

ANTI-A₁ LECTIN

Catalogue No.: Anti-A1L

INTENDED USE: Anti-A1 Lectin db is for in vitro recognition of human red cell subgrouping to differentiate 'A1' subgroup from other weaker subgroups of 'A' Red blood cells like A2,Ax,Aem,Ael,or A2B AxB etc.

INTRODUCTION: The human erythrocyte has some 100 known blood group determinants that comprise 15 genetically distinct blood group systems. Of these, only two, the ABO blood group system and the Rhesus (Rh) blood group system have major clinical importance. According to the ABO blood group system human red blood cells are classified into four major groups A,B,AB,and O depending upon the presence or absence of specific inheritable blood group antigens on the erythrocytes. In the Rh system of blood typing, human red blood cells are classified into two types based on the presence or absence of Rh factor (D-antigen). The term Rh positive is used to denote the presence of D- antigen on the red cells. Anti-A1 Lectin db is intended for human red blood cell subgrouping to differentiate 'A' subgroup from other weaker subgroups of 'A' red blood cells like A2, Ax,Aem,Ael or A2B,AxB etc. These antibodies are standardized for their potency, specificity and avidity.

PRINCIPLE: Anti-A1 Lectin db reacts with A1 antigen and causes agglutination of A1 human red blood cells selectively and specifically. Anti-A1 Lectin db only agglutinates with A1 and A1B human red blood cells (RBCs). Anti-A1 Lectin db will not react with other subgroups 'A' (like A2,Ax,Aem,Aet or A2B, AxB etc.,).

STORAGE AND STABILITY:

Store the reagents at 2-8°C. Do not use the reagent beyond the expiry date mentioned on it. Before performing the test bring all the reagents to room temperature. Replace the reagents to 2-8°C soon after performing the test. DO NOT FREEZE THE REAGENTS.

1. The unopened kit is stable for 2 years from the date of manufacturing as indicated on the package.
2. The opened kit is stable for 6 months from the date of opening.
3. Repeated freeze thaw of reagents from 2-8°C to room temperature several times will reduce the stability of the kit.

PACK SIZE: Available in packs of 2ml/5ml/10ml

TITRE: 1:256

AVIDITY: 2-7 Seconds

CONTENTS OF THE KIT:

Anti-A1 Lectin = 2ml/5ml/10ml

MATERIALS REQUIRED BUT NOT PROVIDED:

1. Slide or Tube
2. Lancet
3. Applicator sticks
4. Isotonic saline

AUXILLARY REAGENT NOT PROVIDED:

Normal saline

SPECIMEN: Whole blood with or without anticoagulant. In case of delay in testing, the specimen with an anticoagulant should be stored at 2-8°C.

PRECAUTIONS:

1. For in vitro diagnostic use only.
2. Bring all reagents and specimens to room temperature, prior to testing.
3. Avoid using hemolysed sample.
4. Microbial contamination should be avoided.

5. All human serum and plasma samples should be considered potentially infectious. It is recommended that all specimens of human origin should be handled as recommended for any potentially infectious human serum or blood specimen in the Centers for Disease Control/ National Institute for Health Manual "Biosafety in Microbiological and Biomedical Laboratories", 1984.
6. Never pipette by mouth.
7. Do not smoke, eat or drink in areas in which specimens and kit reagents are handled.
8. Wear disposable gloves while handling specimens and kit reagents. Afterwards wash hands carefully.
9. Avoid splashing or forming aerosols.
10. Discard all materials and specimens as if capable of transmitting infection. The preferred method of disposal is autoclaving for a minimum of one hour at 121°C. Liquid waste containing acid may be mixed with sodium hypochlorite in volumes such that the final mixture contains 50-500mg/dl available chlorine. Allow 30 minutes for decontamination to be completed.

Note: 1. The source material (tissue culture supernatant) used to produce this reagent has been tested and found to be negative for HIV and HCV antibodies and HBsAg in Microbiological test required. No known regime of testing can completely guarantee that any product can be derived from human blood is incapable of transmitting infections.

