

both cysteine has two amino and two nucleous. The disulphide bond may also be established in other sulphur containing amino acids like cysteine and methionine. When the thiol groups of two cysteine molecules are normally oxidized, they form the disulphide compound, cystine and the linkage established between them is known as disulphide (S-S) linkage. The disulphide bond may be formed either within the single polypeptide chain or between two polypeptide chains (intermolecular).

Disulphide bond helps in stabilizing the folded polypeptide chain and also in joining two or more polypeptide chains together.

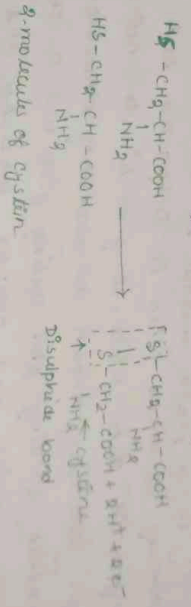


Fig 2: Formation of disulphide bond

3. Hydrogen bond: Hydrogen bonds are commonly found among the proteins. They are electrostatic in origin and help in the interaction of incompletely shielded nucleous of the H atom

1003.9 which is a portion of unit positive charge with 1.280214
electronic system of oxygen's atom.

Hydrophobic bonds:— arise from the mutual
hydrophobic bonds hydrogen state chains.
of non polar hydrogen atoms
biological systems that are hydrocarbon nature
having steric hindrance groups in that they don't
form hydrogen bonds with water molecules. On the
other hand, water molecules have a strong ten-
dency to form hydrogen bonds among them-
selves.

Structure of protein

The sequential arrangement of the amino
acids in a protein molecule is known as the
primary structure. When in interaction both
polypeptide takes place, it gives rise to a helical
type structure, known as secondary structure.
Further folding and coiling gives rise to the
highly specific and complex tertiary and
quaternary structure.

Primary str:— The sequential arrangement of the
various amino acids in a protein (polypep-
-tide chain) through the peptide bonds is

Oswaal
For feedback, write to: Quality Manager, Oswaal Education, Kasam
A Quality Product, Manufactured by Oswaal

M.R.P. ₹ 40.00
Inclusive of all taxes

Student
Exercise Book
21 cm X 29.7 cm
Size

2440000000000

...the primary structure of a protein molecule is the sequence of amino acids in it. The amino acids are joined together by peptide bonds. The primary structure of a protein molecule is the sequence of amino acids in it. The amino acids are joined together by peptide bonds. The primary structure of a protein molecule is the sequence of amino acids in it. The amino acids are joined together by peptide bonds.

If the protein has only one polypeptide chain, it can have only one free α amino group (N-terminal) and one free carboxyl group (C-terminal). In the determination of primary structure of protein, it is essential to know what amino acids are at N-terminal and C-terminal ends of each molecule. On the other hand, water molecules form a strong bonding to both hydrogen bonds among themselves.

Structure of protein?

The sequential arrangement of the amino acids in a protein molecule is known as the primary structure. Each polypeptide chain in a protein.

10-02-17
between polypeptide takes place, it gives rise to a helical type structure, known as secondary structure. Further folding and coiling gives rise to the highly specific and complex tertiary and quaternary structure.

Primary structure:

The sequential arrangement of the various amino acids in a protein (polypeptide chain) through the peptide bonds is known as the primary structure. Each protein molecule consists of one or more polypeptide chains in which the amino acids are linked by peptide linkages. Myoglobin, a protein, consists of only polypeptide chain, whereas Haemoglobin molecules consists of four polypeptide chains.

The covalent bonds and disulphide (-S-S-) bonds are again characteristic of primary structure of proteins. The disulphide bond is generally established between cystein residues, as in insulin and ribonucleases.

If the protein has only one polypeptide chain, it can have only one free α -amino group ($-NH_2$ terminal) and one free carbon

O'square

M.R.P. ₹ 40.00

Inclusive of all taxes

Student
Exercise Book

Size
21 cm X 29.7 cm

e-mail: mkt.chirag@gmail.com

For feedback write to Quality Manager, Chirag Industries, Assam.
A Quality Product Manufactured by Chirag Industries, Assam



21240000000008

the secondary structure of proteins is represented by helical structure.

by helical structure of proteins :-

From structure of proteins by folding and α -helix. The α -helix consists of a single strand twisted about a helical axis. The coiling is maintained chiefly by the H-bonds between each $\text{C}=\text{O}$ group and the -NH group of the 4th peptide residue. The helix contains 3.6 amino acid residues for each complete turn and each residue rises by 1.5 Å. The pitch or spacing between successive turns is 5.4 Å.

