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ORTHO® Anti-A_1 Lectin

(Dolichos biflorus)

For Tube Test

A Qualitative Test for Recognition of the A_1 Antigen on Human Red Blood Cells

REF

711830

Rx ONLY

SUMMARY AND EXPLANATION

Erythrocytes possessing the A antigen can be subdivided into A_1 and A_2. Group A red blood cells which are agglutinated with Anti-A_1 lectin are said to be of the subgroup A_1. Those which are not agglutinated by Anti-A_1 lectin fall into subgroups weaker than A_1, the majority being classified as A_2. The red blood cells of approximately 80% of the blood group A population are A_1, while the remaining 20% are A_2 or weaker.

PRINCIPLE OF PROCEDURE

The procedure used with this reagent is based on the principle of agglutination. Normal human red blood cells, possessing antigens, will clump in the presence of antibody directed toward the antigens. Some extracts of seeds (lectin) contain powerful agglutinins with human blood group specificity. The extract of the seeds from Dolichos biflorus is virtually specific for A_1 antigens on red blood cells.

REAGENT

ORTHO Anti-A_1 Lectin (Dolichos biflorus) is designed for use in agglutination tests for the recognition of the A_1 antigen on human red blood cells. This reagent is a purified extract of the seeds of Dolichos biflorus, containing a phytohemagglutinin which agglutinates red blood cells of the subgroup A_1 or A_1B.

This reagent contains sodium azide 0.1% as a preservative. Sodium chloride is an additional constituent. Use as furnished.

FOR IN VITRO DIAGNOSTIC USE

Warning: Contains sodium azide. Sodium azide may react with lead and copper plumbing to form highly explosive metal azide. On disposal, flush with a large volume of water to prevent azide buildup.

Do not use beyond expiration date. Store at 2 to 8°C. May be at room temperature (20 to 30°C) while in use.

Extreme turbidity may indicate microbial contamination. Serologic testing is necessary to recognize reagent deterioration.

CONTROLS

It is recommended the reagent be tested on each day of use with appropriate positive and negative controls.

Positive control—known A_1 red cells.

Negative control—known A_2 red cells.

SPECIMEN COLLECTION AND PREPARATION

No special preparation of the patient is required prior to specimen collection. Blood should be collected by approved techniques. The sample should be tested as soon as possible following collection. If a delay in testing should occur, the sample should be stored at 2 to 8°C.

Blood drawn into heparin or oxalate should be tested within two days. Clotted specimens or blood drawn into sodium citrate or EDTA should be tested within 14 days. Donor blood may be tested up to date of expiration.

PROCEDURE

Material Provided

ORTHO Anti-A_1 Lectin for Tube Test

Required Supplementary Materials

Tube Method

1. Test tubes, 10 x 75 mm or 12 x 75 mm
2. Transfer pipettes
3. Centrifuge
4. Isotonic saline, 0.85-0.9% sodium chloride

Directions for Use

Tube Method

1. Prepare a 3% to 5% suspension of red blood cells in isotonic saline.
2. To a test tube, add one drop of ORTHO Anti-A_1 Lectin.
3. Using a transfer pipette, add one drop of the cell suspension.
4. Mix well and centrifuge.

   Suggested centrifugation: approximately 15 seconds at 3400 rpm (900-1000 rcf) or 1 minute at 1000 rpm (100-125 rcf).*
5. Resuspend the cells by gentle agitation and examine macroscopically for agglutination.

RESULTS

Interpretation

1. Agglutination of the red blood cells is a positive test result and indicates the presence of the A_1 antigen.
2. No agglutination of the red blood cells is a negative test result and indicates the absence of the A_1 antigen.

Stability of Final Reaction Mixture

Tube Method

All results should be interpreted upon test completion.

LIMITATIONS OF PROCEDURE

1. Tests using antisera of the ABO blood group system should be performed at room temperature (20 to 30°C) and never incubated at higher temperatures.
2. The A_1 antigen is not fully expressed on the red blood cells of newborn infants and false-negative results may occur.
3. Aged red cells may yield weaker reactions than those obtained with fresh red cells.
4. Contaminated blood specimens and/or supplementary materials used in the procedures described may interfere with the test results.

SPECIFIC PERFORMANCE CHARACTERISTICS

When properly stored and used according to the procedures described under Directions for Use, this reagent will agglutinate red cells which have the antigen against which it is directed. The potency of this reagent is standardized by comparison to a previously approved lot. The reactivity of each lot is demonstrated in tests with the recommended procedure using cells from several donors. The specificity of each lot is shown by the recommended tube method using a panel of cells which lack the antigen against which the antiserum is directed but contain as many other antigens having a frequency of 1% or greater as possible.

Technical questions concerning this reagent should be directed to Customer Technical Support at 1-800-322-6374.

* The centrifugal force applied to cell/serum mixtures should be the minimum required to produce a “button” of red cells and a clear supernate.

  Overcentrifugation, i.e., the application of forces in excess of the minimum, causes the cells to adhere to the bottom of the test tube so that vigorous agitation is necessary before they can be resuspended. During such agitation, weak agglutination may be dispersed causing a positive reaction to be missed.

  Undercentrifugation, i.e., the failure to apply forces necessary to cause the cells to form a “button” and a clear supernate, may result in a weak or negative reaction.

  No one speed and time of centrifugation can be recommended which will cover the wide variety of centrifuges available; each laboratory must calibrate its own equipment and determine the time required at a given speed to achieve the desired result.

SUMMARY OF REVISIONS	
Section	**Revision**
Front Page	Added Rx ONLY.
Back Page	Updated corporate logo.

BIBLIOGRAPHY

Blood group antigens & antibodies as applied to the ABO and Rh systems. Raritan, NJ: Ortho Diagnostic Systems, 1969.

Race RR, Sanger R. Blood groups in man. 6th ed. Oxford: Blackwell Scientific Publications, 1975.

Bird GWG. Relationship of the blood sub-groups A_1, A_2 and A_1B, A_2B to haemagglutinins present in the seeds of Dolichos biflorus. Nature, Lond 1952;170:674.

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