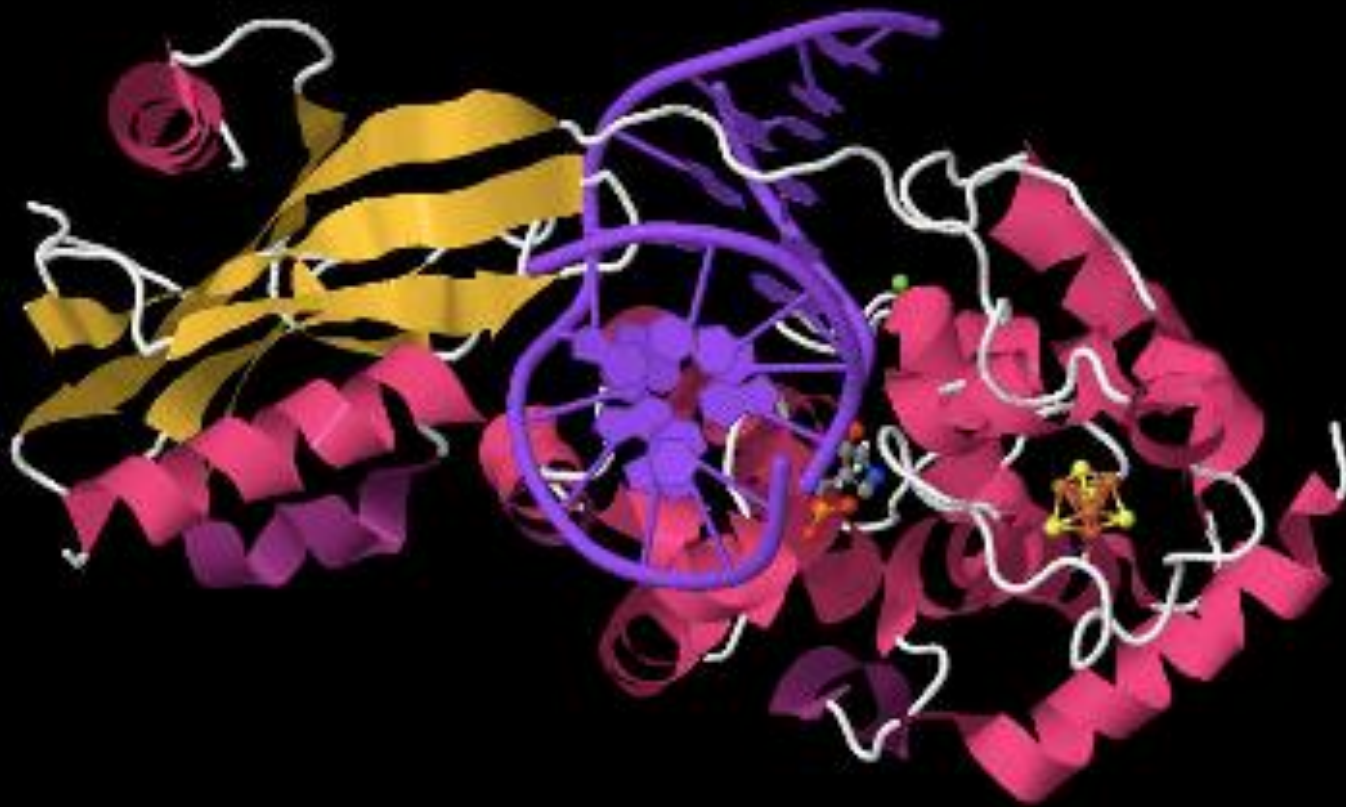


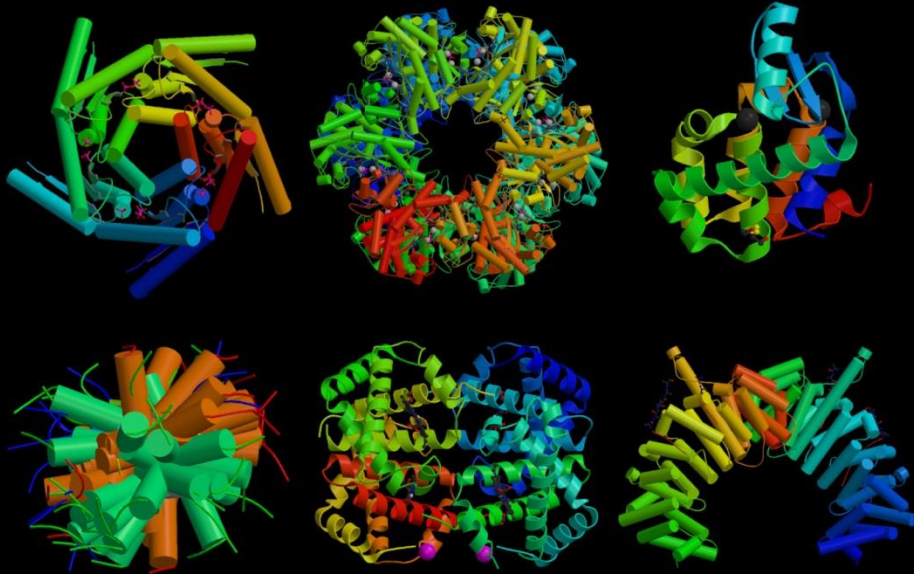
Proteins



Learning Objectives

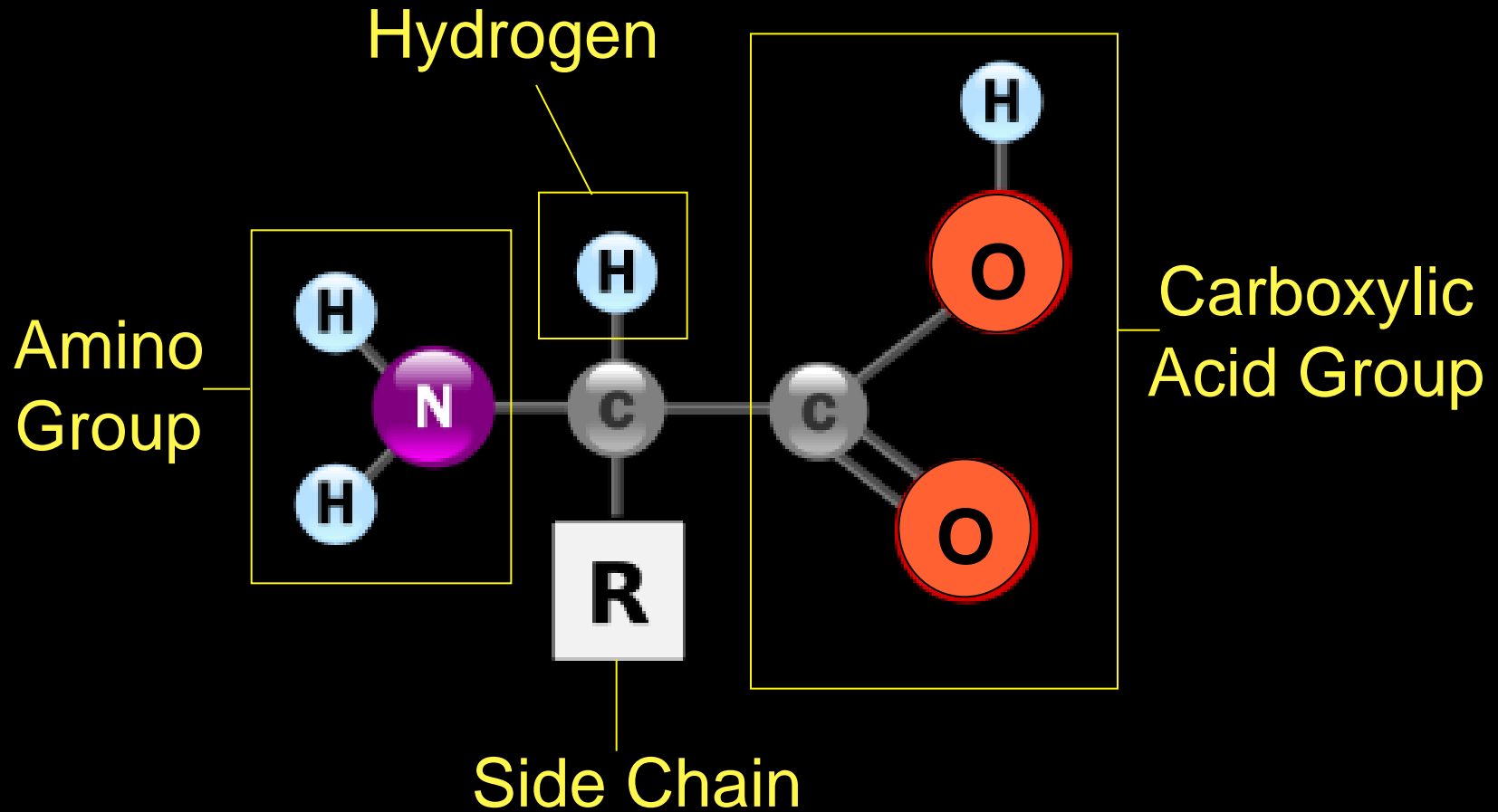
- Define the following terms:
protein, amino acid, peptide bond
- Describe the relationship
between amino acids and proteins