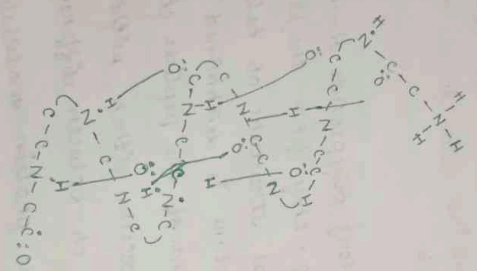


Fig: α -helix model of protein coiling showing inter-chain bonding which gives stability to the molecule.

Osqware

M.R.P. ₹ 40.00

Student

21 cm X 29.7 cm

For feedback, write to: Quality Manager, Osqware Industries, Resam, e-mail: info.osqware@gmail.com

Science Books



9 781405 000000

β -structure - The β -structure is represented by parallel zig-zag polypeptide chains which form a pleated sheet like structure. The hydrogen bonds are formed between NH and C=O groups on the neighbouring chains which stabilize and β structure of proteins. The side chain attached to the amino acid residues lies above and below the hydrogen bonded sheets.

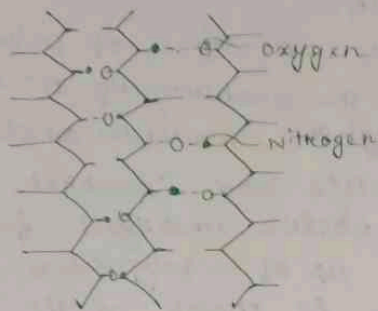


Fig - β -structure of proteins

Tertiary structures - Very few protein molecules exist as a simple α -helix. Further degrees of folding or coiling of polypeptide chains in α -helix give a complex three dimensional structure, which often contains helical and non helical regions.

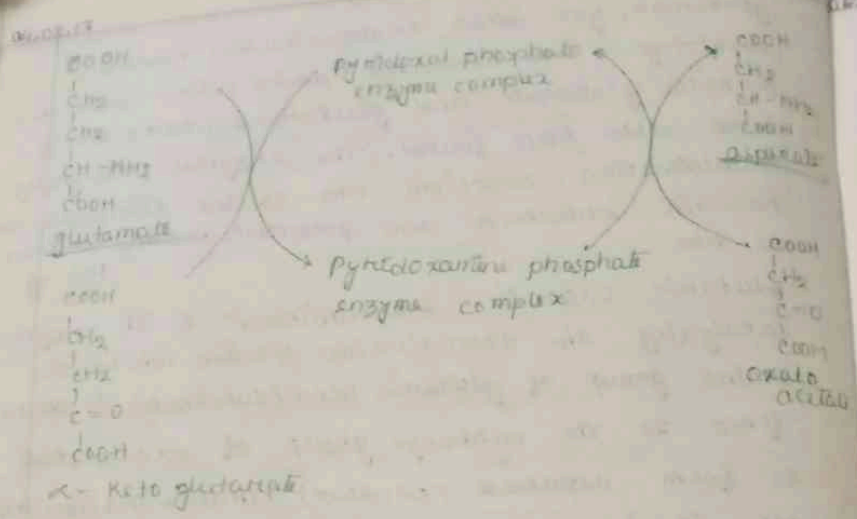




Student Exercise Book
Size 21 cm X 29.7 cm
E-mail: mkt.chitra@gmail.com



Secondary structure—
 The degree of polymerization of a protein unit. The quaternary structure is exhibited by haemoglobin molecules which was determined by Parry and Cowherk (1960). They showed that this protein undergoes further organization being made up of 4-polypeptide chains. The quaternary structure is known as the quaternary structure. The chains undergo secondary folding of the structures consisting of α -chain and other two of β chain.



Peptide Bond

Proteins are the linear sequence of amino acids and the bonds by which the amino acids are linked together are called peptide bonds. The peptide bond is a chemical, covalent bond formed between the α -amino group of one amino acid and the α -carboxyl group of another. Each area within the dotted box in the following diagram includes four atoms of the peptide bond:

