

Antibody Characteristics

ABO



Rh⁺



Kell



Duffy



Kidd



Diego



Lewis^x



Mia



MNS



REACTIVITY									
System	Antibody	IgG	IgM	RT	AHG	Ficin/Papain ⁽¹⁾	HTR	HDFN	Remarks
ABO	anti-A	Some	Most	+	+	Enhanced	+	rare	
	anti-B	Some	Most	+	+	Enhanced	+	rare	
	anti-AB	Most	Some	+	+	Enhanced	+	rare	
	anti-A1	Some	Most	+	Some	Enhanced	+ ⁽²⁾	0	
H	anti-H	Some	Most	+ best at 4°C	+	Enhanced	+	No reports	Antibody made by Bombay (O _h) and Para-Bombay people
	Autoanti-H and Autoanti-Hi	Some	Most	+ best at 4°C	Rare	Enhanced	Rare if active at 37°C	0	Antibody may be found in most people's plasma at 4°C. RES ³⁴ may be used to adsorb these antibodies from patient's plasma.
MNS	anti-M	Some	Most	+	Some	Sensitive	Rare ⁽³⁾	Rare	
	anti-N	Some	Most	+	Some	Sensitive	Rare ⁽³⁾	0	
	anti-S	Most	Some	+	+	Variable	+	+	
	anti-s	+	+	+	+	Variable	+	+	
	anti-U	+			+	Resistant	+	+	Antibody made by S-s-
	Anti-Mia	+			+	Sensitive	Rare	+	Due to the relatively high prevalence of some Mi(a) phenotypes (particularly GP ⁺ Mur ⁺ [Mu.III] in Chinese and SE Asian populations, it is recommended to include GP ⁺ Mur ⁺ phenotype RBCs in antibody investigations.
Rh	anti-D	Most	Some	Rare	+	Enhanced	+	+	
	anti-C	+	+		+	Enhanced	+	+	
	anti-E	+	+	+	+	Enhanced	+	+	
	anti-c	Most	Some		+	Enhanced	+	+	
	anti-e	Most	Some		+	Enhanced	+	+	
	anti-C*	+	+	+	+	Enhanced	+	+	
	anti-f	Most	Some	+	+	Resistant	+	+	
	anti-V	+			+	Resistant	+	0	
	anti-VS	+				Resistant	+	0 ⁽³⁾	
Lutheran	anti-Lu*	+	+	+	+	Resistant ⁽⁴⁾	0	Rare	
	anti-Lu*	+	+	+	+	Resistant ⁽⁴⁾	0	+	
	anti-Lu3	+			+	Resistant			
Kell	anti-K	Most	Some	Some	+	Resistant	+	+	Naturally occurring IgM anti-K have been detected with bacterial infections. Anti-K may not react well in LISS procedures.
	anti-k	Most	Some			Resistant	+	+	
	anti-Kp*	+			+	Resistant	+	+	
	anti-Kp*	+	Rare		+	Resistant	+	+	
	anti-Js*	Most	Some		+	Resistant	+	+	
	anti-Js*	+				Resistant (some enhanced)	+	+	
Lewis	anti-Le*	Rare	Most	+	Rare	Enhanced	Rare ⁽⁵⁾	0	May be neutralized with Gamma Lewis Blood Group Substance. Lewis antibodies may only be made by Lea-b- patients.
	anti-Le*	Rare	Most	+	Rare	Enhanced	0	0	
Duffy	anti-Fy*	+	Rare		+	Sensitive	+	+	
	anti-Fy*	+	Rare		+	Sensitive	+	+	
	anti-Fy3	+			+	Resistant	+	+	
Kidd	anti-Jk*	+	+		+	Enhanced	+	+	Anti-Jk* and Anti-Jk* are often a mixture of IgG and IgM
	anti-Jk*	+	+		+	Enhanced	+	+	
	anti-Jk3	Most	Some		+	Enhanced	+	+	Antibody made by Jk(a-b-) patients reacts with any red cell positive for Jka or Jkb
Diego	anti-Di*	+			+	Resistant	+	+	
	anti-Di*	+			+	Resistant	+	+	
	anti-Wr*	+	+	+	+	Resistant	+	+	Often naturally-occurring and often in the presence of other antibodies
Yt	anti-Yt*	+			+	Sensitive ⁽⁶⁾	Rare	0	
	anti-Yt*	+			+	Sensitive ⁽⁶⁾	0	0	
Xg	anti-Xg*	Most	Some	+	+	Sensitive	0	0	
Scianna	anti-Sc1	+			+	Resistant	0	0 ⁽⁸⁾	
	anti-Sc2	+			+	Resistant	0	0 ⁽⁸⁾	
Dombrock	anti-Dg*	+			+ ⁽⁹⁾	Enhanced	+	0 ⁽⁸⁾	
	anti-Dg*	+			+ ⁽⁹⁾	Enhanced	+	0 ⁽⁸⁾	
	anti-Gy*	+			+	Enhanced	+	0 ⁽⁸⁾	
	anti-Hy	+			+	Enhanced	+	0 ⁽⁸⁾	
	anti-Jo*	+			+	Enhanced	+	0	
Colton	anti-Co*	+	Rare		+	Resistant	+	+	
	anti-Co*	+			+	Resistant	+	+	
	anti-Co3	+			+	Resistant	+	+	Made by Co(a-b-) patients
Landsteiner-Weiner	anti-LW*	Usually	Some	+	+	Resistant	Rare	Very Rare	
	anti-LW*		+		+	Enhanced	+	+	
Chido/Rogers	anti-Ch1	+			+	Sensitive	0	0	May be neutralized with antigen-positive plasma
	anti-Rg1	+			+	Sensitive	0	0	
Gerbich	anti-Ge2	Most	Some		+	Sensitive	Uncommon	0 ⁽¹⁰⁾	
	anti-Ge3	Most	Some		+	Resistant	Uncommon	+	
Cromer	anti-Cr*	+			+	Resistant	Rare	0	
Knopps	anti-Kn*	+			+	Weakened, especially in ficin	0	0	
	anti-Kn*	+			+	Weakened, especially in ficin	Unknown	Unknown	Only one example of anti-Kn* has been identified
	anti-McC*	+			+	Weakened, especially in ficin	0	0	
	anti-Si*	+			+	Weakened, especially in ficin	0	0	
	anti-Yt*	+			+	Weakened, especially in ficin	0	0	
John Milton Hogen	anti-JMH	+			+	Sensitive	0	0	
I	anti-I	Rare	+	+ or 4°C	Rare ⁽¹⁾	Enhanced	0	0	Most people have cold-reactive autoanti-I in their plasma. RES ³⁴ may be used to adsorb this antibody from patient's plasma.
P1PK	anti-P1	Rare	+	+ or 4°C	Rare	Enhanced	Very Rare	0	May be neutralized with Gamma P1 Blood Group Substance
	anti-PP1P ³⁶ (T ₆)	Some	Most	+	+	Enhanced	+	+	Also known as T ₆ , the presence of this antibody is associated with spontaneous abortions
Globoside	anti-P	+	+		+	Enhanced	+	+	Presence of antibody is associated with spontaneous abortions. Auto-anti-P associated with Paroxysmal Cold Hemoglobinuria (PCH)
Sid	anti-Sd*	Some	Most	+ (MF)	+ (MF)	Enhanced	Rare	0	Antibody may be neutralized with Guinea pig and human urine
Other	anti-Vel	+	+		+	Enhanced	+	+	

