

Agglutination is the clumping of particles. Agglutination define as the process that occurs if an antigen is mixed with its corresponding antibody called iso-agglutinin. This term is commonly used in blood grouping .

This occurs in biology in two main examples:

1. The clumping of cells such as bacteria or red blood cells in the presence of an antibody or complement. The antibody or other molecule binds multiple particles and joins them, creating a large complex. This increases the efficacy of microbial elimination by phagocytosis as large clumps of bacteria can be eliminated in one pass, versus the elimination of single microbial antigens.
2. When people are given blood transfusions of the wrong blood group, the antibodies react with the incorrectly transfused blood group and as a result, the erythrocytes clump up and stick together causing them to agglutinate. The coalescing of small particles that are suspended in a solution; these larger masses are then (usually) precipitated.

Latex agglutination test

The latex agglutination test is a laboratory method to check for certain antibodies or antigens in a variety of body fluids including saliva, urine, cerebrospinal fluid, or blood.

In hematology

Hemagglutination

Serafol® ABO+D

Ch. - P. Lot No. 080601 Expiry date 31.12.01

Anti-A Anti-B Anti-D

Name (Name/ Nom) _____
 Geb. Dat. (Date of Birth/ Date de Naissance) _____ Kons. - Nr. (Unit No / No. Poche) _____
 Datum (Date) 1/1 Blutgruppe (Blood Group/ Groupe Sanguin) **A POS**
 Unterschrift (Signature) _____

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The 'bedside card' method of blood typing, in this case using a Serafol card. The result is blood group A positive.

Hemagglutination is the process by which red blood cells agglutinate, meaning clump or clog. The agglutin involved in hemagglutination is called hemagglutinin.

In cross-matching, donor red blood cells and recipient's serum or plasma are incubated together. If agglutination occurs, this indicates that the donor and recipient blood types are incompatible.

Leukoagglutination

Leukoagglutination occurs when the particles involved are white blood cells.

An example is the PH-L form of phytohaemagglutinin.

In microbiology

Agglutination is commonly used as a method of identifying specific bacterial antigens, and in turn, the identity of such bacteria. Because the clumping reaction occurs quickly and is easy to produce, agglutination is an important technique in diagnosis.