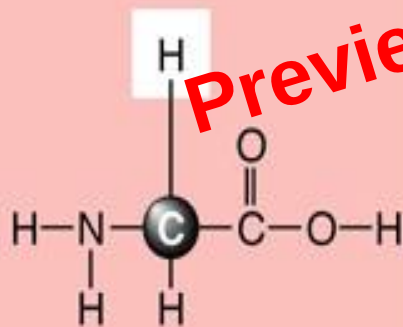
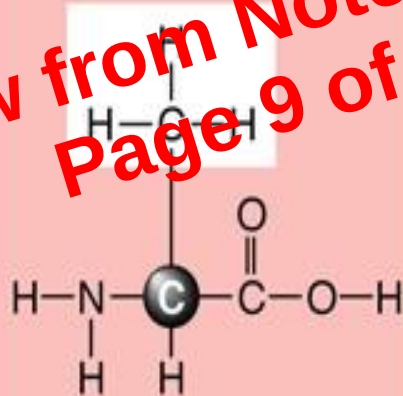


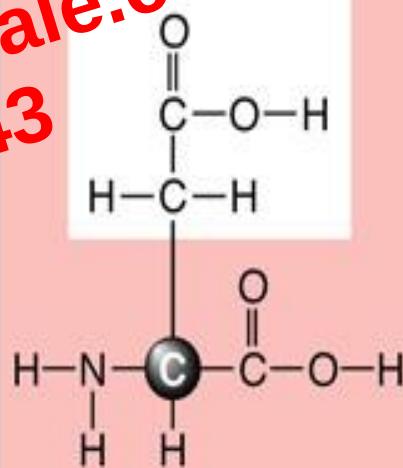
- Preview from Notesale.co.uk
Page 5 of 43
- ▶ Because proteins are complex molecules, the body takes longer to break them down. As a result, they are a much slower and longer-lasting source of energy than carbohydrates.
 - ▶ If the body is getting enough calories, it does not use protein for energy. If more protein is consumed than is needed, the body breaks the protein down and stores its components as fat.



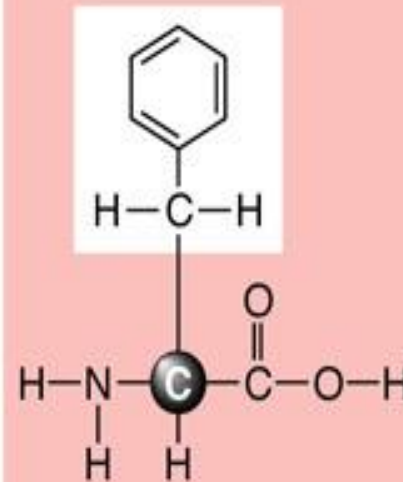
Glycine



Alanine



Aspartic acid



Phenylalanine

Protein Structure

▶ Primary Structure

- sequence of amino acids

▶ Secondary Structure

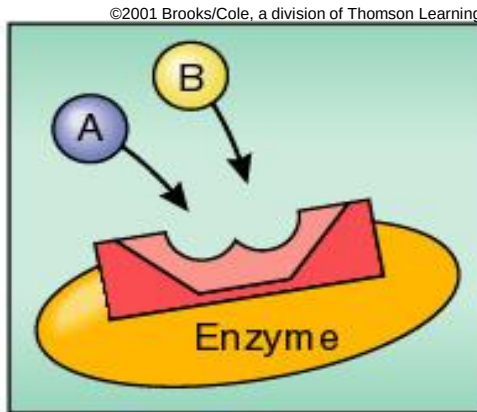
- helical coil

Preview from Notesale.co.uk
Page 11 of 43

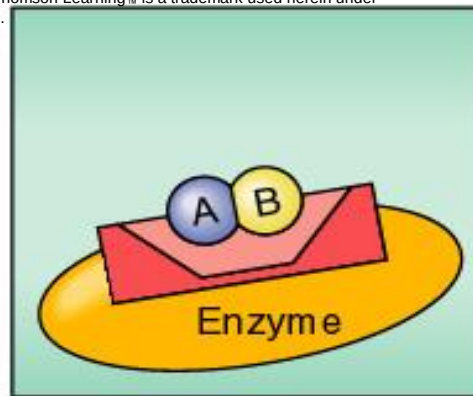
Protein Functions

► Enzymes & related proteins

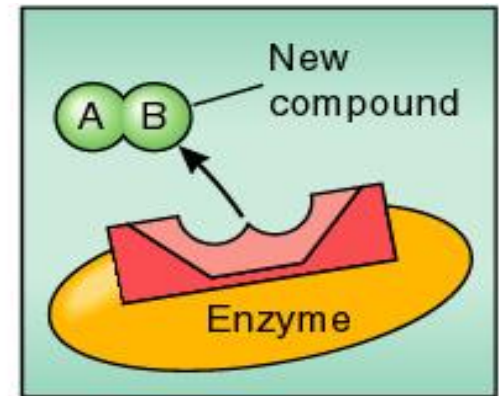
- Catalysts
- Membrane transporters
- Cell receptors



Two separate compounds, A and B, are attracted to the enzyme's active site, making a reaction likely.



The enzyme forms a complex with A and B.



The enzyme is unchanged, but A and B have formed a new compound, AB.

Protein Quality

▶ Vegetarian Diets

▶ Is there a protein problem?

▶ Plant proteins are “Incomplete proteins”

▶ Complementary Proteins

- Example: Mexican Food

- Tortilla: low lysine, hi methionine
- Beans: low in methionine, hi lysine

Peanut butter (legume) sandwich (wheat)

© 2002 Wadsworth Publishing / Thomson Learning

Preview from Notesale.co.uk
Page 33 of 43



Protein Deficiency

▶ Marasmus

▶ Both Protein and Calories low

- inadequate food intake

▶ Symptoms

- wasting of lean and fat tissue
- weak, anemic, low metabolism
- death due to secondary infections

