

QUIZ

COMSATS University Islamabad
Sahiwal Campus



Usama Sarwar
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DIFFERENCES

1. Tertiary and Quaternary Structure of Protein

The main difference between them is that in addition to H-bonding, peptide bonding, and ionic bonding, the tertiary structure has Di-Sulphide bridges, while the quaternary structure has Hydrophobic interactions. The tertiary structure would have a single polypeptide chain "like a backbone" with one or more than one protein secondary structure, the protein domains. Amino acid side chains can interact and make bonds in a number of ways. The interactions and bonds of side chains within a particular protein determine its tertiary structure.

2. Greek Key Motif and Jelly Roll Motif

The Greek key motif describes a particular topology for arranging four β -strands into an antiparallel β -sheet in protein structures, whereas The jelly roll motif describes a particular topology for arranging eight β -strands into an antiparallel β -sheet that is frequently found in protein structures.

3. Hair Pin and Loop

Hair pin consists of two β -strands and a small loop connecting them. A beta hairpin contains a turn and two strands - no loop. A loop implies at least a few residues with no specific 2γ structure between two 2γ structure elements.

4. Polar and Non-Polar Amino Acid Interactions

Polar amino acids have hydrophilic R groups, while non-polar amino acids have hydrophobic R groups. Non-polar amino acids tend to be found in the center of the molecule (stabilize the structure). Polar amino acids tend to be located on the protein surface (capable of interacting with water molecules). Non-polar amino acids tend to be located on the regions of the surface in contact with the membrane. Polar amino acids will generally line interior pores (to create hydrophilic channels).

5. Up and Down Motif and Greek Key Motif

Up and down stripes on solid blotch, with horizontally running stripes near its center portion with circular wreath-like motif in center Design. The Greek key motif describes a particular topology for arranging four β -strands into an antiparallel β -sheet in protein structures.

6. Hemoglobin and Myoglobin

DESCRIPTION	HEMOGLOBIN	MYOGLOBIN
Number of chains	Haemoglobin has 4 chains of two different types- alpha and beta, delta, gamma, or epsilon (depending on the type of hemoglobin).	It contains single polypeptide chains.
Type of structure	A tetramer.	A monomer.
Binds	Binds CO ₂ , CO, NO, O ₂ and H ⁺ .	Binds to O ₂ , tightly and firmly.
Their presence	Systemically all over the body.	In muscles cells.
Types of curve	Sigmoid binding curve.	Hyperbolic curve.
Also known as	Hb.	Mb.
Role	Haemoglobin is transported along with blood to whole body and carry oxygen.	Myoglobin supplies oxygen to muscles only, which is helpful at the starving time of oxygen.
Concentration in blood	High in RBC.	Low.

7. Hemoglobin and Four Helix Bundle

Four-helix bundles typically consist of four helices packed in a coiled-coil alignment with a sterically close-packed hydrophobic core in the mid. Pairs of adjacent helices are additionally stabilized by salt bridges between charged amino acids. Where Hemoglobin. A hemoglobin molecule is made up of four heme groups that surround a globin group, forming a tetrahedral structure, and there are four iron atoms in each molecule of hemoglobin, which accordingly can bind four atoms of the oxygen atom. Globin also consists of two linked pairs of polypeptide chains.