Proteins

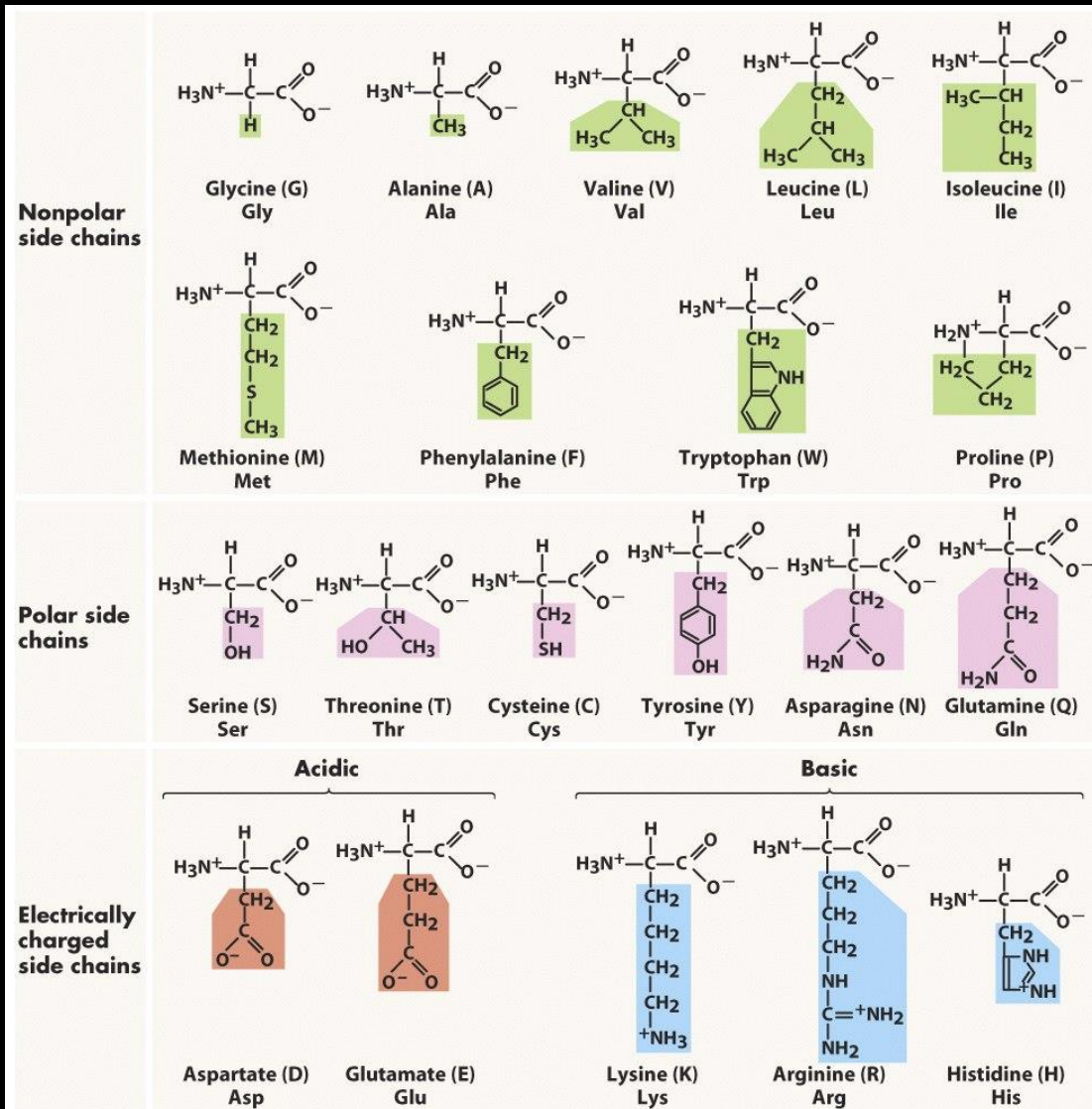


Proteins are one of the organic macromolecules made from one or more chains of **amino acids** (monomer).

