

ABID CASE #7

1. What is the probable identity of this antibody? *Anti-S*
2. Is any further workup needed to prove it? If additional cells need to be tested, select them from the following panel to complete the workup.

Rule out anti-E and anti-M.

Lot #51877		Rh system					Kell					Duffy		Kidd		Lewis		P	MNSs				Lutheran		Xg	Other						
Cell	Rh	D	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	P1	M	N	S	s	Lu ^a	Lu ^b	Xg ^a	Typings	Cell	Gel			
1	R1wR1	+	+	0	0	+	0	+	0	+	0	+	+	0	+	+	0	+	+	+	+	0	+	0	+	+	C ^w	1				
2	R1R1	+	+	0	0	+	0	+	0	+	0	+	+	0	0	+	0	+	+	0	+	0	+	0	+	+	Bg(a+)	2				
3	R1R1	+	+	0	0	+	0	+	0	+	0	+	+	0	0	+	0	+	+	+	0	+	0	+	+	+		3				
4	R1R1	+	+	0	0	+	0	+	0	+	0	+	+	+	0	+	0	0	0	0	+	0	+	0	+	+		4				
5	RzR1	+	+	0	+	+	0	+	0	+	0	+	+	0	+	+	0	+	+	+	+	0	+	0	+	+		5				
6	RzR2	+	w	+	+	0	0	+	0	+	0	+	+	0	+	+	0	+	+	+	+	0	+	+	+	0	Co(b+)	6	*			
7	R2R2	+	0	+	+	0	0	+	0	+	0	+	+	0	+	0	+	+	+	+	0	0	+	0	+	0		7	*			
8	R2R2	+	0	+	+	0	0	+	0	+	0	+	+	0	0	+	0	+	+	+	0	0	+	0	+	+		8	*			
9	R2R2	+	0	+	+	0	0	+	0	+	0	+	+	+	0	+	0	+	+	+	+	+	0	0	+	+		9				
10	R1R2	+	+	+	+	+	0	0	+	0	+	0	+	+	0	+	0	+	+	0	+	0	+	+	+	+	Co(a-b+)	10				
11	r'r	0	+	+	+	0	0	+	0	+	0	+	+	+	0	+	0	+	0	+	0	+	0	+	+	0		11				
12	r''r	0	0	+	+	+	0	+	0	+	0	+	+	0	+	+	0	+	0	+	0	0	+	0	+	0		12				
13	rr	0	0	+	0	+	0	+	0	+	0	+	+	0	+	+	0	+	+	+	+	+	+	+	+	+		13				
14	rr	0	0	+	0	+	0	+	0	+	0	+	+	+	+	+	0	+	+	0	+	0	+	0	+	+	Di(a+)	14				
15	rr	0	0	+	0	+	0	+	0	+	0	+	+	0	0	+	+	+	+	+	+	0	+	0	+	+		15				
16	rr	0	0	+	0	+	0	+	0	+	0	+	+	0	+	+	0	+	0	+	0	+	0	+	+	+	Co(b+)	16				
17	rr	0	0	+	0	+	0	+	0	+	0	+	+	+	0	0	+	+	+	0	+	0	+	+	+	+		17				
18	rr	0	0	+	0	+	0	+	0	+	0	+	+	0	+	0	+	+	0	+	0	0	0	0	+	+		18				
19	rr	0	0	+	0	+	0	+	0	+	0	+	+	+	+	+	0	+	+	+	+	+	0	+	+	+		19				
20	Ror	+	0	+	0	+	+	0	+	0	+	0	+	0	+	+	0	0	+	+	+	0	+	0	+	+		20				
Patient																											AC					

3. What is the probable source of the immunizing stimulus in this case? *Transfusion*
4. Does this antibody cause hemolytic transfusion reactions? *Yes* Hemolytic disease of the newborn? *Yes*
5. How would you select compatible blood for this patient? What percentage of donors are expected to be compatible with this recipient?
Select group O, Rh positive, S negative RBCs compatible in an IAT crossmatch. 48% of Caucasian and 69% of African-American donors.
6. What is the biochemical nature of the antigen? (Review the relevant blood group system, including disease associations and racial differences in antigen prevalence.)
The S/s polymorphism is carried by the single-pass membrane protein Glycophorin B, which carries about 15% of the RBC's negative charge. S has extensive homology with N. Unlike the M and N antigens on glycophorin A, S and s are usually resistant to proteases.
7. Do you think the transfusion she received was necessary? *No* What negative outcome did the transfusion have, besides the minor fever? *Immunization*