2. Liquid waste containing acid must be neutralized with a proportional amount of base prior to the addition of sodium hypochlorite. Spills should be wiped thoroughly using either an iodophor disinfectant or sodium hypochlorite solution. Materials used to wipe up spills should be added to biohazardous waste matter for proper disposal.
3. Deterioration is indicated by a significant decrease by weak agglutination.
4. Do not use reagents after the expiration date printed on the label.
5. When removing reagents from the bottles, use aseptic technique to avoid contamination.
6. Mix the reagent gently before use.
7. Do not use clotted blood sample for testing.
8. Ensure reused glass slide is disinfected, washed thoroughly and rinsed free of detergents.

TEST PROCEDURE:

A. SLIDE TEST:

1. Place one drop of differential blood grouping reagent Anti-A1 Lectin db on a glass slide.
2. To the reagent drop, add one drop of whole blood or 10% saline suspension.
3. Rock the slide gently back and forth.
4. Observe for agglutination at the end of two minutes. Peripheral drying should not be misinterpreted as a positive result.

B. TUBE TEST:

1. Place one drop of differential blood grouping reagent Anti-A1 Lectin db into labeled tubes ("2x3/8") such as Test (T).
2. Add one drop of above cell suspension to both the tubes labeled as Test (T) and Control (C) and mix well.
3. Centrifuge for one minute at 1000rpm or allow the tubes to stand at room temperature for 15-60 minutes.
4. Gently dislodge the cell button and observe for agglutination either microscopically or macroscopically.

INTERPRETATION OF RESULTS:

Agglutination of red blood cells within two minutes indicates the presence of A1 antigen on human red blood cells.

Absence of agglutination indicates the absence of A1 antigens on the human red blood cells.

No interpretation should be made if the agglutination appears in negative control with either slide test or tube test.

TROUBLE SHOOTING

FALSE POSITIVE

Cause/Error	Remedy
1. Contaminated Blood specimen or reagents	Make sure that there is no contamination of blood specimen or reagent. Use Clean slide or tube for testing. Do not read result after two minutes
2. Drying in slide test	Do not read result after two minutes
3. Clotting of blood	Test the sample immediately if anticoagulant is not added to the sample.

FALSE NEGATIVE

Cause/ Error	Remedy
1. Contaminated Blood specimen or reagent	Make sure that there is no contamination of blood specimen or reagent. Use the clean slide or tube for testing. Do not read the result after 2 minutes.

WEAKLY DELAYED REACTION

Cause/Error	Remedy
1. Prolonged storage of red blood cells.	Store the blood sample with anticoagulant at 2-8°C for less than 30 days.
2. Expired reagent	Check the expiry date on the reagent bottle.

LIMITATIONS OF THE TEST:

1. It is recommended that with every set of tests, positive and negative controls should be included. The result of positive and negative controls should be read before reading the test results. The satisfactory result of positive and negative control indicates that the reagents are working well.
2. Factors other than reagents, which might affect the [performance of the test, include cleanliness of glassware, meticulous follow up of the procedure and rouleaux formation.
3. Blood obtained by finger prick may be tested directly by the slide method, but to avoid clotting, blood should be immediately mixed with the reagent.
4. Contaminated blood specimen or reagents may interfere with test results. Peripheral drying in slide test should not be misinterpreted as agglutination.

PRESENTATION:

1. The blood drop of the slide should not be allowed to dry; partial drying of the blood could be misinterpreted as agglutination.
2. Centrifugation should be perfect. Over-centrifugation or under- centrifugation may result in false negative interpretation.
3. Dislodgement of sedimented red cells in tube test should be done as gently as possible, rough dislodgement may disrupt small or weak agglutinates and hence may lead to false negative interpretation.
4. The entire procedure should be carried out at room temperature. Warm or cold antibodies in the tested blood can cause agglutination and may lead to wrong interpretation.
5. Hemolysed blood samples should not be used.
6. Improper A1 lectin db concentration as well as that A1 antigen may cause delayed agglutination.

REFERENCE:

1. **Race, R.R& Sanger.R. (1975) Blood Groups in man, Sixth edition, Blackwell publications.p.813**
2. **Technicals manual of the American Association of Blood Banks (1981) Eighth edition.p.124.**
3. **Molison.p.l.(1977) Blood Transfusion in Clinical Medicine, sixth edition.p.292.**