



Amino-acids and proteins

Answer all the questions below then check your answers.

1. What are the monomers of proteins?

- A) Nucleotides B) Monosaccharides C) Amino acids D) Fatty acids

2. Which two functional groups are present in all amino acids?

- A) Hydroxyl group and carboxyl group
B) Amino group and carboxyl group
C) Amino group and hydroxyl group
D) Carboxyl group and ester group

3. What type of reaction links amino acids together to form polypeptides?

- A) Hydrolysis B) Condensation C) Oxidation D) Reduction

4. What small molecule is released when two amino acids form a dipeptide?

- A) Oxygen B) Carbon dioxide C) Water D) Hydrogen

5. What is the bond between two amino acids in a polypeptide called?

- A) Glycosidic bond B) Ester bond C) Peptide bond D) Hydrogen bond

6. Which of the following is the simplest amino acid, where the R-group is a hydrogen atom?

- A) Alanine B) Glycine C) Serine D) Valine

7. What determines the type of protein formed from amino acids?

- A) The number of peptide bonds
B) The order or sequence of amino acids
C) The size of the R-groups
D) The number of water molecules released

8. What is the primary structure of a protein?

- A) The 3D shape of the protein
B) The sequence of amino acids in the polypeptide chain
C) The arrangement of multiple polypeptide chains
D) The hydrogen bonding between amino acids

9. How many common amino acids are found in most proteins?

- A) 10 B) 20 C) 30 D) 50

10. Which of the following is an example of a protein?

- A) Starch B) Cellulose C) DNA D) Silk

11. What is the three-letter abbreviation for the amino acid alanine?

- A) Gly B) Ala C) Ser D) Val

12. What is the maximum number of amino acids typically found in a polypeptide?

- A) 10 B) 20 C) 50 D) 100

13. Which of the following statements is true about amino acids?

- A) They all have the same R-group.
B) They can only form dipeptides, not larger proteins.
C) They are linked by peptide bonds in proteins.
D) They are formed by hydrolysis reactions.

14. What is the name of the process where amino acids join to form polypeptides?

- A) Polymerisation B) Hydrolysis C) Fermentation D) Denaturation

15. Which of the following is NOT a function of proteins?

- A) Enzymes
B) Energy storage
C) Structural support (e.g., in muscles)
D) Transport of molecules

Answers:

1. What are the monomers of proteins?

- A) Nucleotides B) Monosaccharides C) Amino acids D) Fatty acids

Answer: C) Amino acids

2. Which two functional groups are present in all amino acids?

- A) Hydroxyl group and carboxyl group
B) Amino group and carboxyl group
C) Amino group and hydroxyl group
D) Carboxyl group and ester group

Answer: B) Amino group and carboxyl group

3. What type of reaction links amino acids together to form polypeptides?

- A) Hydrolysis B) Condensation C) Oxidation D) Reduction

Answer: B) Condensation

4. What small molecule is released when two amino acids form a dipeptide?

- A) Oxygen B) Carbon dioxide C) Water D) Hydrogen

Answer: C) Water

5. What is the bond between two amino acids in a polypeptide called?

- A) Glycosidic bond B) Ester bond C) Peptide bond D) Hydrogen bond

Answer: C) Peptide bond

6. Which of the following is the simplest amino acid, where the R-group is a hydrogen atom?

- A) Alanine B) Glycine C) Serine D) Valine

Answer: B) Glycine

7. What determines the type of protein formed from amino acids?

- A) The number of peptide bonds
B) The order or sequence of amino acids
C) The size of the R-groups
D) The number of water molecules released

Answer: B) The order or sequence of amino acids

8. What is the primary structure of a protein?

- A) The 3D shape of the protein
B) The sequence of amino acids in the polypeptide chain
C) The arrangement of multiple polypeptide chains
D) The hydrogen bonding between amino acids

Answer: B) The sequence of amino acids in the polypeptide chain

9. How many common amino acids are found in most proteins?

- A) 10 B) 20 C) 30 D) 50

Answer: B) 20

10. Which of the following is an example of a protein?

- A) Starch B) Cellulose C) DNA D) Silk

Answer: D) Silk

11. What is the three-letter abbreviation for the amino acid alanine?

- A) Gly B) Ala C) Ser D) Val

Answer: B) Ala

12. What is the maximum number of amino acids typically found in a polypeptide?

- A) 10 B) 20 C) 50 D) 100

Answer: C) 50

13. Which of the following statements is true about amino acids?

- A) They all have the same R-group.
B) They can only form dipeptides, not larger proteins.
C) They are linked by peptide bonds in proteins.
D) They are formed by hydrolysis reactions.

Answer: C) They are linked by peptide bonds in proteins.

14. What is the name of the process where amino acids join to form polypeptides?

- A) Polymerisation B) Hydrolysis C) Fermentation D) Denaturation

Answer: A) Polymerisation

15. Which of the following is NOT a function of proteins?

- A) Enzymes
B) Energy storage
C) Structural support (e.g., in muscles)
D) Transport of molecules

Answer: B) Energy storage