

Biochemistry

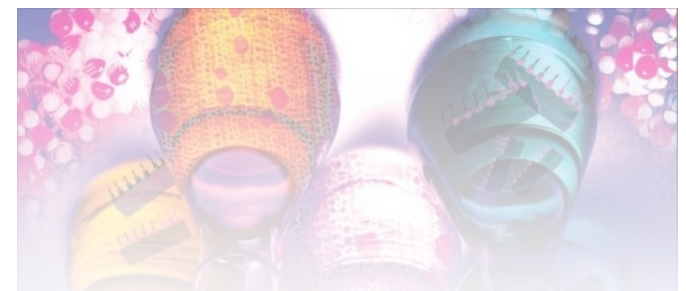
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What is biochemistry?

- Biochemistry, sometimes called biological chemistry, is the study of chemical processes within and relating to living organisms.



Biochemistry is a fundamental science that studies the chemical composition and properties of substances that make up living systems, their mutual transformations in the process of metabolism.



Biochemistry deals with macromolecules:

- proteins;**
- carbohydrates;**
- lipids;**
- nucleic acids;**

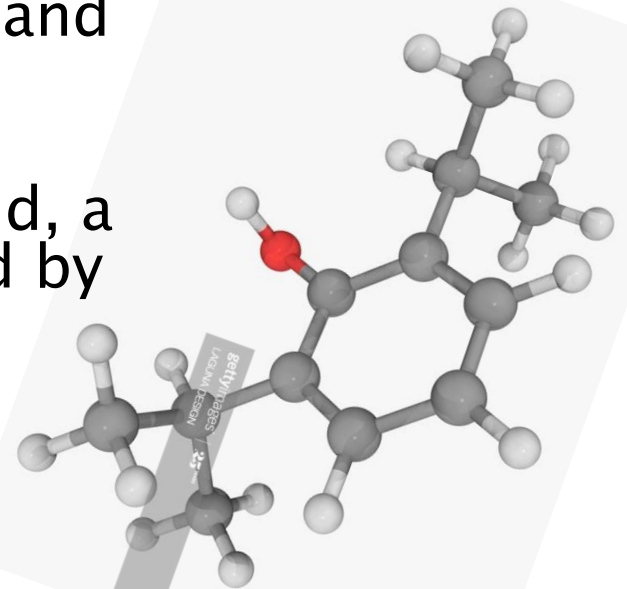
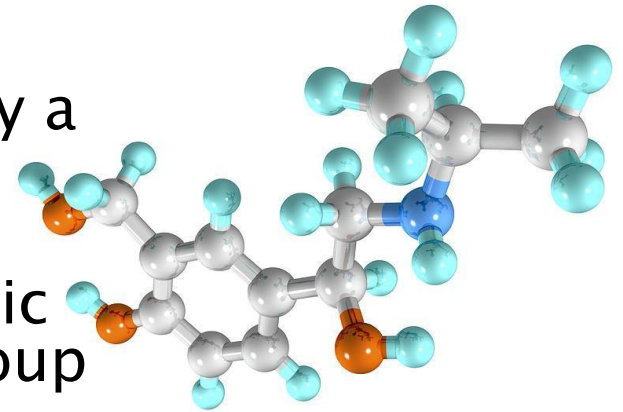


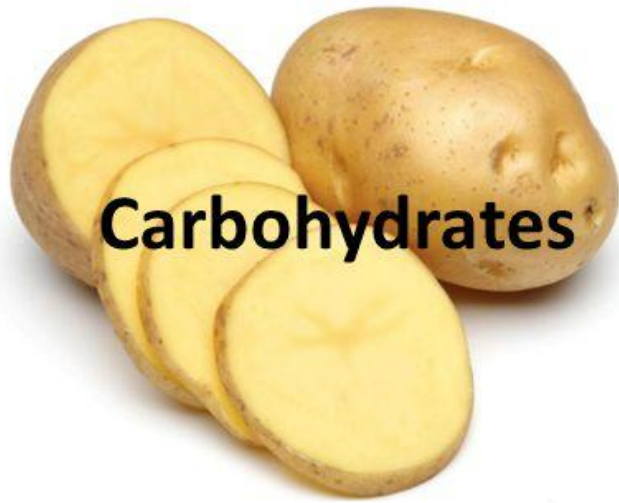
□ **Proteins** are high-molecular organic compounds consisting of amino acid residues connected in a long chain by a peptide bond.

□ **Carbohydrates** (glycides) are organic substances containing a carbonyl group and several hydroxyl groups.

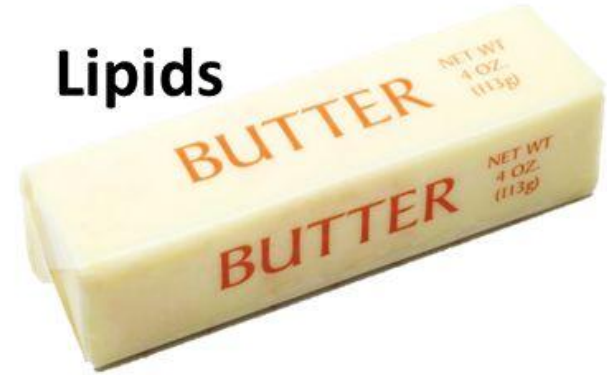
□ **Lipids** are an extensive group of natural organic compounds, including fats and fat-like substances.

□ **Nucleic acid** is a organic compound, a biopolymer (polynucleotide) formed by nucleotide residues.





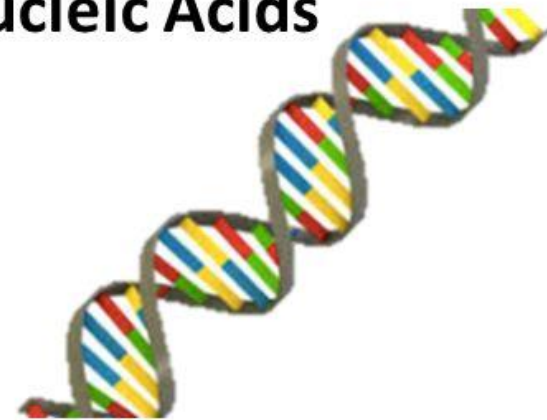
Carbohydrates



Lipids



Proteins



Nucleic Acids

The results of biochemistry are mainly used in medicine, nutrition, and agriculture.



In medicine, biochemists investigate the causes and treatment of diseases. Biochemical blood analysis includes the determination of a number of indicators that reliably reflect the state of such metabolic processes as mineral, carbohydrate, lipid, and protein.



In the field of nutrition, they study how to maintain health and study the effects of nutritional deficiencies.




Digestion

- We all want to be healthy and feel good. To do this, we need to know the time of digestion of food in the stomach. For proper digestion, it is necessary to remember such points as:
Can not load the stomach with different products for the time of digestion. Thus, we increase the working time of the stomach by selecting the necessary enzymes for their processing. For example, meat with vegetables. Separately, these products are digested in a shorter period of time.



Biochemistry today.

Currently, the main problems solved by biochemistry are the relationship between structure and biological function, information transfer pathways, spatial and temporal distribution of biomolecules in cells and throughout the body, and the problem of deciphering the mechanisms of evolution as a biochemical process.



Conclusion

- Biological chemistry studies various structures inherent in living organisms and chemical reactions that occur at the cellular and organizational levels. The basis of life is a set of chemical reactions that provide metabolism. Thus, biochemistry can be considered the main language of all biological Sciences.
 - Modern biochemistry today is a science that has made a big leap in its development.
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