

Genomics

Genomics is a subfield of genetics that deals comprehensively with the genome of individual organisms, especially determining the sequence of individual nucleotides in DNA and assigning functions to individual genes. A more detailed examination of individual genes already falls more into the field of molecular genetics, the view of genomics is more **complex**.

From the history of genomics

Genomics began to develop in the 1970s and 1980s, along with the development of other molecular methods (eg: sequencing, gene mapping).

A rough readout of the human genome - within the framework of the HUGO project - appeared as early as 2001, but was declared definitively completed only in 2007.

Functional genomics

The main focus of this branch of genomics is gene expression under different conditions. It often uses microarrays technology (the use of chips for testing a large amount of biological material during screening examinations) and the obtained results are analyzed by bioinformatics methods (specialized computer programs).

Utilization of genomics

In the future, newly acquired knowledge could lead to progress in the artificial synthesis of various biologically active substances – hormones, neurotransmitters, antibodies or enzymes. In clinical medicine, new discoveries in genomics can help primarily by improving the diagnosis of genetically determined diseases.

Links

External links

- Genomika (czech wikipedia)
- Genomics (english wikipedia)
- Microarray (english wikipedia)
- Genomika – science for the 21st century (https://www.img.cas.cz/paces/Genomika_2000.htm)