1. **Principle**

During the investigation of a positive antibody screen or DAT it is often not possible to identify the antibody/antibodies present or to phenotype the RBC's without the use of special procedures.

1. **Scope and Related Policies**
	1. The following Table SP.001-1 should be used as a guideline to selecting the most appropriate procedures to use in a variety of situations.
	2. The use of cord blood cells may also help to solve some serological problems; the expected reactions of cord red cells with various antibodies are shown on Table SP.001-2.
	3. Not all sites will perform the procedures indicated in the following charts; this guide is for reference only. The sample may be referred to a reference laboratory for those sites not licensed to perform the test.
2. **Specimen – N/A**
3. **Material – N/A**
4. **Quality Control – N/A**
5. **Procedure**

|  |
| --- |
| * 1. The tables on the following pages offer suggestions for further investigation/identification of specific antibodies/antigens.
 |
| * 1. This guideline document will be used in conjunction with the work instruction for the specific test recommended.
 |

1. **Reporting – N/A**
2. **Procedural Notes – N/A**

Table SP.001-11 - GUIDELINES TO CONTINUING ANTIBODY INVESTIGATION

|  |  |  |
| --- | --- | --- |
| SUSPECTEDANTIBODYSYSTEM | ACTION | OTHER |
| Fy | Papain treated cells (destroy)AIDAT (enhance)LIDAT (may enhance) | Rare frozen cells  |
| HighFrequency(HFA) | Papain treated cells Obtain ethnic historyTest patient RBC with high frequency antiseraSelect high frequency negative RBC's from rare cell stockRequest family members for testing |  |
| HLARed CellRelated(Bg) | Papain (may/may not enhance)AIDAT (enhance)Platelet absorbed plasma (reduce/remove)Chloroquine treated RBC's (remove) | Test known Bg cells |
| HTLA(All)Ch/Rg | 1/10 dilution plasma (same reactivity)Papain treated cellsAET treated cellsHTLA panel from frozen stockNeutralisation with inert FNS (destroy)C4D coated cells Direct agglutination reaction (enhance) | HTLA rare sera for pheno-typing |
| Jk | PEG or AIDAT (enhance)Papain treated cells (may remain same or enhance )2 stage EDTA C' added use polyspecific AHS (enhance) | Rare frozen cells |
| K | Papain treated cells (may enhance)AIDAT (enhance)LIDAT (may be non-reactive)AET or ZZAP(destroy) | Rare frozen cells |
| Lewis | Room Temperature Incubation  spin/read (enhance)PIDAT - POLY AHS (enhance)Inhibit with Lewis substances (destroy)Inhibit with saliva (destroy)2 stage EDTA C' added use polyspecific AHS (enhance) |  |
| LowFrequency(LFA) | Repeat tests to confirm reactionsConfirm reactions not due to dosage, try to enhance using PIDAT, PLIDAT or AIDATReduce temperature for incubation to exclude cold agglutinins reacting at higher temperatures | LFA + frozen cells |

|  |  |  |
| --- | --- | --- |
| **SUSPECTED****ANTIBODY****SYSTEM** | **ACTION** | **OTHER** |
| MNSs |  MN: Room Temperature incubation  spin/read (enhance) AIDAT (enhance) Acidify plasma (enhance) S: Room Temperature incubation  IDAT (enhance) s: AIDAT, LIDAT (enhance)MNS: Papain treated RBC's (destroy) s: Papain treated RBC's (may not destroy) | Rare frozen cells |
| P | Room Temperature Incubation  spin/read (enhance)AIDAT (enhance)PIDAT - Poly AHS (enhance)Inhibit with P substance (destroy)Inhibit with P.E.W. (destroy) |  |
| Rh | Papain treated cells (enhance)AIDAT (enhance)Albumin Layering (enhance) | Rare frozen cells |

**Legend**

Antigen/Antibodies: HFA High frequency antigen

Bg Bennett Goodspeed

HLA Human Leukocyte antibody

HTLA High titre low avidity

LFA Low frequency antigen

Methods: AIDAT Albumin indirect antiglobulin test

LIDAT LISS indirect antiglobulin test

FNS Fresh normal serum (inert)

PEG Polyethylene glycol

PIDAT Papain indirect antiglobulin test

PLIDAT Papain/LISS indirect antiglobulin test

ZZAP DTT/papain treated cells

PEW Pigeon egg white

Table SP.001-2 2 - ALPHABETICAL LISTING OF CORD CELL ANTIGENS

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ANTIGEN | STATUS | ANTIGEN | STATUS | ANTIGEN | STATUS | ANTIGEN | STATUS |
| AAtaAuaBBeaBeckerBgBiByCcChidoClaCoaCobCsaCwDDiaDibDoaDobDpEeEl |   W W  P P  P P W W  W W W P W W W W W W P W W P | EnaEvansfFarFyaFybFy:3Fy:4Fy:5GGeGnaGoodGyaHHeibelHovHtaHyIiJkaJkbJraJsaJsb |  W P W W W W P U P P W P P  P P P P    W W W W W | KkKnaKpaKpbKuLeaLebLexLuaLubLu6LukeLWMM1McCaMgMilten-bergercomplexMtNNyaPP1 |  W W W W W P   P    W W W P P W W W W W W  | RdRgRh17rhi(Ce)RmRosebushSsSc:1(SM) Sc:2(Bua)SdaSfaTmToaUV(Ces)VelVenVS(es)WraWrbYtaYtbYkaZd |  P  P W P P W W W W N P  P P W  P W P U  W P P |

**REACTION TO STRENGTH:**  Compared to adult cells

  = decreased  = increased

 = greatly decreased  = greatly increased

**W** = well developed

**N** = not present

**U** = Unknown (not in literature)

**P** = Present, implicated in HDN or strength of antigen not stated.

1. **References**
	1. Roback JD Ed. Technical Manual 17th edition Bethesda MD; AABB; 2011:463-496.
	2. Transfusion and Apheresis Science: Volume 40, Issue 3, June 2009; Neurath, D ed.
2. **Revision History**

|  |  |
| --- | --- |
| **Revision Date** | **Summary of Revision** |
| September 1, 2014 | * Revised name of manual
* Revised wording in section 2.1 to reflect title change from “Chart 1” to “Table SP.001-1”
* Revised wording in section 2.2 to reflect title change from “Chart 2” to “Table SP.001-2”
* Revised wording to include “may remain same or enhance” in chart 1
* Revised list of references
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