

## IMMUNOGLOBULINS

Immunoglobulins are the glycoproteins produced by body against antigenic stimulus which is synthesised by plasma cells and lymphocytes.

Immunoglobulins have **2 chains**

**Light chains and large chain**

It is consist of two polypeptide chains.

The large chain is called **heavy chain (H)**. It contain **55KDa polypeptides**.

The small chain is called **light chain (L)**. It contain **25KDa polypeptides**.

The two chains organize to form Y shaped structure of the antibody due to intra and inter disulphide bonds and other non covalent interactions.

The protein nature of antibody contributes two functionally different N and C terminals. N terminal shows variability in amino acid sequence compared to C terminal of polypeptide.

The region of heavy chain and light chain showing aminoacid variation in each molecule is denoted as VL and VH and constant region CH and CL.

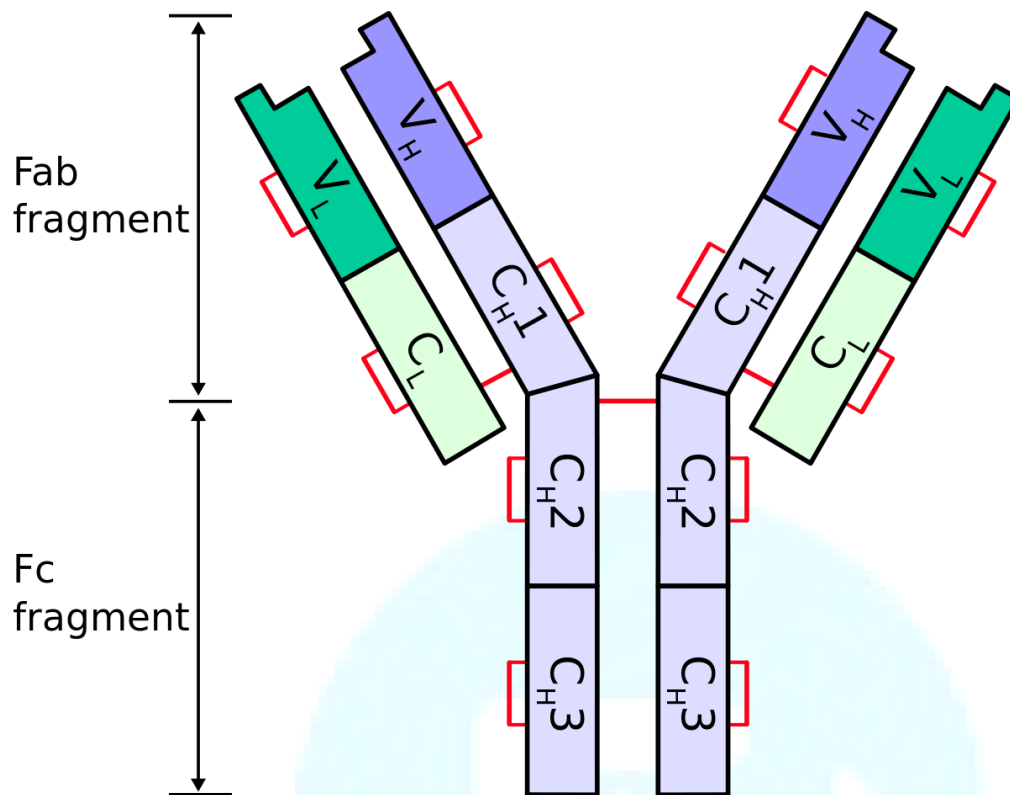
There are two types of light chain called **lambda** and **kappa**

Each immunoglobulins have 2 regions

**Fab region** and **FC region**

**Fab - it is antigen binding site**

**Fc – it is receptor binding region**



Basic diagram of immunoglobulin

### Hinge region

It is located between CH1 AND CH2 domain of the antibody. It mainly made up of two types of aminoacids that is proline and cystine. The proline provides flexibility to the arms. Cystine helps in forming interchange disulphide bonds

### J chain

These are small proteins coded by different genes which are connect the units of polymeric immunoglobulins.

### Disulphide bond

Antibody had intra and inter Hain disulphide bonds. Which gives stability to the structure

