



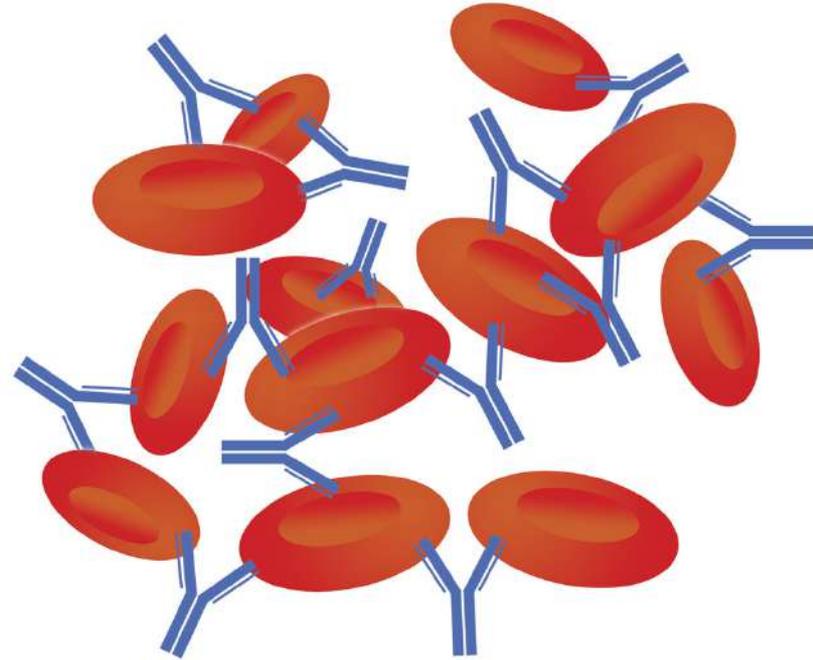
Agglutination Reactions

By:

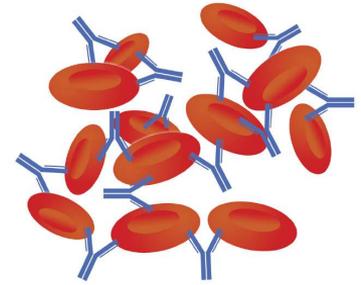
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Introduction



1-Herbert Edward Durham and Max von Gruber discovered specific agglutination in (1896.)

2-First named as (Gruber - Durham)reaction to honour the discoverers .

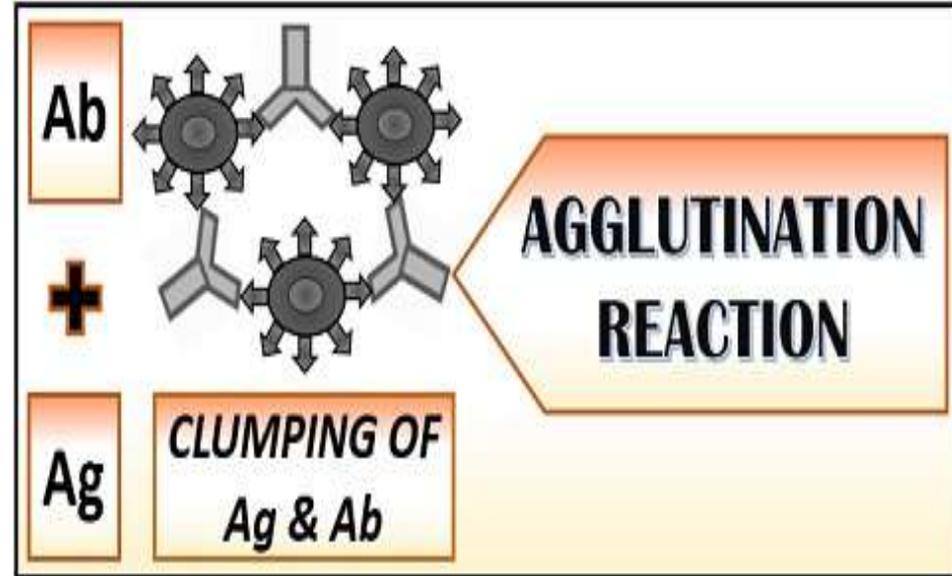
3-gruber named any substance that caused agglutination reaction as” agglutinin “.

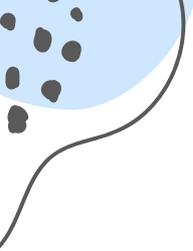
4-Fernand widal in(1862 -1929)used agglutination for diagnosis

5- Karl Landsteiner in(1900)found important application for blood group (ABO) typing .

Definition

Agglutination reaction is a serological assay, which results in the clumping of reactants(antigens and antibodies) to form a large visible aggregated mass.





There are two main type of agglutination with there use

Types

Active Agglutination

Passive Agglutination

Active agglutination

Agglutination reactions where the antigens are found naturally on a particle are known as direct agglutination..

The binding of antibodies to surface antigens on the bacteria results in visible clumps Active agglutination can be of following types:

Slide/Tile agglutination

Tube agglutination

Heterophile agglutination test

for identifying bacterial antigens and therefore the identity of the bacteria as well

Passive Agglutination

Passive agglutination employs carrier particles that are coated with soluble antigens. In this either antibody or antigen is attached to certain inert carrier thereby, particles or cells gets agglutinated when corresponding antigen or antibody reacts.

it is called reverse passive agglutination such as;

.Latex Agglutination

.hemagglutination

And there uses is for detecting antibodies to human immunodeficiency virus type 1

Applications...

Applications of Agglutination Reactions

1. Cross-matching and grouping of blood.
2. Identification of Bacteria. E.g. Serotyping of *Vibrio cholera*, Serotyping of *Salmonella Typhi* and *Paratyphi*.
3. Serological diagnosis of various diseases. E.g Rapid plasma regains (RPR) test for Syphilis, Antistreptolysin O (ASO) test for rheumatic fever.
4. Detection of unknown antigen in various clinical specimens. E.g. detection of Vi antigen of *Salmonella Typhi* in the urine.

Summary

1. Agglutination is a visible aggregation of particles and antibodies .
2. It discovered by two bacteriologist in (1896) .
3. There are types of agglutination .
4. There are different applications of agglutination.



References

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THANK YOU