-Jk^a is an IgG and IgM antibody directed against the Jk^a antigen in the Kidd blood group system. Anti-Jk^a is implicated in Hemolytic Transfusion Reactions, especially Delayed Hemolytic Transfusion Reactions due to its tendency to drop below detectable levels in plasma. The antibody may bind complement. Anti-Jk^a rarely causes Hemolytic Disease of the Fetus and Newborn. Patients with Anti-Jk^a must receive Jk(a-) blood.

Anti-Jk^b is an IgG and IgM antibody directed against the Jk^b antigen in the Kidd blood group system. Anti-Jk^b is implicated in Hemolytic Transfusion Reactions, especially Delayed Hemolytic Transfusion Reactions due to its tendency to drop below detectable levels in plasma. The antibody may bind complement. Anti-Jk^b rarely causes Hemolytic Disease of the Fetus and Newborn. Patients with Anti-Jk^b must receive Jk(b-) blood.

MNS Blood Group System

Anti-M is an IgG and/or IgM antibody directed against the M antigen in the MNS blood group system. Anti-M is not clinically significant unless it reacts at the 37°C or AHG phase of testing. Patients with Anti-M should be provided red cells that are compatible through the AHG phase of testing.

Anti-N is an IgG and/or IgM antibody directed against the N antigen in the MNS blood group system. Anti-N is not clinically significant unless it reacts at the 37°C or AHG phase of testing. Patients with Anti-N should be provided red cells that are compatible through the AHG phase of testing.

Anti-S is an IgG antibody directed against the S antigen in the MNS blood group system. Anti-S is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-S must receive S- blood.

Anti-s is an IgG antibody directed against the s antigen in the MNS blood group system. Anti-s is implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-s must receive s- blood.

Anti-U is an IgG antibody directed against the U antigen in the MNS blood group system. Approximately 2% of African Americans lack the high prevalence U antigen and can form an anti-U. Anti-U is implicated in severe Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. Patients with Anti-U must receive U- blood. Blood for transfusion is not readily available and will require days to obtain.

Lewis Blood Group System

Anti-Le^a is an IgM antibody directed against the Le^a antigen in the Lewis blood group system. Anti-Le^a is generally not considered clinically significant and antigen negative blood is not necessary. Units provided are crossmatch compatible through the AHG phase of testing.

Anti-Le^b is an IgM antibody directed against the Le^b antigen in the Lewis blood group system. Anti-Le^b is not considered clinically significant and antigen negative blood is not necessary. Units provided are crossmatch compatible through the AHG phase of testing.

Pregnancy can cause transient Lewis antibodies to form. Lewis antibodies are usually IgM and will not cross the placenta. Furthermore, Lewis antigens are not present on neonatal cells. There is no risk to the fetus or newborn when a Lewis antibody is present in the mother.

Lutheran Blood Group System

Anti-Lu^a is an IgG antibody directed against the Lu^a antigen in the Lutheran blood group system. The Lu^a antigen is a low incidence antigen. When antisera is not available for testing, donor units provided are crossmatch compatible through the AHG phase of testing.

Anti-Lu^b is an IgG antibody directed against the Lu^b antigen in the Lutheran blood group system. When antisera is not available for testing, donor units provided are crossmatch compatible through the AHG phase of testing. Lu(b-) blood is not readily available and will require days to obtain. Anti-Lu^b has generally been implicated in mild, delayed hemolytic transfusion reactions, therefore, in emergent situations Lu(b-) units do not have to be used.

Vel Blood Group System

Anti-Vel is an IgG and IgM antibody directed against the Vel antigen in the Vel blood group system. Anti-Vel has been implicated in Hemolytic Transfusion Reactions. The antibody can activate complement. Hemolytic Disease of the Fetus and Newborn is rare. Patients with Anti-Vel must receive Vel- blood. The Vel antigen is a high incidence antigen. Blood for transfusion is not readily available and will require days to obtain.

