

Study of agglutination reaction of Ag-Ab coated with Sodium alginate beads.

Abstract:

Agglutination reaction is one of the types of Ag-Ab interactions studied using anti-sera to know the presence of antigen in the unknown samples. Till now there are reports for the study using latex beads, but our lab has devised a new protocol which is simple and quite reliable to detect agglutination on the slide using anti-sera of blood group antigens. But the technique works well with any of the Ag and Ab to demonstrate the agglutination. Sodium alginate beads are generally used for immobilization of enzymes but for the first time our lab designed a methodology for study of Ag-Ab interactions using sodium alginate beads.

Methodology:

1. Prepare 3% solution of sodium alginate as semi slurry using distilled water
2. Prepare 1% CaCl_2 solution and drop sodium alginate slurry in to the CaCl_2 solution in a drop wise manner.
3. Bead formation is observed and the stabilization of beads is done by allowing the beads to stand for 10 min in CaCl_2 solution
4. After stabilization the beads are decanted from the CaCl_2 solution and spread evenly on the Petri plate.
5. The beads are removed with water content by lyophilization using microwave oven and the are coated with anti-A & anti- B sera separately.
6. Blood sample from AB+ ve person is collected and coated beads are incubated with the blood solution mixed well and observed for agglutination.

Observation :

Agglutination is observed for the given blood sample and the protocol is found to be valid.



Figure : 1 Preparation of sodium alginate beads using anti-A and B antisera and the agglutination reaction with anti A & B antisera with AB+ve blood.