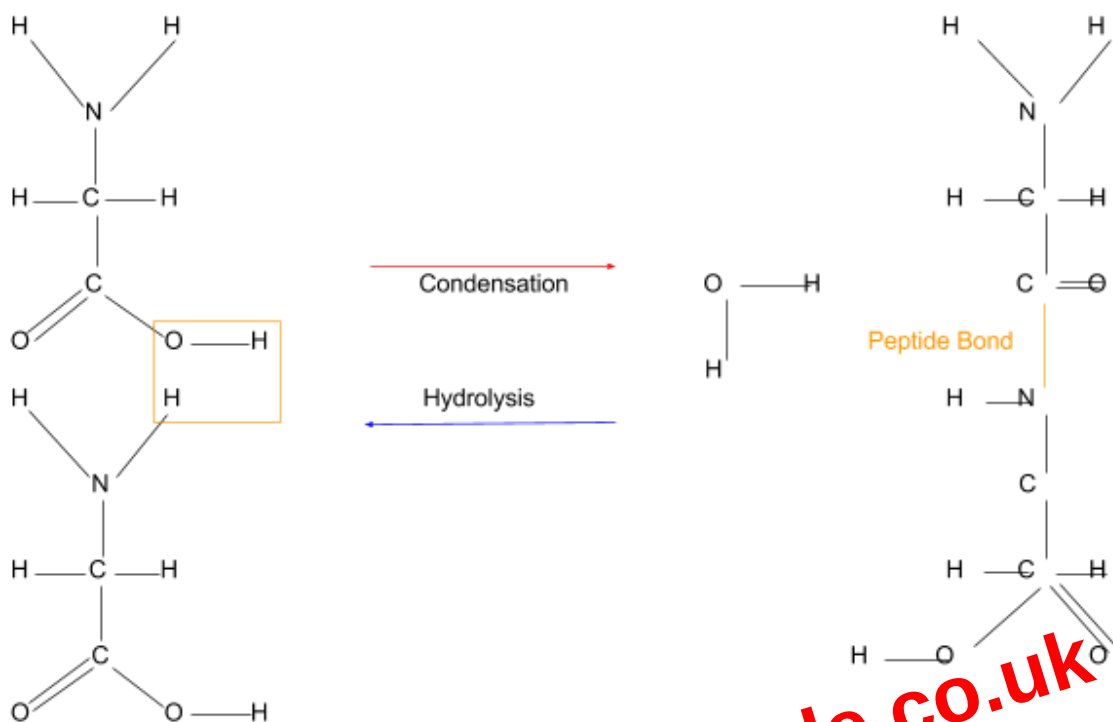




The Primary Structure of Proteins - Polypeptides

- Amino acid monomers join via polymerisation
- Resulting chain of many hundreds of amino acids is called a polypeptide
- The sequence of amino acids in a polypeptide chain form the primary structure of any protein and this sequence is determined by DNA
- Primary structure of a protein that determines its ultimate shape and hence its function
- Change in a single amino acid can lead to a change in the shape of the protein and may stop it carrying out its function
- A simple protein may consist of a single polypeptide chain

Secondary Structure of Proteins

- Linked amino acids that make up a polypeptide possess both -NH and -C=O groups on either side of every peptide bond
- Hydrogen of the -NH group has an overall positive charge while the O of the -C=O group has an overall negative charge
- These 2 groups therefore readily form weak bonds called hydrogen bonds causing the long polypeptide chain to be twisted into a 3D shape, such as the coil known as an α -helix