P Blood Group System

Anti-P₁ is an IgM antibody directed against the P₁ antigen in the P blood group system. Anti-P₁ is usually a naturally occurring antibody. It is generally not considered clinically significant and antigen negative blood is not necessary. Units provided are crossmatch compatible through the AHG phase of testing.

Alloanti-P is antibody directed against the P antigen in the P blood group system. It is a naturally occurring antibody and is implicated in Hemolytic Transfusion Reactions. Patients with Alloanti-P require antigen negative blood. The P antigen is a high incidence antigen. Blood for transfusion is not readily available and will require days to obtain.

Autoanti-P is an IgG and IgM autoantibody present in patients with paroxysmal cold hemoglobinuria (PCH). It is an IgG biphasic hemolysin that binds red cells in cold temperatures and then causes intravascular hemolysis at body temperature. Autoanti-P can be confirmed with the Donath-Landsteiner test.

Anti-PP₁P^k is an IgG and IgM antibody with a separable mixture of Anti-P, Anti-P₁, and Anti-P^k found in patients with the rare p phenotype. It is associated with early spontaneous abortion. Patients with Anti- PP₁P^k must receive antigen negative blood. Due to the rarity of this phenotype blood for transfusion is not readily available and will require days to obtain.

Bg Antibodies

Anti-Bg^a is an antibody directed against HLA antigens on red blood cells. Bg^a represents HLA-B7. There are a few reports of Bg antibodies causing Hemolytic Transfusion Reactions.

Anti-Bg^b is an antibody directed against HLA antigens on red blood cells. Bg^b represents HLA-B17. There are a few reports of Bg antibodies causing Hemolytic Transfusion Reactions.

Anti-Bg^c is an antibody directed against HLA antigens on red blood cells. Bg^c represents HLA-A28. There are a few reports of Bg antibodies causing Hemolytic Transfusion Reactions.

Colton Antibodies

Anti-Co^b is an IgG antibody to the Co^b antigen in the Colton blood group system. Anti- Co^b has been implicated in Hemolytic Transfusion Reactions and mild Hemolytic Disease of the Fetus and Newborn. The antigen is present in approximately 10% of the population. When antisera is not available for testing, donor units provided are crossmatch compatible through the AHG phase of testing.

Diego Antibodies

Anti-Di^a is an IgG antibody directed against the Di^a antigen in the Diego blood group system. The Di^a antigen is a low frequency antigen in most populations. Anti-Di^a has been implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. When antisera is not available for testing, donor units provided are crossmatch compatible through the AHG phase of testing.

Anti-Wr^a is an IgG and IgM antibody directed against the Wr^a antigen in the Diego blood group system. The Wr^a is a low incidence antigen. Anti-Wr^a has been implicated in Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn. When antisera is not available for testing, donor units provided are crossmatch compatible through the AHG phase of testing.

Lan Antibody

Anti-Lan is an IgG antibody directed against the high incidence antigen Lan. Anti-Lan has been implicated in Hemolytic Transfusion Reactions and mild Hemolytic Disease of the Fetus and Newborn. Patients with Anti-Lan must receive Lan- blood. The Lan antigen is a high incidence antigen. Blood for transfusion is not readily available and will require days to obtain.

Chido Antibodies

Anti-Ch is directed against an antigen in the Chido/Rogers blood group system. The Chido antigen occurs in 96% of the population. Anti-Ch is not clinically significant and does not require antigen negative blood. Units provided are crossmatch compatible (or incompatible) through the AHG phase of testing.

Knops Antibodies

Anti-SI^a is an antibody directed against an antigen in the Knops blood group system. Anti-SI^a is not known to cause hemolytic transfusion reactions. Anti-SI^a is considered a clinically insignificant red cell antibody. The SI^a antigen is present in approximately 98% of the Caucasian population and 50-60% of the black population. Transfusion of incompatible blood may be required.

HTLA Antibodies

Antibody specificities included in this group are the Chido/Rogers System, Knops System, and COST Collection. These antibodies are not clinically significant and do not require antigen negative blood. Units provided are crossmatch compatible (or incompatible) through the AHG phase of testing.