Australian Red Cross
BLOOD SERVICE

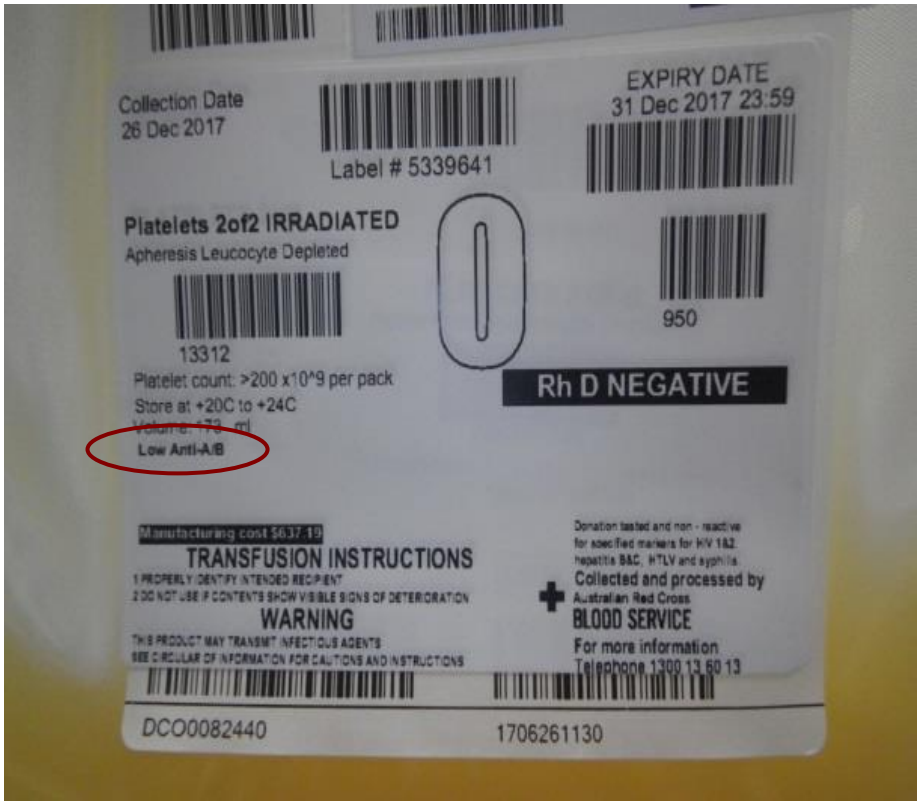
INFORMATION SHEET – MARCH 2018

Introduction of automated screening for high titre Anti-A/B

From 19 March 2018, the Australian Red Cross Blood Service will be introducing a new automated screening test to improve access to clinical plasma components and apheresis platelets with low titre anti-A and/or anti-B.

'Low Anti-A/B' modifier on release label

The modifier, "Low Anti-A/B", will be printed on the product release label of apheresis platelets and clinical plasma components where testing has indicated a low titre of anti-A and/or anti-B (see example below). This modifier will not be applied to group AB as these donations do not have anti-A or anti-B.



Background

All plasma-rich blood components containing a high titre of anti-A and/or anti-B antibodies pose a risk of causing clinically significant haemolysis when transfused to ABO incompatible recipients. Historically, this testing has been performed manually and limited to group O apheresis platelet components. The new automated screening will enable all apheresis platelets and clinical plasma components to be tested.

It should be noted, however, that screening for high titre anti-A/B does not provide absolute assurance that a haemolytic reaction will not occur. Caution should always be taken when selecting and transfusing ABO incompatible components.

Platelets

- Platelet components of the same ABO group as the recipient are the components of choice.
- Where these are unavailable (e.g. due to limited inventory, or the need for human leucocyte antigen (HLA) or human platelet antigen (HPA) matching), ABO incompatible platelets may need to be used. The relatively large volume of plasma in apheresis platelets poses an increased risk of haemolysis due to anti-A and/or anti-B when crossing ABO blood groups. This risk may be reduced by using components that are known to have low titre of anti-A and/or anti-B.
- Pooled platelets are suspended in platelet additive solution (PAS) and pose a lower risk of haemolysis if ABO incompatible platelets are transfused.

Recipient ABO Group	**Platelet Component ABO Group**		
	1st Choice	**2nd Choice**	**3rd Choice**
O	O	A*	B
A	A	B# or O#	AB
B	B	A*# or O#	AB
AB	AB	A# or B#	O#
Unknown	A*# or O#	-	-

* Group A platelets that have an **A2** subgroup do not express significant amounts of A antigen and are, therefore, more preferable for transfusion to group O and B recipients than other group A platelets.
# Apheresis platelets that have **low titre anti A/B** pose a lower risk of haemolysis when transfusing ABO incompatible components

Plasma Components

- Plasma components of the same ABO group as the recipient are the components of choice.
- Where these are unavailable, plasma components that are ABO compatible with the patient's red cells should be selected to avoid haemolysis due to donor anti-A or anti-B.
- Group O plasma must only be given to known group O recipients.
- In an emergency, group AB plasma components are recommended where the patient's blood group is unknown as these products contain no anti-A or anti-B; however, maintaining a sufficient inventory of group AB clinical plasma components is challenging given that less than 4% of the Australian population is group AB and the source of clinical plasma components is limited to only male donors in order to reduce the risk of transfusion-related acute lung injury (TRALI).
- Group A plasma components may be used as an alternative to group AB provided the component is not known to have a high titre anti-B (Australian and New Zealand Society of Blood Transfusion, *Guidelines for Transfusion and Immunohaematology Laboratory Practice*, 1st Edition, November 2016).

Recipient ABO Group	**Plasma Component ABO Group**			
	1st Choice	**2nd Choice**	**3rd Choice**	**4th Choice**
O	O	A	B	AB
A	A	AB	B^	-
B	B	AB	A^	-
AB	AB	A^	B^	-
Unknown	AB	A^	-	-

^ Plasma components that have **low titre anti A/B** pose a lower risk of haemolysis when transfusing ABO incompatible components