

## **Allogeneic Adsorption – Information Sheet**

Updated November 2019 Version 2.0

The detection and identification of atypical blood group antibodies in a patient's plasma are critical steps in ensuring that appropriate red cell units are selected for crossmatching so that transfusion reactions due to red cell incompatibility are avoided.

### **Clinical Indications**

When auto-antibodies are present in the plasma/serum, if the DAT is positive due to IgG with or without C3d, and the auto-antibody reacts preferentially at 37°C, warm Auto Immune Haemolytic Anaemia (AIHA) is likely. Warm auto-antibodies are often non-specific panagglutinating and on occasions can mimic specificities e.g. Rh. There have been a number of autoantibody specificities reported such as auto-anti-U, auto-anti-Jk3, auto-anti-Vel, auto anti-Rh but it is not usually necessary to identify the specificity of the autoantibody. Adsorption of the patient's serum/plasma is required to ensure there are no underlying allo-antibodies.

Autoadsorption is the process of removing autoantibody from the patient's serum/plasma using patient's own cells. Allogeneic adsorption, also referred to as alloadsorption or differential adsorption is the process of removing autoantibody from patient's serum/plasma using cells of selected phenotypes.

The decision to use autoadsorption or allogeneic adsorption depends on patient's transfusion history, the amount of patient's cells and amount of serum/plasma available. If the patient has been transfused within the last 3 months, or if there is not sufficient cells for autoadsorption, then an allogeneic adsorption is required. An allogeneic adsorption usually requires more serum/plasma than an autoadsorption. The limitation to an allogeneic adsorption procedure is that any allo-antibody to a high incidence antigen may be adsorbed out.

Where available antigen matched (C, c, E, e, K, Fy<sup>a</sup>, Fy<sup>b</sup>, Jk<sup>a</sup>, Jk<sup>b</sup>, S and s) red cells are recommended for those patients requiring regular transfusions. Allogeneic adsorption should be repeated every 2 weeks when antigen matched red cells are not able to be transfused. Cross matching of red cells for transfusion with adsorbed serum/plasma is not recommended.

### **Sample Requirements**

- A minimum of 2x5 mL EDTA samples are required for allogeneic adsorption.
- Samples should be received at Lifeblood within 7 days of collection. Samples must be labelled with a minimum of 2 identifiers (prefer at least 3).
- Samples must be provided with the completed Red Cell Reference Laboratory request form with a minimum of 3 identifiers; the tests requested and the referring organisation's contact details must be included on the request form.
- The identifiers on the sample must match the request form exactly.
- Please provide any relevant clinical information on the request form such as diagnosis, planned date of surgery, EDD, previous transfusion history (both recent and historic), history of recent RhD Immunoglobulin prophylaxis (i.e. within the last 6 months).
- If the patient is currently being treated, or has been treated within the previous 12 months, with any monoclonal therapies, e.g. Daratumumab, this must be indicated on the request form.
- Please provide a copy of any relevant serological worksheets.

Samples should be sent packaged with a cold ice-brick to the regional Red Cell Reference Laboratory, via the address below as soon as possible following collection. Where there is a delay in transport (more than 12 hours from collection) the sample should be refrigerated.

Region	Delivery Address	Phone	Fax
NSW ACT NT	NSW Red Cell Reference Laboratory Australian Red Cross Lifeblood Dock A – Blood In, 17 O’Riordan St Alexandria NSW AUSTRALIA 2015	+61 2 92342189	+61 2 92342193
QLD	QLD Red Cell Reference Laboratory Australian Red Cross Lifeblood 44 Musk Avenue (delivery via Blamey Street) Kelvin Grove, Queensland, AUSTRALIA 4059	+61 7 38389493	+61 7 38389410
VIC TAS SA	VIC Red Cell Reference Laboratory Australian Red Cross Lifeblood 100-154 Batman Street, West Melbourne, Victoria, AUSTRALIA 3003	+61 3 96940282	+61 3 96940331
WA	WA Red Cell Reference Laboratory Australian Red Cross Lifeblood 290 Wellington St Perth, Western Australia AUSTRALIA 6000	+61 8 94212864	+61 8 94212375

## Reporting

It is expected that results will be reported within 3 working days from receipt of the sample. PDF reports will be provided via a secure portal (SecureSend) using the supplied email addresses. Due to strict data security compliance, reports will only be provided by fax in urgent scenarios

**Urgent investigations:** Please phone in advance to inform the Reference Laboratory of the nature and urgency of the request, and the estimated time of sample arrival. Lifeblood operates an on-call service for life threatening situations where identification of atypical antibodies is required to provide appropriate blood for transfusion. Provisional results may be phoned to the referring laboratory as soon as results are available. Please indicate on the request form the phone number to contact.

## Enquiries

Please contact your regional Red Cell Reference Laboratory for any enquiries.

	NSW/ACT/NT	QLD	VIC/TAS/SA	WA
Phone	+61 2 9234 2189	+61 7 3838 9493	+61 3 9694 0282	+61 8 9421 2864
Fax	+61 2 9234 2193	+61 7 3838 9410	+61 3 9694 0331	+61 8 9421 2375
Email	<a href="mailto:RedCellReferenceEnquiriesNSW@redcrossblood.org.au">RedCellReferenceEnquiriesNSW@redcrossblood.org.au</a>	<a href="mailto:RedCellRedLab@redcrossblood.org.au">RedCellRedLab@redcrossblood.org.au</a>	<a href="mailto:RedCellReferenceEnquiriesVIC@redcrossblood.org.au">RedCellReferenceEnquiriesVIC@redcrossblood.org.au</a>	<a href="mailto:redcellreferenceenquiriesWA@redcrossblood.org.au">redcellreferenceenquiriesWA@redcrossblood.org.au</a>