**Rh Type**

**PRINCIPLE**

Testing with Anti-D reagent is necessary to determine if red blood cells possess or lack the D blood group antigen. Agglutination of red blood cells with Anti-D reagent is a positive test result, which indicates the presence of the D antigen on the red blood cells. Absence of agglutination is a negative test result, which indicates the D antigen is not demonstrable. A test for weak D may be performed on samples that test negative with Anti-D to determine the Rh status.

**SPECIMEN COLLECTION**

No special preparation of the patient is required prior to specimen collection. Blood should be collected by approved techniques. The sample should be stored at 2 to 8C. The method of collection and storage determines the period within which the red blood cells should be tested. EDTA or clotted samples should be tested within 10 days.

**REAGENT**

Seraclone Anti-D (RH1) Blend Rapid Tube. Do not use beyond expiration date. Store at 2 to 8C. May be at room temperature (20 to 30C) while in use. (Refer to product insert for additional information about reagent.)

**MATERIALS REQUIRED:** 12 x 75 mm test tubes, isotonic saline, pipettes, centrifuge, agglutination viewer.

**QUALITY CONTROL:** To recognize reagent deterioration the reagent must be tested daily with appropriate controls. See QUALITY CONTROL procedure.

**PROCEDURE – TUBE METHOD:** **(Bring all reagents to room temperature before testing)**

**(Read Comments section next page)**

**NOTE:** Steps 2 and 3 may be interchanged, but do it one way or the other. Be consistent.

|  |  |
| --- | --- |
| **Step** | **Action** |
| 1 | Prepare a 3-5% suspension of red blood cells to be tested in isotonic saline.(Washed or unwashed cells may be used) |
| 2 | Add one drop of Anti-D reagent to appropriately labeled tube. |
| 3 | Add one drop of rbc suspension into the tube and mix. |
| 4 | Centrifuge the test tube for appropriate centrifuge time.\* |
| 5 | Gently resuspend the red blood cell button and observe macroscopically for agglutination. |
| 6 | Record results. |
| 7 | If no agglutination is observed and if a Weak D determination is desired, proceed to the Weak D test. |

**\*Note: Centrifuge spin and wash time are noted on each centrifuge.**

**COMMENTS**

Concurrent testing for the ABO blood group serves as a routine simultaneous control. The routine use of an Rh control is not required. Only when the cells under test are found reactive with anti-A, anti-B and anti-D is the use of an additional control necessary. Isotonic saline, a commercial Rh control, a 6% to 8% solution of bovine albumin in isotonic saline, or a patient auto-control may be used. If the control test gives a positive reaction, a valid interpretation cannot be made.

**RESULTS**

• Agglutination of the red blood cells is a positive test result and indicates the presence of the D antigen.

• No agglutination of the red blood cells is a negative test result and indicates the absence of the D antigen.

**LIMITATIONS:**

• Cord cells heavily sensitized with anti-D may demonstrate a false-negative immediate spin test result.

• Reactions of red blood cells exhibiting weakened expressions of the D antigen may show varied reactivity

 as compared to those obtained with other Anti-D reagents.

• Refer to the product insert for additional comments.

**REFERENCES:**

Roback, J. (2011). Technical manual (17th ed.). Bethesda, Md.: AABB.

Package insert: Biotest Blood Grouping Reagent Anti-D (RH1) Blend Seraclone® Human Monoclonal Blend. Dreieich, Germany.

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