

Jesse Haymes

Proteins

- Contain C, H, O, N
- Amino Acids differ by their R group attached to the central carbon, the “variable group”, there are 20 different R group.
- Monomer: Amino Acids
- The resulting covalent bond between two amino acids is called a peptide bond.
- A dipeptide is 2 or more amino acids bonded together and a polypeptide is a chain of amino acids joined by peptide bonds.
- Polypeptide, 3 or more

R Groups

- Can be polar/nonpolar, + or –
- R groups can play a role in how proteins form their shape through their interactions with each other
- All proteins are shaped differently
- Hydrophobic is nonpolar and hydrophilic is polar.

4 levels of organizations

- Primary structure- chains of amino acids joined by peptide bonds that form a protein
- Secondary Structure- Chain folds or twists due to hydrogen bond (has a 3D shape)
- Tertiary Structure: Unique overall 3D shape of a polypeptide due to bonding between R groups
- Quaternary- When two or more polypeptide chains (tertiary forms) combine
- Note: How a protein folds depends on hydrophobicity
- There are polar and nonpolar amino acids. So a nonpolar amino acid would bury inside folded proteins in order to avoid water.