

Precipitation of immunoglobulin (Lab5)

Immunoglobulin: also known as (antibodies), are glycoprotein molecules produced by plasma cell (WBC) especially by B cell, they act as critical part of the immune response by recognizing and binding to particular antigens, such as (bacteria, viruses) and aiding in their destruction, The antibody immune response is highly complex and exceedingly specific the various immunoglobulin (Ab) isotopes **differ** in their :

- Biological features
- Structure
- Target specificity
- Distribution

Precipitation of immunoglobulin by ammonium sulphate:-

Description:-

Ammonium sulfate precipitation: is one of the most commonly used methods for protein purification from a solution. In solution, protein form hydrogen bonds with water molecules through their exposed polar and ionic groups, highly charged ions such as ammonium sulfate are added, these groups compete with the protein to bind to the water molecules This removes the water molecules from the protein and decreases its solubility resulting in precipitation critical factors that affects the concentration at which a particular protein will precipitate **include:-**

- The number and position of polar groups
- Molecular weight of the protein
- pH of the solution

- Temperature

The concentration at which antibodies precipitate varies among species; most rabbit antibodies precipitate with a 40% saturated solution while mouse antibodies require 45-50% saturation.