

Protein

A Protein is a naturally occurring extremely complex substance that consists of amino-acid residues joined by peptide bond. P. are present all living organisms and include many essential biological compounds such as enzyme, hormone and antibodies.

Based on the chemical nature, structure, shape and solubility, proteins are classified as, simple proteins & they are composed of only amino acid residue - Fibrous P. keratin, elastin, collagen, globular P, Albumin, globulin, histones

- ① Simple -
- ② Conjugated Protein - They are combined with non-protein moieties, Eg. Nucleoprotein, lipoprotein.
- ③ Derived Protein - they are derivatives or degraded products of simple and conjugated protein. They may be:
 - Ⓐ Primary derived Protein, Protease, metalloprotein, coagulated protein.

④ Secondary derived Protein - Eg. Peptone, Peptide

f^A ⇒ P. are vital for the growth & repair as their f^A are endless. They also have enormous diversity of biological f^A and are the most important products of the information pathways.

- ① P. which are composed amino acid, serve as many roles in the body. (eg. enzyme, hormones & antibodies)
- ② They act as structural components such as keratin of hair and nail, collagen of bone etc.
- ③ P. molecular instrument through which genetic information is expressed.
- ④ They are involved in blood clotting through thrombin, fibrinogen, & other protein factors.
- ⑤ They act as the defence against infection.
- ⑥ Important for muscle construction.