

Chemical features of the main biogenic elements

The main biogenic elements are **carbon, oxygen, hydrogen and nitrogen**. These elements combine to form many different molecules. The following table gives the basic distribution of elements in the human body on a dry weight basis.^[1]

- Carbon is the main building block of living organisms.
- Oxygen is an important building block of living organisms (found in alcohols, phenols, aldehydes, ketones and others). It provides respiration.
- Hydrogen is an important building block of virtually all organic compounds. It is present in all tissues of living organisms.
- Nitrogen is a component of many substances found in the body. To name a few, amino acids contain at least one amine (-NH₂) and carboxyl (-COOH) group.
- Calcium plays an important role in the construction of the solid parts of the body (teeth, bones). It can also be found in muscles, blood and other body tissues.
- Phosphorus, like calcium, is found in teeth and bones, although to a lesser extent. It is an important component of organic molecules - DNA, RNA, energy transporters (ADP, ATP) and is also a component of most fats.

Basic representation of elements in the human body per dry weight

Element	Presence	Element	Presence
Carbon	50 %	Potassium	1 %
Oxygen	20 %	Sulphur	0,8 %
Hydrogen	10 %	Sodium	0,4 %
Nitrogen	8,5 %	Chlorine	0,4 %
Calcium	4 %	Magnesium	0,1 %
Phosphorus	2,5 %	Iron	0,01 %
		Manganese	0,001 %
		Iodine	0,00005 %

Other important biogenic elements are calcium, phosphorus, potassium, sulphur, sodium, chlorine, magnesium, iron, manganese and iodine.

References

Related articles

- Oxygen
- Trace elements

External links

References

1. MURRAY, Robert K. *Harper's Illustrated Biochemistry*. 2. edition. Jinočany : H&H, 2002. 871 pp. pp. 6. ISBN 80-7319-013-3.

Literature used

- MURRAY, Robert K. *Harper's Illustrated Biochemistry*. 2. edition. Jinočany : H&H, 2002. 871 pp. pp. 6-7. ISBN 80-7319-013-3.