



MELBOURNE
PATHOLOGY

Quality is in our DNA

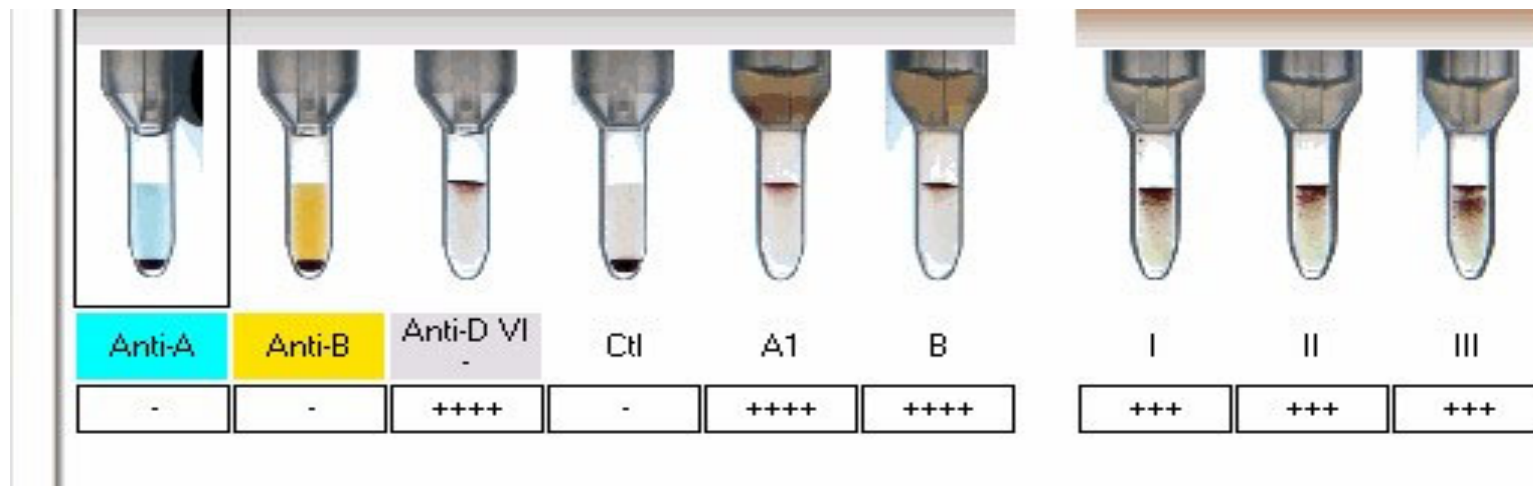
Anti-PP1Pk

- Presented by Kathryn Cameron
- November 2018

Presentation

A 28 year old female of Burmese descent presented for her antenatal group and screen .Clinical notes LMP 4/12/2017 for antenatal investigation. 1x 6ml EDTA was collected

Initial Testing





✓ Current results						✓ Antibody panels						Previous results	
✓ 1	✓ 2	✓ 3	✓ 4	✓ 5	✓ 6	✓ 1	✓ 2	✓ 3	✓ 4	✓ 5	✓ 6		
1	2	3	4	5	6	7	8	9	10	11	AC		
+++	+++ ^x	+++	+++	+++	+++	+++	+++	+++	+++	+++	-		

✓ 1	✓ 2	✓ 3	✓ 4	✓ 5	✓ 6	✓ 1	✓ 2	✓ 3
Anti-C	Anti-c	Anti-E	Anti-e	Anti-K	Ctrl	I	II	III
++++	-	-	++++	-	-	+++	++	++



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Thermal Specificity

	IS RT	15' RT	15' 4C	Nhance
SC1	12	12	12	10
SC2	10	10	12	8
SC3	10	10	12	10
Auto	0	0	0	0
Cord	12	12	12	



Where to now?

- Antibody to high incidence antigen
- No plasma left
- Recollect and send to ARCB's



