

ABID CASE #15

1. What antibody/ies do you think is/are present?

The pattern of reactivity in the first panel and the antibody screen can be explained by the combination of anti-c and anti-K, but multiple antibodies are not ruled out including anti-Jk^b, anti-E, anti-Fy^a, and anti-Le^b. The 3 cells from panel B were selected to rule these out. However, two of the selected cells were reactive, and only anti-Le^b is ruled out. The two reactive cells could be explained by a combination of anti-Jk^b and anti-E, or by anti-Fy^a showing dosage. The failure of cell 2 in the A panel to react suggested that anti-Fy^a was not present, so the technologist chose to rule-out anti-Fy^a in selecting additional cells, not to rule it in.

2. List the phenotypes of panel RBCs needed to prove your hypothesis including any required “rule out” and “rule in” cells and list the purpose of testing the cell (e.g. “rule in anti-c”, “rule out anti-Jk^a”) and its Rh phenotype in modified Weiner notation (i.e. “R1R1”, “R1Rz”, etc.)

Rh phenotype	c	E	K	Jk ^b	Fy ^a	Fy ^b	Purpose of testing this cell
rr	+	0	0	0	±	±	Rule in anti-c
R1R1	0	0	+	0	±	±	Rule in anti-K
R1R1	0	0	+	0	±	±	Rule in anti-K
R1Rz	0	+	0	0	±	±	Rule in anti-E
R1Rz	0	+	0	0	±	±	Rule in anti-E
R1Rz	0	+	0	0	±	±	Rule in anti-E
R1R1	0	0	0	+	±	±	Rule in anti-Jk ^b
R1R1	0	0	0	+	±	±	Rule in anti-Jk ^b
R1R1	0	0	0	0	+	0	Rule out anti-Fy ^a

3. What percentage of donors is expected to be compatible with this recipient given your hypothesis as to the combination of antibodies present? Perform the calculation for European-American donors.

If you thought the patient had anti-c, -K, -E, and -Jk^b the frequency is $0.185 \times 0.91 \times 0.26 = 0.438$ or 4.4%.

If you thought the patient had anti-c, -K, -Fy^a, the frequency is $0.185 \times 0.91 \times 0.34 = 0.57$ or 5.7%.