

## 7.7: Summary of protein structure levels

### Learning Objectives

- Understand the structure levels of proteins.

The summary of protein structural levels is illustrated in Figure 7.7.1 and described in a video. The protein structure in summary form is the following.

- The primary structure is the sequence of amino acids in a polypeptide chain.
- The secondary structure is the organized sections of the polypeptide chain, e.g.,  $\alpha$  helix and  $\beta$  pleated sheets.
- The tertiary structure is the overall folded 3D structure of the entire polypeptide chain, held by disulfide linkages, salt bridges, hydrogen bonding, and hydrophobic interactions.
- Quaternary structure is the association of more than one polypeptide chain (subunit) held together by the same type of interactions holding a subunit's tertiary structure.

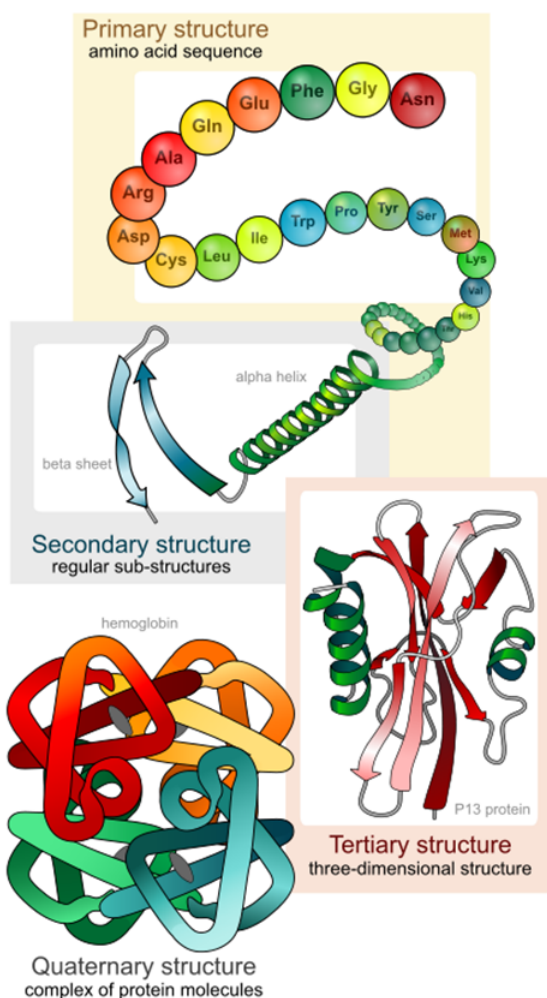


Figure 7.7.1: Illustration of primary, secondary, tertiary, and quaternary structure levels of proteins (left) and the video on What is a protein from RCSBProteinDataBank (right). (Copyright; Left: LadyofHats, Public domain, via Wikimedia Commons, right: )

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