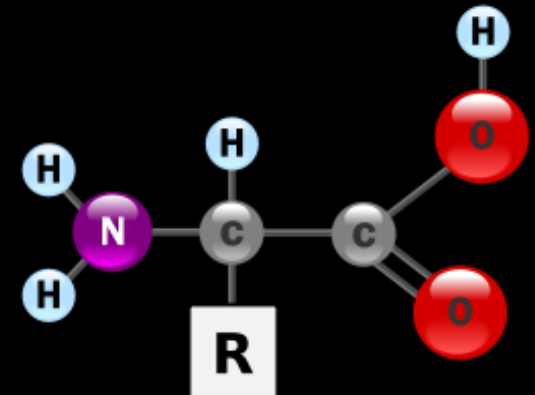
Parts of an Amino Acid



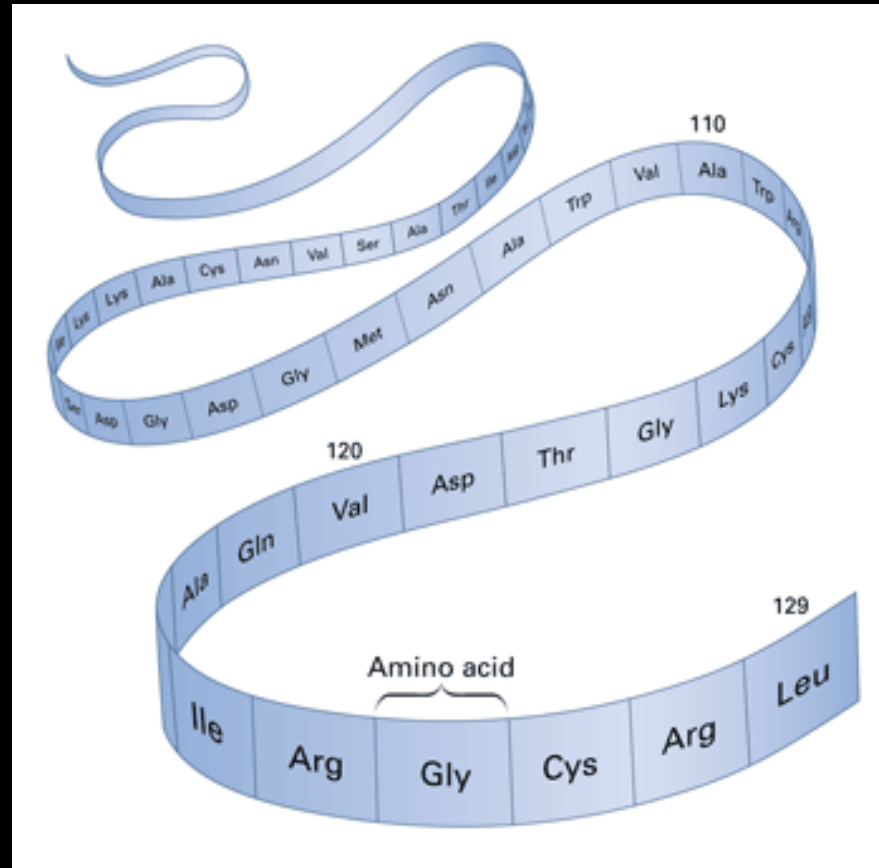
20 Amino Acids



All of the many types of proteins are made from 20 different amino acids.

