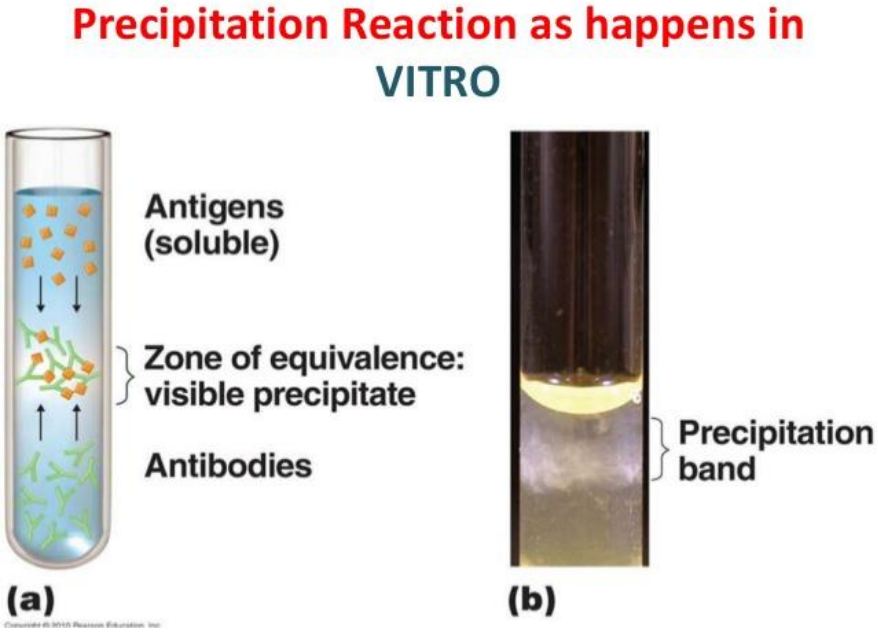
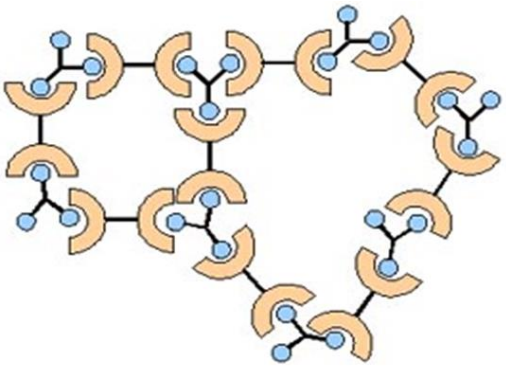
Precipitation test: Precipitation reactions are based on the interaction of antibodies and antigens. They are based on two soluble reactants that come together to make one insoluble product



Precipitation Serological Tests

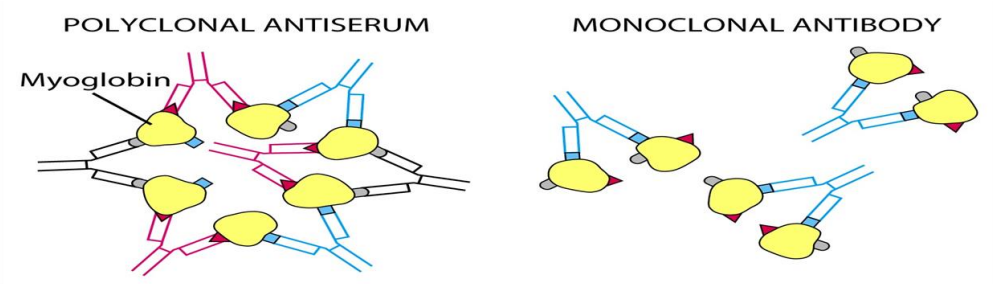
- One of the easiest of serological tests.
- Soluble Ag & Ab interact and form a lattice that develops into a visible precipitate.
- Occur best when antigen and antibody are present in optimal proportions (Equivalence).
- Antibodies that aggregate soluble antigens are called precipitins



Equivalence – Lattice formation

Ag / Ab Precipitation reactions

- Polyclonal antibodies can form lattices, or large aggregates.
- However, monoclonal antibody can link only two molecules of antigen and no precipitate is formed.
- Precipitation occurs in two media; liquid or gel.



Lattices or large aggregates

no precipitate is formed if an Ag contains only a single copy of each epitope

Methods

1. Dilute serum.

Tube	1	2	3	4	5	6
Dilution	1/10	1/20	1/40	1/80	1/160	1/320

2. Add 0.5 ml of soluble Ag.
3. Incubator in water bath at 37oC for 2 hrs.
4. Examination each tube for precipitation.
5. The titer is the highest dilution with precipitation.

Precipitation in gel immunodiffusion (ID): is the diffusion of soluble Ag, Ab towards each other and precipitation in gel. Ex: Oüchterlony test.

Oüchterlony test: Ouchterlony double immunodiffusion is an immunological technique used in the detection, identification and quantification of antibodies and antigens