**Purpose**

This procedure provides instructions for how to perform a weak D test, which can be used to help resolve Rh typing discrepancies and to determine whether RHIG is required for a postpartum patient.

**Policy Statement**

* Weak D positive individuals are considered Rh Positive as donors.
* Weak D positive individuals are considered Rh Negative as recipients.
* Candidacy for administration of Rh Immune Globulin will be determined by clinical care team.

**Procedure:**

|  |  |  |
| --- | --- | --- |
| **Step** | **Action** | **Related Documents** |
| **Perform Weak D Test** |
| 1 | Check anti-D reagent manufacturer’s instructions: * + Same tube may be used for the weak D test if the original direct test with anti-D was done by tube.

Is a Control tube required?* + **Weak D test is Positive ≥ W+**
	+ Manufacturer’s reagent instructions
		- Saline control
		- Direct Antiglobulin Test
		- Manufacturer’s control
 | Manufacturer’s Package Insert |
| **If the original D test**  | **Then** |  |
| Can be used | Proceed to Step 3. |
| **Cannot** be used | Proceed to Step 2. |
| 2 | Add reagents to clean labeled tubes:* Place **1** drop of anti-D reagent into a tube.
* Place **1** drop of ABO/Rh control into a second tube, if required by manufacturer.

Prepare a 3% to 5% patient red cell suspension, if not already available, per established procedure.Add 1 drop of the 3% to 5% cell suspension into each tube.  | Labeling Tubes for Manual Bench TestingPreparation of 3-5% Red Cell Suspension  |
| **Step** | **Action** | **Related Documents** |
| 3 | Mix and incubate tubes for 15 to 30 minutes at 37 C. |  |
| 4 | Wash the tubes four times with saline per established procedure. | Washing Red Cell Samples (Manual or Automated Procedure)  |
| 5 | Add **2** drops of anti-IgG antiglobulin reagent. |  |
| 6 | Mix the tubes immediately. Centrifuge for the posted time in a calibrated serologic centrifuge. |  |
| 7 | Immediately after centrifugation: * Resuspend the cell button and observe for agglutination.
* Read macroscopically and record results per established procedure.
 | Reading and Grading Tube Hemagglutination ReactionsSQ Blood Order Processing Test Result Guide |
| 8 | Validate all negative or weak antiglobulin results by adding Check cells:* Add **1** drop of IgG-coated control cells to each tube with a negative or weak result.
* Centrifuge for the posted time in a calibrated serologic centrifuge.
* Resuspend the cells.
* Read macroscopically for agglutination and record the results.
	+ ***Valid control results****: Agglutination of at least grade 2 must be present or the test results are invalid and the test must be repeated*.
 |
| 9 | Analyze the reactions of the IgG-coated RBCs as follows: |  |
|  | **If agglutination is…** | **Then…** |  |
|  | Present | Test is complete. |  |
|  | Absent | Test is invalid:* Repeat Steps 1-7.
* Consider cell washer problem or inactive AHG.
 |  |
| **Validate Completed Test Results** |
| 10 | Testing is unresolved/invalid if:* Positive anti-D tube with no control tube performed
* Positive control
* Positive DAT with anti-IgG
* Mixed field reaction
 | * Additional lot numbers
* Other manufacturers
* Result testing on ABO/D Discrepancy Worksheet
* Eluate
* Antibody Investigation
* Transfusion history
 | ABO/D Discrepancy WorksheetEluate Testing GuidelinesGuidelines for Antibody Identification |

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| **Interpreting weak D test results** |
|  | * Interpret the **valid** IAT results as follows:
 | SQ Blood Order Processing Test Result Guide |
| **If the anti-D IAT result shows** | **And the control IAT result shows** | **Then interpret the D result as** |
| * Agglutination
* ≥ W +
 | * No agglutination
 | * D positive.
* Update BAD file:
* WKDP
* “Give Rh Neg”
 |
| * No agglutination
 | * No agglutination or not required by manufacturer
 | * D negative
* Update BAD file:
* WKDN
 |
|  | * Mixed Field agglutination
 | * No agglutination
 | * Do Not interpret until further investigation and resolution is completed
 | Discrepant Result Resolution Process  |

**References:**

Standards for Blood Banks and Transfusion Services, Current Edition

AABB Technical Manual, Current Edition

Current version of reagent manufacturer’s package insert instructions