

Presenting to Alfred 50-year-old female feeling lethargic and looking "blue" after a walk. No history of antibody investigations.

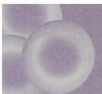
ABO Group:

	Anti-A	Anti-B	Anti-A/B	Anti-D	A1 Cells	B Cells
Results	4+	0	4+	4+	3+	4+
Strict 37					0	4+

Antibody Screen:

	Screening Cell 1	Screening Cell 2	Screening Cell 3
Results	1+	1+	1+
Strict 37	0	0	0

First time group and save showing discrepancy in reverse group and positive antibody screen. DAT requested and positive for complement. Patient group and save incubated in water bath for 30min and tested at strict 37 degrees Celsius.

 Phenocell™ B Reagent Red Blood Cells Antibody Identification Panel	Name	_____	Date of birth	_____
	ID No.	_____	Ward	_____
	Blood Group	_____	Rh Phenotype	_____
	Interpretation	_____	DAT	_____
	Tested by	_____	Date Tested	_____

Phenocell B 3% Antigen Composition Sheet																	Batch No: 1664 199			Expiry Date: 17/02/2020								
Cell No	Reference No	Rh Phen.	D	C	E	c	e	C*	K	k	Kp ^a	Fy ^a	Fy ^b	Jk ^a	Jk ^b	M	N	S	s	P1	Le ^a	Le ^b	Lu ^a	Additional Typings	Cell No	Results		
1	3119458	R ₁ R ₂	+	+	0	0	+	+	0	+	0	+	0	+	0	+	+	+	+	+	+	0	+	0	*K ₁ (b+)	1	0	
2	2022368	R ₁ R ₂	+	+	0	0	+	+	0	+	0	+	0	+	0	+	0	0	0	0	0	0	0	0		2	0	
3	2124054	R ₁ R ₂	+	+	0	0	+	+	0	+	0	+	0	+	0	+	0	0	0	0	0	0	0	0		3	0	
4	2148377	R ₂ R ₂	+	0	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	0	Co(b+)	4	0	
5	4125085	R ₂ R ₂	+	0	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	0		5	0	
6	2058053	r'r	0	0	+	+	0	0	+	0	+	0	+	0	+	0	+	0	0	0	0	+	+	0	*K ₁ (b+)	6	0	
7	2243175	r'r	0	0	+	+	0	0	+	0	+	0	+	0	+	0	+	0	0	0	0	+	+	0		7	0	
8	4593067	rr	0	0	0	+	+	0	+	0	+	0	+	0	+	0	+	0	0	0	0	0	0	0		8	0	
9	1341185	rr	0	0	0	+	+	0	+	0	+	0	+	0	+	0	+	0	0	0	0	+	+	0	**Y ₁ (b+)	9	0	
10	2056302	rr	0	0	0	+	+	0	+	0	+	0	+	0	+	0	+	0	0	0	0	+	+	0	Co(b+)	10	0	
11	4116342	rr	0	0	0	+	+	0	+	0	+	0	+	0	+	0	+	0	0	0	0	0	0	0		11	0	
Auto																										Auto		
Reference No																												
Ab1																										last WASH	SC1	Ab1
Ab2																										ex-110	SC2	Ab2
Ab3																										lot 365	SC3	Ab3
																										ex-121117		Cord
																												A ₁
																												A ₂
																												B

This product is manufactured from blood donated by voluntary donors to the Australian Red Cross Blood Service (ARCBS).
 Note: Cells 6, 7 and 8 form the RhD Negative Screening Cell Subset, formulated for antenatal RhD antibody screening in the presence of Prophylactic Anti-D.

*K^a: A low incidence antigen (Ref: Reid M.E., Lomas-Francis C., Olsson M.L., "The Blood Group Antigen FactsBook", 3rd Edition Pgs: 555-556)
 **Y^a: A low incidence antigen (Ref: Reid M.E., Lomas-Francis C., Olsson M.L., "The Blood Group Antigen FactsBook", 3rd Edition Pgs: 419-420)

Antisera	Immediate	5 Minute
Polyspecific	1.	2+
Anti-IgG	0	0
Anti-C3d	0.5	2+

As the patient is seen for the first time and the transfusion history cannot be confirmed an elution was completed on the sample as the DAT was positive due to complement. No antibodies were eluted off the patients red blood cells.

A cold panel can be run to determine the cause of the reactions seen with the A1 cells and the screening cells. The following cold panel helps to differentiate between the most common cold-reacting autoantibodies. ABO cells are used to express the H antigen. O cells will express most of the H antigen. A1 will express less. B cells were not testing as the patient's blood group is A and they have a naturally occurring Anti-B. The screening cells and A1 cells also represent I positive cells. While the cord cells represent the i antigen and can have a weakened expression of the I antigen also.

TESTING FOR COLD AGGLUTININS

Appendix 2:

Cold Panel Result Sheet

Patient Name : XXXXXXXXXX Patient Ur : XXXXXXXXXX

Patient Accession : XXXXXXXXXX Date : _____ Scientist Initial : _____

Reagent Cell	Lot	Expiry	37°C Sal	RT Sal	4°C Sal	Comment
Cord			0	0	0.5	I antigen
Auto			1+	3+	4+	
A1			1+	3+	4+	Include if patient is blood group A or AB Stronger reaction in A1 cells than A2 May indicate an Anti-A1 (H and I antigen)
A2			1+	3+	4+	
B			/	/	/	Include if patient is blood group B or AB (I and B antigen)
Screening cell 1			1+	3+	4+	Group O cells (H and I antigen)
Screening Cell 2			1+	3+	4+	
Screening Cell 3			1+	3+	4+	

Based on the finds of the cold panel we can see an increase in reaction strength as the antibody is exposed to cooler temperatures. As there is only a weak reaction with the cord cells and no variations in strength between the A1, A2 and O cells (screening cells) it is possible that the cold reacting autoantibody is Anti-I.

Our overall finding is that the patient has a cold antibody, most likely an autoanti-I that is affecting the antibody screen and the reverse group. This antibody is a naturally occurring antibody that may be due to leukaemia's, lymphoma or Mycoplasma pneumonia. This antibody is usually not clinically significant and in this case as the patient's antibody screen is negative at strict 37 degrees Celsius IAT a computer crossmatch can be used if units a requested.