

Proteins

Read Chapter 2.3

Fill in the Blanks

1. _____ are the building blocks (monomers) that make up proteins.
2. Amino acids that are incorporated into proteins are called _____.
3. There are _____ amino acids, _____ of which are 'essential'.
4. Essential amino acids cannot be made in the body, we have to get them from our _____.
5. The COOH part of an amino acid is called the _____ group.
6. The NH₃ part of an amino acid is called the _____ group.
7. The _____ group of every amino acid is different and contributes to the functional characteristics of the protein.
8. The type of covalent bond that forms between amino acids is called a _____ bond.
9. Fill in the following chart; add an example of each type of protein.

Type of Protein	Example
Enzyme	
Protection	
Membrane proteins	
Cell recognition	
Contractile	
Transport	
Structural	
Regulatory	

10. Besides meat, fish, and dairy, name 4 other sources of protein: _____

11. Two types of folding structures you would see in the secondary structure of a protein include _____ and _____.
12. A quaternary protein structure contains at least _____ proteins.
13. During protein folding, a hydrophobic amino acid would be attracted to a _____ amino acid and a hydrophilic amino acid would be attracted to a _____ amino acid.

14. Protein folding is also affected by interactions between amino acid functional groups that cause the formation of _____ bonds and _____ bonds.
15. Breaking the normal interactions between functional groups of amino acids in a protein is called _____. The 2 main factors that cause this breakdown are _____ and _____.
16. _____ proteins catalyze chemical reactions in cells.
17. Some of the non-proteinogenic functions of amino acids include the formation of neurotransmitters. What neurotransmitters are produced from the following amino acids?
- a. Tyrosine _____
 - b. Tryptophan _____
18. Three branched chain amino acids are important for building muscle, they include _____ and _____.
19. _____ grams/kg is the average amount of protein that people should consume every day.
20. Name 4 reasons why we might sometimes need to consume more protein.
- a. _____
 - b. _____
 - c. _____
 - d. _____
21. Name 2 symptoms you might feel if you were not eating enough protein.
- a. _____
 - b. _____