

ABO Investigation - Information Sheet

Updated November 2019 Version 2.0

Since its discovery in the early 1900s, the ABO system remains the most important of all the blood group systems in the blood banking laboratory due to the severity of the patient outcome associated with transfusion of ABO incompatible blood. ABO blood grouping has two components;

- The forward group which uses reagents with known specificity i.e. Anti-A to detect the antigens present on the red cells and
- The reverse group which uses red cells of a known type i.e. A₁ and B to detect the presence of ABO antibodies in the plasma.

Whilst this testing is usually straightforward, there are some instances where further investigation may be required.

Clinical Indications

If there is a discrepancy between the forward and reverse group or weaker than expected or mixed field reactions are observed with routine ABO reagents, this is an indication for further investigation of the ABO group by the Red Cell Reference Laboratory. It is important to determine the correct ABO group to ensure that appropriate blood is selected for transfusion.

Minimum Sample Requirements

Sample requirements:

- EDTA blood (5mL as a minimum)
- Age of sample as fresh as possible (≤ 7 days)
- Samples must be labelled with a minimum of 2 identifiers (prefer at least 3)
- Samples must be provided with completed Red Cell Reference Laboratory request form with a minimum of 3 identifiers and include the tests requested, referring organisation's contact details and any relevant clinical information.
- The identifiers on the sample must match the request form exactly

Samples should be packaged with a cold ice-brick and sent 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 5 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.

Enquiries

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

	NSW/ACT/NT	QLD	VIC/TAS/SA	WA
Phone	+61 2 92342189	+61 7 38389493	+61 3 96940282	+61 8 94212864
Fax	+61 2 92342193	+61 7 38389410	+61 3 96940331	+61 8 94212375
Email	RedCellReferenceEnquiriesNSW@redcrossblood.org.au	RedCellRedLab@redcrossblood.org.au	RedCellReferenceEnquiriesVIC@redcrossblood.org.au	redcellreferenceenquiriesWA@redcrossblood.org.au