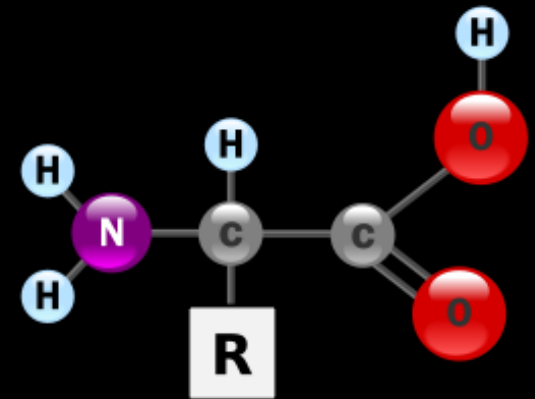
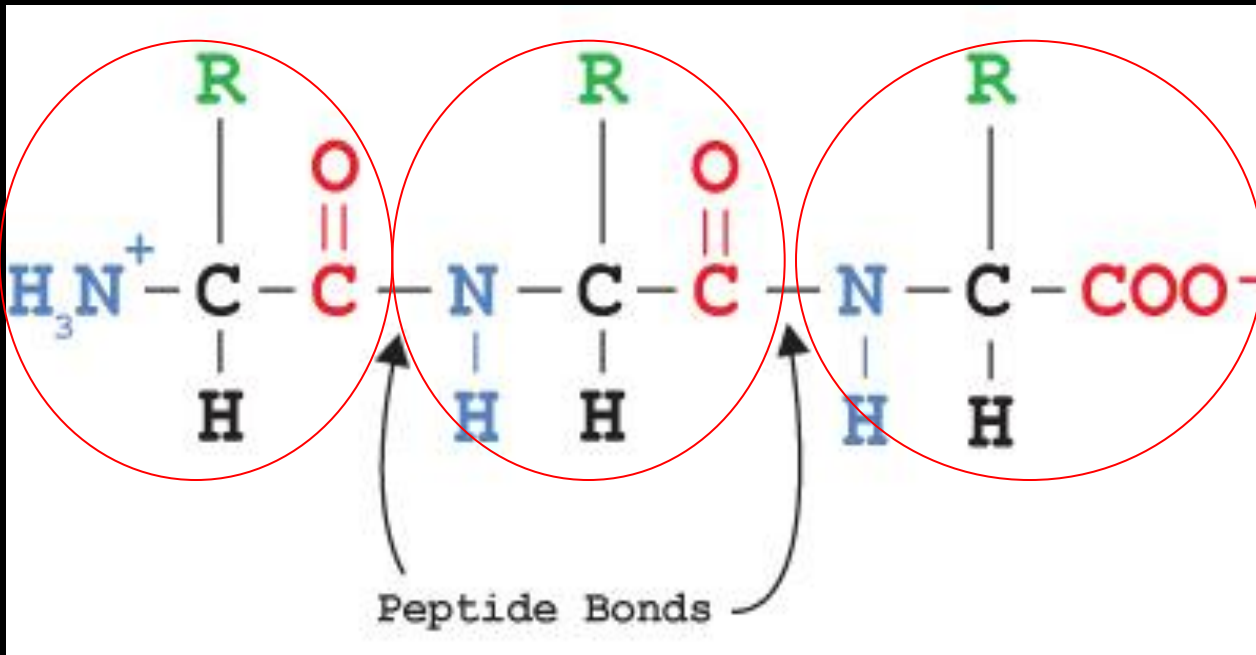


Amino Acids Make Proteins



Different combinations of amino acids produce different kinds of **proteins**.

