

ABID CASE #19

Question:

1. What do you think might be causing all of the antibody screening and panel cells to be reactive? (Hint: the DAT is positive for complement on the patient's RBCs.) What would you do to investigate your hypothesis?

The technologist chose to test the plasma by a the saline/tube method, first incubating the reactions at room temperature and then in a 14°C water bath, before incubating at 37° incubation and a Coombs' test. In addition to panel cells he tested umbilical cord blood cells and A1 and A2 cells.

Saline/tube cold panel including IAT and IAT-only panel using "prewarmed" technique (see ABID case #8)

Lot #06776		Rh system					Kell						Duffy		Kidd		Lewis		P	MNSs				Lutheran		Xg	Other Typings	RBCs in saline, 2 drops plasma						Prewarm.
Cell	Rh	D	C	c	E	e	K	k	Kp ^a	Kp ^b	Js ^a	Js ^b	Fy ^a	Fy ^b	Jk ^a	Jk ^b	Le ^a	Le ^b	PI	M	N	S	s	Lu ^a	Lu ^b	Xg ^a		Cell	IS	RT	14°	37°	AHG	AHG
1	R1R1	+	+	0	0	+	+	+	0	+	0	+	+	+	0	0	+	+	+	+	0	+	0	+	+		1	2+	1+	3+	0	4+	3+	
2	R1wR1	+	+	0	0	+	0	+	0	+	0	+	0	+	0	+	0	+	+	+	0	+	0	+		Co ^{b+}	2	0	0	3+	0	0	0	
3	R2R2	+	0	+	+	0	0	+	0	+	0	+	+	0	0	+	0	+	+	+	0	0	+	0	+		3	0	0	3+	0	1+	1+	
4	Ror	+	0	+	0	+	0	+	0	+	+	+	0	+	0	0	+	+	+	+	0	+	0	0	+		4	0	0	3+	0	0	0	
5	r'r	0	+	+	0	+	0	+	0	+	0	+	0	+	+	+	0	+	0	0	+	0	+	0	+		5	0	0	3+	0	0	0	
6	r''r	0	0	+	+	+	0	+	0	+	0	+	0	0	+	0	0	+	+	+	+	0	+	+	+		6	0	0	3+	0	0	0	
7	rr	0	0	+	0	+	+	+	0	+	0	+	0	+	0	+	0	+	+	+	0	+	+	0	+		7	1+	1+	3+	0	4+	NT	
8	rr	0	0	+	0	+	0	+	0	+	0	+	+	0	+	+	+	0	0	+	0	+	0	+		8	0	0	3+	0	w+	vw+		
9	rr	0	0	+	0	+	0	+	0	+	0	+	+	0	0	+	0	0	+	+	0	+	+	0	+		9	0	0	3+	0	w+	vw+	
10	R1R1	+	+	0	0	+	0	+	0	+	0	+	+	0	0	+	0	+	+	0	+	+	+	0	+		10	0	0	3+	0	w+	vw+	
11	r''r	0	0	+	+	+	0	+	0	+	0	+	+	0	+	+	+	0	0	+	+	0	+	0	+	I-, Yt ^{b+}	11	0	0	1+	0	1+	1+	
Patient																											AC	0	0	3+	0	0	0	
																												Cord 1	0	0	1+	0	0	
																												Cord 2	0	0	1+	0	vw+	
																												A1	0	0	3+	0	vw+	
																												A2	0	0	3+	0	vw+	

Question:

2. What antibody/ies do you think is/are present now? Are these allo- or autoantibodies? Are they proven? What must we do to prove our new hypotheses?

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The technologist elected to adsorb the plasma with rabbit erythrocyte stroma reagent (RESTtm), which adsorbs cold autoantibodies, and then retest it by the gel method. he also tests a panel by the tube method with low ionic strength (LISS) enhancement medium and phenotyped the patient's RBCs.

Gel panels with "raw" (untreated) plasma and Rabbit Erythrocyte Stroma (RESTtm) adsorbed plasma

