

Lab. 9

Blood Groups

Blood group is detected by Agglutination reaction between the antibody (Ab) and The Antigen (Ag). Ag consist on number of antigenic determined regions , Ab consist of only two specific regions for one antigenic determined region .in Agglutination reaction related to blood group , Ab are (IgM , IgG) .

IgM consist 5 units so there are 10 bonds for binding to Ag.

IgG consists 1 unit so there is only 2 bonds for binding to Ag.

There are only two types of Ag on RBC surface (Ag-A & Ag-B) and also Rh antigen.

*If RBC surface consist of Ag-A so the Ab will be Ab-B , if there were Ab-A link with RBC that consist of Ag-A ,Agglutination will happen and leads to the death of the person .

***varieties of blood and types Ab of each class:-**

- 1- If it was Ag-A the antibody in the blood is Ab-B the blood group is A
- 2- If it was Ag-B the antibody in the blood is Ab-A the blood group is B
- 3- If it was Ag-AB there is not Abs in the blood blood group is AB
- 4- If it was Ag-O the antibodies are Ab-A & Ab-B the blood group is O

Blood group Examination method:-

There are specific kits for this test and its a specific Ab (Anti-A , Anti-B and Anti-D) .

1-Take three drops of blood by break the finger by lancet and put it on clean slid

2-Put Anti-A on the first blood drop and Anti-B on the second one and Anti-D one last one and mix the drop of blood with the Abs well.

3-Wait 2-5 min and notes the Agglutination, the result read like the following:-

-Is there is an agglutination in the first drop (Anti-A) and there isn't with the second drop (Anti-B) the blood group A

-Is there is an agglutination in the second drop (Anti-B) and there isn't with the first drop (Anti-A) the blood group B

-Is there is an agglutination in the both drops (Anti-A & Anti-B) the blood group is AB

Is there isn't any agglutination the blood group is O

-The third drop (Anti-D) if an agglutination is happen the Rh is positive, No agglutination mean Rh is negative.

There are notes on ways to save and use of kits:-

1-The kits saved in the refrigerator 2-8 ° C.

2-When you use kits graduated from the refrigerator and leave at room temperature for a period of .

3-The kits bearing on latex when you open them to conduct the examination must be closed before because at least the size of the solution due to evaporation .

4-Operating packages or kits or move Shake to converge before use .

5- The control for vaccines are (ve + and ve-) must deal with patient sera