Peptide Bond

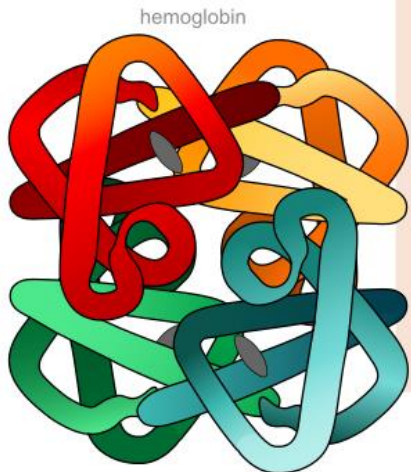
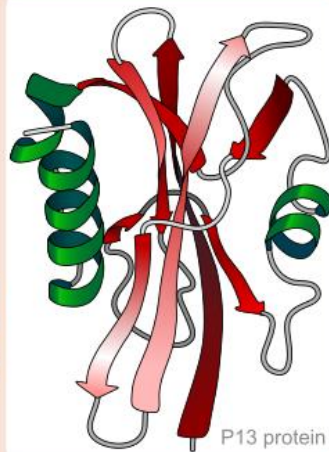
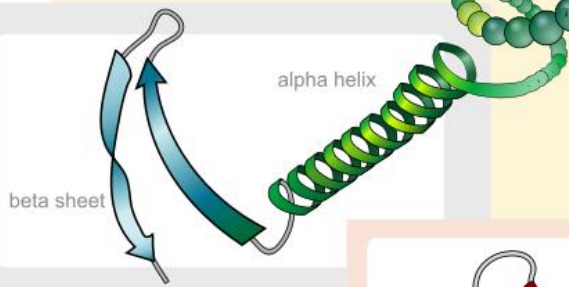
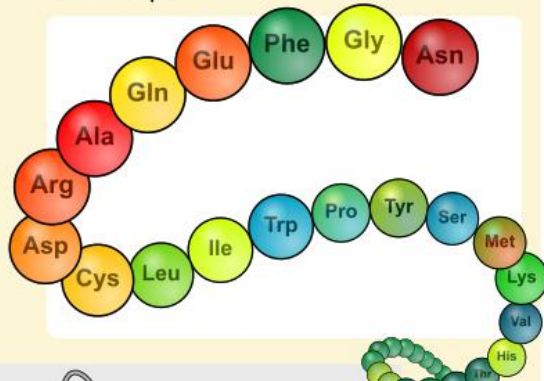


Amino acids are joined together by **peptide bonds**. Any amino acid can join any other amino acid.

Structure of Proteins

- Primary structure – a specific sequence of amino acids
- Secondary structure – folded polypeptide chain.
- Tertiary structure – 3-D folding of a polypeptide.
- Quaternary structure – a complex of protein molecules.

Primary structure
amino acid sequence



Function of Proteins

Movement - actin and myosin in muscle fibers

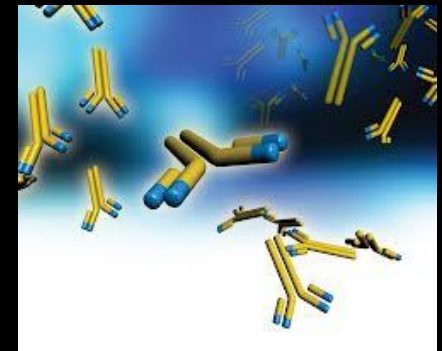
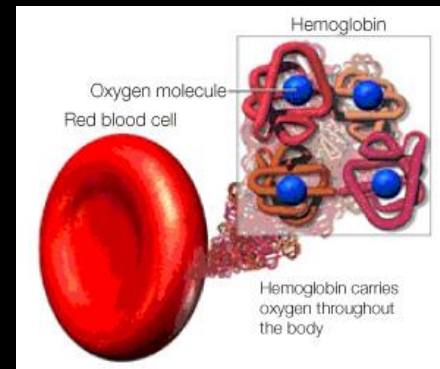
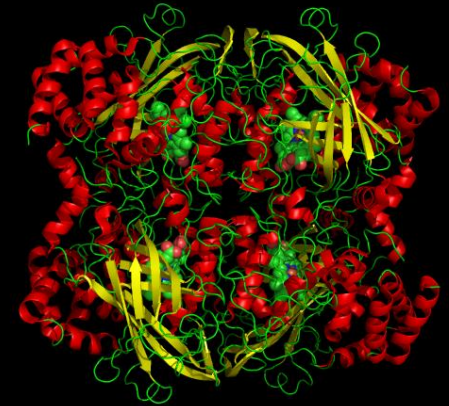
Structure - collagen found almost everywhere in animals

Regulation - enzymes

Transport - hemoglobin in blood

Nutrition - food group

Defense - antibodies



End of Proteins