Lot #8RA206		Rh system						Kell						Duffy		Kidd		Xg	Lewis		MNSs					P	Lutheran		Other Typings	Cell	Raw Gel	REST ads x2 Gel
Cell	Rh	D	C	E	c	e	V	K	k	Kp ^a	Kp ^b	Js ^a	Js ^b	Fy ^a	Fy ^b	JK ^a	JK ^b	Xg ^a	Le ^a	Le ^b	S	s	M	N	PI	Lu ^a	Lu ^b					
1	R1wR1	+	+	0	0	+	0	0	+	0	+	0	+	+	0	+	+	0	0	+	0	+	+	0	+s	0	+	C ^w	1	2+	w+	
2	R1R1	+	+	0	0	+	0	+	+	0	+	0	+	+	+	+	+	0	+	0	0	+	+	+	0	0	+		2	4+	4+	
3	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	+	+	0	+	0	0	0	+	+	0	+	0	0	+		3	1+	0	
4	Ror	+	0	0	+	+	+	0	+	0	+	0	+	0	0	+	+	+	0	0	0	+	+	+	+	0	+		4	2+	0	
5	r'r	0	+	0	+	+	0	0	+	0	+	0	+	0	+	0	+	0	0	+	0	+	0	+	+s	0	+		5	2+	0	
6	r''r	0	0	+	+	+	0	0	+	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	+	0	+		6	2+	0	
7	rr	0	0	0	+	+	0	+	+	0	+	0	+	0	+	+	0	+	0	+	+	0	+	+	+	0	+		7	4+	4+	
8	rr	0	0	0	+	+	0	0	+	0	+	0	+	+	+	0	+	+	0	0	+	0	+	+	+	0	+		8	1+	0	
9	rr	0	0	0	+	+	0	0	+	0	+	0	+	0	+	+	0	+	0	0	0	+	+	+	+	0	+		9	w+	0	
10	rr	0	0	0	+	+	0	0	+	0	+	0	+	+	0	0	+	+	+	0	+	+	+	0	+	0	+		10	+2	w+	
11	R1R1	+	+	0	0	+	0	0	+	0	+	0	+	0	+	0	+	+	0	+	+	0	+	0	+	0	+		11	+2	0	
Patient																													AC		0	

LISS panel

Lot #04751		Rh system						Kell						Duffy		Kidd		Lewis		P	MNSs					Lutheran		Xg	Other Typings	Cell	LISS	
Cell	Rh	D	C	c	E	e	V	K	k	Kp ^a	Kp ^b	Js ^a	Js ^b	Fy ^a	Fy ^b	JK ^a	JK ^b	Le ^a	Le ^b	PI	M	N	S	s	Lu ^a	Lu ^b	Xg ^a	Lu:14			AHG	CC
1	RzR1	+	+	0	+	+	0	0	+	0	+	+	+	0	+	+	0	0	+	+	0	+	0	+	0	+	0	+		1	0	2+
2	R1wR1	+	+	0	0	+	0	0	+	0	+	0	+	0	0	+	0	+	0	+	+	+	+	+	0	+	0	C ^w	2	0	2+	
3	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	0	+	0	+	0	+	+	0	+	0	+	0	+	+		3	0	2+	
4	Ror	+	0	+	0	+	+	0	+	0	+	+	+	0	0	+	0	0	+	+	+	0	+	0	0	+	0	He+	4	0	2+	
5	r'r	0	+	+	0	+	0	0	+	+	+	0	+	+	0	+	0	0	+	+	+	+	0	+	0	+	+		5	1+		
6	r''r	0	0	+	+	+	0	0	+	0	+	0	+	+	+	+	+	+	0	+	+	0	+	+	0	+	+		6	w+		
7	rr	0	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	+	0	0	+	0	0	+	0	+	0		7			
8	rr	0	0	+	0	+	0	0	+	0	+	0	+	+	0	0	+	0	0	+	+	0	+	0	0	+	+		8	1+		
9	rr	0	0	+	0	+	0	0	+	+	+	0	+	+	+	+	+	0	+	0	+	+	0	+	+	+	Lu:14	9				
10	R1R1	+	+	0	0	+	0	+	+	0	+	0	+	+	0	0	+	0	+	+	0	+	0	+	0	+	+	Mg+,Lu:14	10	3+		
11	r''r	0	0	+	+	+	0	0	+	0	+	0	+	+	+	0	+	0	+	+	0	+	0	+	0	+	0	Co ^b +, I-,Sc:2	11			
Patient																													AC			

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Antigen Phenotype

	Rh system				Kell		Duffy		Kidd		Lewis		MNSs				p			
	C	E	c	e	K	k	Fy ^a	Fy ^b	Jk ^a	Jk ^b	Le ^a	Le ^b	M	N	S	s	PI	I	H	A ₁
Patient	4+	0	4+		0		0	3+	2+	0	0	3+	4+	4+	2+		4+			
Pos control	4+	4+	4+		3+		3+	3+	2+	2+	2+	4+	4+	4+	2+		2+			
Neg Control	0	0	0		0		0	0	0	0	0	0	0	0	0		0			

Questions:

- Discuss the results of the new gel panels. Did the REST adsorption work? Why did the technologist repeat the gel panel with "raw" plasma?
- What did the LISS panel demonstrate? Did it tell us anything new? Is any additional testing required?
- How would one select compatible blood for this recipient? What percentage of donors are expected to be compatible?