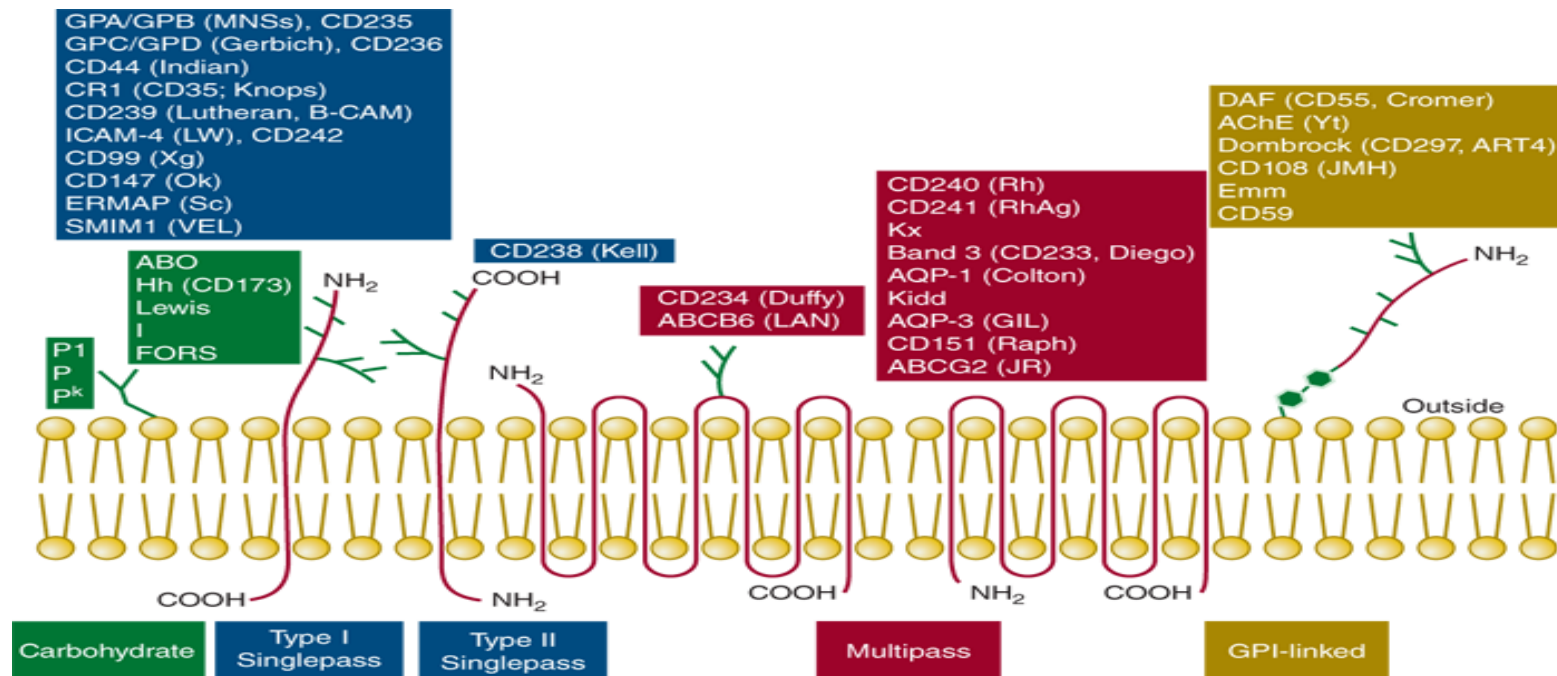
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ARCB's Report

- ▶ Anti-PP1Pk reactive by saline 22C and 37C, tube low ionic IAT and Biorad LISS/Coombs cards.
- ▶ Alloabsorption studies performed using phenotyped matched cells, removing all anti-PP1Pk reactivity. No additional alloantibodies detected. Unable to exclude anti-K due to lack of appropriate cells.

P1Pk System



Source: K. Kaushansky, M.A. Lichtman, J.T. Prchal, M.M. Levi, O.W. Press, L.J. Burns, M. Caligiuri: Williams Hematology, 9th edition
www.accessmedicine.com
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P1Pk system are glycosphingolipids with 3 antigens



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History

- ▶ “p” phenotype lack all 3 antigens
P1,P and Pk
- ▶ Anti-PP1Pk formally known as Anti-Tja
- ▶ Mix of IgM and IgG
- ▶ Binds Complement
- ▶ Potent Haemolysin
- ▶ Associated with spontaneous abortions usually in the first trimester



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Frequency

- ▶ The p phenotype is rare with Daniels stating a frequency of 5.8 per million with European origin. However there are certain populations eg Japan with a higher frequency.



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Course of Action

- ▶ The ARCBs indicated referral of the patient to an obstetrician or centre for management of high risk pregnancies .
- ▶ Our haematologist spoke to the referring doctors about the importance of all testing being performed by the hospital she would deliver at.



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ARCB's

- There are no “p” donors in Australia
- Family Screening was performed when the sister was pregnant in 2012 who also has Anti-PP1Pk
- The 2 sisters are incompatible and the brother is P1 not “p”
- Autologous donation was suggested but many of these individuals don't meet donor criteria



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Outcome

- She has safely delivered!





- The team at ARCB's Red Cell Reference Vic
- Staff at Melbourne Pathology Blood Bank
- Dr Ellen Maxwell our Medical Director