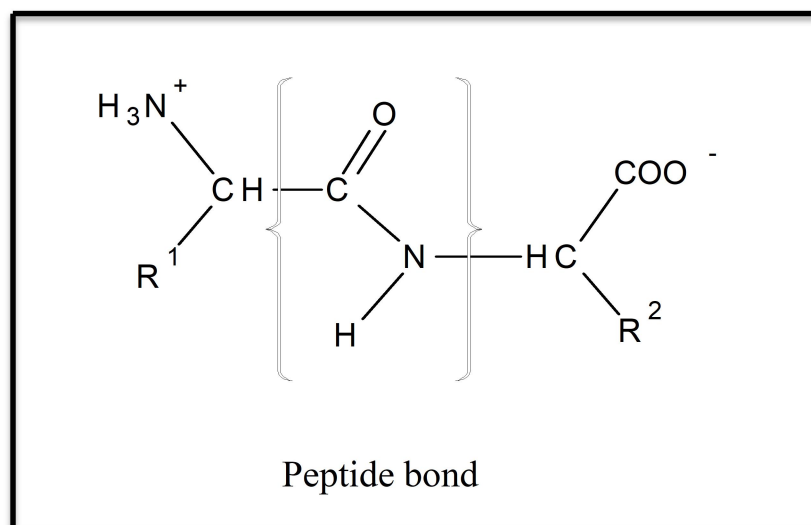


Proteins

They are complex organic compounds with high molecular weights consisting of a large number of amino acids, which are linked to each other by peptide bonds. Proteins consist of essential elements such as carbon, nitrogen, oxygen, hydrogen and other elements such as sulfur, phosphorus and iron.

Proteins are the main components of animal and plant tissues, they stimulate the chemical reactions of life such as enzymes, these reactions are organized such as hormones.

They are found within the components of cell walls, as well as parts of cells such as the (nucleus and mitochondria). All proteins do not contain equal amounts of amino acids and do not contain all 20 amino acids.



Proteins are classified according to their chemical composition or solubility properties into :

- 1- **Simple protein.**
- 2- **Associated proteins.**
- 3- **Dissociative proteins.**

Reference :

- 1- فلاح سموم دغل. "ملزمة الكيمياء الحياتية العملي". الجامعة المستنصرية (2004)
- 2- Seager, Spencer L.; Slabaugh, Michael R.; Hansen, Maren S. "Safety Scale Laboratory Experiments". Cengage Learning.2016. p. 358.
- 3- Peter J. Russell". iGenetics A Molecular Approach". 3rd Edition, 2010 Pearson Education. p.105-106.
- 4- Baldwin, E. and Bell, D.J., " Cole's Practical Physiological Chemistry", published by Heffer, Cambridge, 1955, p. 189.
- 5- Katoch, Rajan . "Analytical Techniques in Biochemistry and Molecular Biology". Department of Crop Improvement, SCKHPKV.India. 2011. p. 71.
- 6- Abramoff, Peter; Thomson, Robert." An experimental approach to biology". WH Freeman & Company, San Francisco.1966. p. 47.
- 7- Walsh, Edward O'Farrell." An Introduction to Biochemistry". London: The English Universities Press Ltd.1961. p. 406–407.