Note: A blank space indicates that there was no information available in the references.

⁽¹⁾ Please Check Patient Comments/Query 47, GammaGlyc 87, Personal - 45, Ficin-based (Ficin-based, when antibody is reacting at 37°C/40°C)

⁽²⁾ Anti-U can be used (0.05%)

⁽³⁾ Ficin may be used in some cases or may be weakened by Ficin or Papain

⁽⁴⁾ Ficin, weak

⁽⁵⁾ Ficin-based antibodies are in short supply and are often of poor quality with very weak reactivity. Screening for Dombrock compatible donors, therefore, is best performed by molecular genetics.

⁽⁶⁾ Ficin-based antibodies may be high titered or react at higher thermal range which may cause RT and hemagglutination in a Gel agglutination System. These antibodies may also be observed in other disease states such as Myelodysplastic preleukemia and accompanied by hemolytic hemagglutination. It may be desirable to transfuse patients with warm-reacting autologous or substitute through a blood warmer.

References:

⁽¹⁾ Hogen JM, Christie L, Lomas P, Harris L, Olson, The Blood Group Antigen Handbook, Elsevier Academic Press 2012

⁽²⁾ Fung H, Stevens, R, Wilson, C, B. (2004). CH. 20.4. ABO System. 2004

⁽³⁾ The antibody, however, is often in the plasma, has been reported in the literature. It is recommended to include GP⁺Mur⁺ phenotype RBCs in antibody investigations.

⁽⁴⁾ In making, please contact your local transfusion representative with that information for inclusion in a future version. We appreciate your partnership.



werfen