

Structure of Protein

Protein is a complex three dimensional structure which is organized into four hierarchical levels.

- (i) Primary structure $\rightarrow$ This is also referred as 1° structure. It refers linear sequence of amino acids in polypeptide chain.

It is unique for every protein. The order of amino acids determines the identity and function of the protein.

A change in one amino acid can alter the entire protein function.

- (ii) Secondary structure $\rightarrow$ The secondary structure is a regular folding or coiling of the polypeptide due to H-bonding.

They are classified into two major types.

- (a) Alpha Helix (α -helix) $\rightarrow$ It is stabilized by H-bonding. It exists as right handed coil or clockwise.

It is present in Keratin (hair or nails)

- (b) Beta Pleated sheet (β -sheet) $\rightarrow$ It runs side by side chain forming pleats.

It can be parallel or antiparallel. It is found in silk like fibroin.