

Contemporary Nutrition

6th ed.

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Chapter 6, ***Proteins***





Protein Organization

- Order of amino acids in a protein determines its ultimate shape
- Protein's final shape determines its function in the body

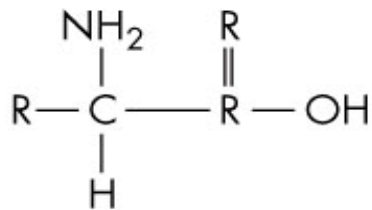


Overview of Protein

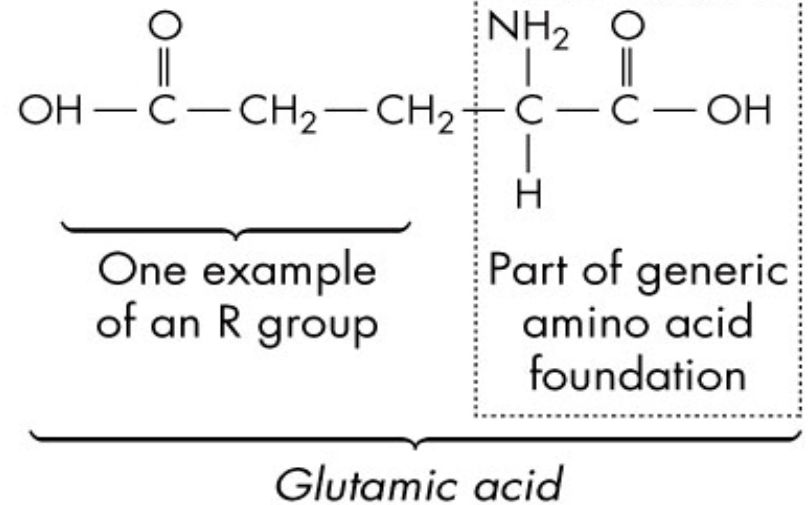
- Body is made up of thousands of proteins
- Contains nitrogen, carbon, hydrogen, and oxygen
- 4kcal/gram
- Functions
 - Regulates and maintains body functions
 - Provides essential form of nitrogen (in the form of amino acids)

Amino Acid

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"Generic" amino acid. The R signifies another chemical group that would be present.





Amino Acids

- Building blocks of protein
- Nonessential a.a. – body can make
- Essential a.a. – need to ingest



Essential and Nonessential Amino Acids

- Animal proteins provide all essential a.a.'s
- Plant proteins lack one or more a.a.'s
- Combining proteins makes ingestion of a.a.'s complete



Protein Synthesis

- DNA contains coded instructions
- Copies of codes
 - Transferred to the cytoplasm (via mRNA)
- Amino acids added one at a time
 - With aid of transfer RNA (tRNA)
- Requires energy