

Instructions for use



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anti-A₁ (lectin) saline method

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For professional use only

Blood grouping reagent for the detection of the A₁ antigen on human red cells

General information

Anti-A₁ (lectin) blood grouping reagent for the saline method is a stabilised extract prepared from the seeds of *Dolichos Biflorus*. This reagent meets the requirements of the concerned standards and guidelines. Performance characteristics are mentioned in the release documents, which are supplied with the product upon request. The principle of the test is the agglutination technique, which is based on antigen/antibody reaction. The reagent can be used in either spin tube or microplate method. The inclusion of positive and negative controls with each series of blood group determinations is strongly recommended.

Precautions

For in vitro diagnostic use only. Reagents should be stored at 2–8°C. Leaking or damaged vials may not be used. Reagents (unopened or opened) should not be used beyond the expiration date, which is printed on the label of the vial. NaN₃ 0.1% (w/v) is used as preservative. Turbidity may indicate microbial contamination. To recognise reagent deterioration, testing of the reagent as part of the laboratory quality control program using appropriate controls is recommended. Waste-disposal, after completion of the test, should be performed according to your laboratory regulations.

Specimen collection and preparation

Blood samples should be withdrawn aseptically with or without the addition of anticoagulants. If testing of the blood samples is delayed, storage should be at 2–8°C.

Preparation of the specimen is described in the respective test procedures.

Test procedures

Spin tube method

Tube requirements: round bottom glass tubes; size 75 x 10/12 mm.

1. Prepare a 3–5% cell suspension of red cells to be tested in isotonic saline or in their own plasma or serum.
2. Add to a test tube:
 - 1 drop of anti-A₁ (lectin) saline method
 - 1 drop of the 3–5% cell suspensionand mix well.
3. Centrifuge for 20 seconds at 1000 rcf or for a time appropriate to the calibration of the centrifuge.
4. Resuspend the cells by gentle agitation and read macroscopically for agglutination.

Microplate method

Microplate requirements: polystyrene microplates with round bottom wells.

1. Prepare a 2–3% cell suspension of red cells to be tested in isotonic saline or in their own plasma or serum.
2. Add to a well:
 - 1 drop of anti-A₁ (lectin) saline method
 - 1 drop of the 2–3% cell suspension
3. Mix the content thoroughly for 5 seconds using a rotary shaker at 600–700 rpm.
4. Incubate for 10–15 minutes at room temperature (18–25°C) without shaking.
5. Centrifuge for 10–20 seconds at 700 rcf or for a time appropriate to the calibration of the centrifuge.
6. Reshake the microplate for 1–4 minutes on the rotary shaker at 600–700 rpm or as long as necessary to completely resuspend the cells in the wells with negative reactions.
7. Let the microplate rest for 1 minute to allow smaller agglutinates to settle.
8. The reactions can now be read either macroscopically or using an automatic reader.

Interpretation

A positive reaction (i.e. agglutination) indicates the presence of the A₁ antigen i.e. blood group A₁ or A₁B. A negative reaction (i.e. no visible agglutination) indicates the absence of the A₁ antigen i.e. blood group A₂ or A₂B or weaker subgroups of A.

Occurrence

A₁ antigen

Caucasians

34%

Negroids

19%

These numbers do not include blood group AB.

Limitations

Unexpected positive results due to: pseudoagglutination, autoagglutination, mixed field reaction, the presence of Whartons jelly together with umbilical cord cells, or if observation in the slide method is prolonged beyond 20 seconds.

Unexpected negative or weak results due to: weak antigens, mixed field reaction, decreased activity of the reagent.

False positive or false negative results may occur through contamination of test materials or any deviation from the recommended technique.

The anti-A₁ (lectin) blood grouping reagent has been optimized for use by the technique(s) recommended in this package insert. Unless otherwise stated their suitability for use by other techniques must be determined by the user.

References

1. Race R.R. and Sanger R.; Blood Groups in Man, 6th ed. Oxford Blackwell Scientific Publishers 1975.
2. Issitt P.D.; Applied Blood Group Serology, 3rd ed. Montgomery Scientific Publications, Miami, Florida, USA, 1985.
3. Daniels G.; Human Blood Groups. Blackwell Science Ltd. 1995.
4. Reid M.E. et al.; The Blood Group Antigen Facts Book. Facts Book Series, 3rd ed. 2012.
5. Mollison P.L. et al.; Blood Transfusion In Clinical Medicine, 9th ed. Blackwell, Oxford, 1993.

Sanquin products are guaranteed to perform as described in the original manufacturer's instructions for use. Strict adherence to the procedures, test layouts and recommended reagents and equipment is essential. Sanquin declines all responsibility arising from any deviation thereof.