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Anti-A_1 Lectin

Intended use:
This anti-A1 reagent is an extract from the seeds of Dolichos biflorus and can be used to differentiate A1 human red cells from other subgroups of A when tested by the tube technique.

Summary and Explanation:
In 1911, two different A antigens were identified based on reactions between group A red cells and Anti-A and Anti-A1. Group A1 red cells will react with both anti-A and anti-A1, however red cells classified as group A2 only react with anti-A. Lectins are seed extracts that agglutinate human red cells. Anti-A1 lectin (Dolichos biflorus) agglutinates A1 and A1B cells, but does not agglutinate A2 or A2B red cells. Approximately 80% of Group A individuals are group A1 while most of the remainder are group A2.

Principle of the Procedure:
This reagent will cause agglutination of test red cells that carry the A1 antigen. No agglutination usually indicates the absence of A1 antigens (see Limitations).

Reagent Description:
This reagent is prepared from the extract of *Dolichos biflorus* seeds and is diluted with a sodium chloride solution containing bovine albumin. It is provided ready for use at optimal dilution.

This products is supplied sterile filtered to 0.22µm and contains 0.1% (w/v) sodium azide.

The reagent contains bovine material obtained from a USDA approved source free of Transmissable Spongiform Encephalopathies (TSEs).

The format for the expiration date is expressed as YYYY-MM-DD (year-month-day). Lot number and expiration date information appears on the vial.

Precautions
1. This reagent contains 0.1% (w/v) sodium azide which is below the national and international regulatory thresholds and when used under a normal condition is not chemically hazardous. If this reagent is discarded in the sink, flush with large volumes of water to prevent the buildup of azide.
2. The packaging of this product Contains Dry Natural Rubber.
3. This reagent is for *in vitro* diagnostic use.
4. This reagent is designed to be used by operators trained in serological techniques.
5. Do not use if markedly turbid.
6. No known tests can guarantee that products derived from human or animal sources are free from infectious agents

Storage
The reagent should be stored at 2-8°C. Prolonged storage at temperatures outside this range may result in accelerated loss of reagent reactivity. The reagent is stable until the expiry date stated on the product label.

Specimen Collection:
Blood samples drawn with or without anticoagulant may be used. If testing is delayed, samples should be stored at 2-8°C. EDTA and citrate sample should be typed within 7 days of collection. Samples collected into ACD, CPD or CPDA-1 may be tested up to 35 days from the date of collection.

Procedure:

Materials Provided

Hemo bioscience Anti-A_1 Lectin

Materials Required But Not Provided
Test tubes
Test tube centrifuge
Isotonic saline or PBS
A_1 and A_2 red cells suitable for the control of anti-A_1
Pipettes
Timer

Recommended Technique (Tube Method)
1. Wash the red cells to be tested two times in isotonic saline or PBS
2. Prepare a 2-5% suspension of washed test cells in isotonic saline or PBS.
3. Add 1 drop of washed test red cells to one drop of the reagent in a glass tube. Mix thoroughly.
4. Centrifuge at 1000 rcf (g) for 20 seconds or a time and speed appropriate for the centrifuge used that produces the strongest reaction of antibody with antigen-positive red blood cells.
5. Gently suspend the red cell button and read macroscopically for agglutination.

Quality Control
It is recommended a positive control and negative control (group A2 cells) be tested with this reagent each day of use. Tests must be considered invalid if controls do not show the expected results.

Results:

Positive Test
Agglutination of test red cells constitutes a positive test result and within the limitations of the test procedure indicates the presence of A1 antigen on the test red cell.

Negative Test
No agglutination of test red cells constitutes a negative result and within the accepted limitations of the test procedure indicates the absence of A1 antigen on the test red cells.

Limitations:
1. This reagent is ready to use and must not be diluted.
2. Anti-A1 may react with Tn-polyagglutinable or Cad-positive red cells irrespective of their ABO group.
3. Cord blood and specimens from infants cannot be accurately typed with anti-A1 lectin since the A1 antigen is not fully developed on red blood cells until the age of six months.
4. Stored blood may give weaker reactions than fresh blood.
5. False positive or negative reaction may occur due to: contamination of test materials, improper reaction temperature , improper storage of materials, omission of test reagents, certain disease states and deviation from the recommended technique.
6. This reagent has not been tested for use in polyagglutination testing.

Specific Performance Characteristics:
Prior to release , each lot of Anti-A1 Lectin reagent is tested by the Recommended Technique against antigen posiitve and negative red cells to ensure suitlabe reacivity. This reagent has not been tested for use in polyagglutination testing.
For Technical Support, call Hemo bioscience at 1-866-332-2835.

Bibliography:
1. Bird GWG. Relationship of the blood sub-groups A1, A2, and A1B, A2B to hemagglutinins present in the seeds of Dolichos biflorus. Nature 1952;170:674.
2. Bird GWG. Lectin and red cell polyagglutinability: history, comments and recent developments. In: Beck ML, Judd WJ, eds. Poly-agglutination. Washington DC: American Association of Blood Banks, 1980:71.
3. Fung, MK (ed) Technical Manual, 18th Ed. Bethesda, MD: American Association of Blood Banks, 2014.

Glossary of Symbols:

Symbol	Definition
LOT	Batch code
	Manufacturer
	Temperature limitation
	Consult instructions for use.
	Use by YYYY-MM-DD
IVD	For *in vitro* diagnostic use