

Immunohaematology

Health & Medicine



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Immunohaematology Why is the 20% suspension used in the tile method?

20% serum is required since the IAGT test is involved. The test requires addition of serum and hence the suspension takes the place of serum

Explain what stage 1 of RBC agglutination is, include one factor which can affect this stage?

In this stage, the antibody “ bumps” into the red blood cell at the corresponding site of the antigen. The strength that acts to hold the antigen and antibody together are partly chemical and partly physical. The physical force involves a complementary shape commonly known as a “ key in lock” fitting together. On the other hand, the chemical forces include the unlike ions that the antigen and the antibody possess. Unlike the physical forces, the chemical forces are relatively weak. In general, the first stage of agglutination involves attachment of antigen to antibodies and is accelerated by the temperature, pH and some chemical factors that enhance antibody-antigen reaction

Explain what stage 2 of RBC agglutination is, include one factor which can affect this stage?

1. In the second phase of agglutination, the small particles that are suspended in the blood plasma are coalesced leading to the precipitation of the larger molecules such as proteins and blood cells. In this case, the cells become more cramped together hindering their normal operations. Stage two is normally accelerated by high antibody-antigen concentration, zeta potential and the size of antibodies.

What can patients who are positive for Category VI D type produce?

Did the plasma contain any antibodies?

The plasma contained antibodies that allowed for positive results in the

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activity.

What percentage of patients produces clinically significant antibodies?

About 6%

Were the two donor units compatible?

The two donors units were not compatible

Would you transfuse the patient with this blood?

The patient cannot be transfused with the blood since agglutination will occur and may lead to death

Are any further tests required?

Apart from the blood group compatibility, it is important do other screening to ensure that the blood is free from disease causing pathogens, especially the HIV.

Explain the difference between the IAGT and DAGT.

DAGT

The DAGT works only in vivo sensitization by C3 or IgG. In this test, serum does not require to be added. In addition, no incubation is necessary in the test. The method involves observing the result using a microscope.

IAGT

The method is very common in many labs. It uses mono-specific anti-IgG for testing. The method requires the addition of serum and the results need to be incubated and hence the method is not instant. It does not require the microscope since the reaction will be observed very well

Reference

Whitlock, S. (2010). Immunohematology for medical laboratory technicians. Clifton Park, NY: Delmar, Cengage Learning.