



МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ  
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ  
КАФЕДРА ІНОЗЕМНИХ МОВ  
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР

## **МАТЕРІАЛИ**

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НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ  
СТУДЕНТІВ, АСПІРАНТІВ ТА ВИКЛАДАЧІВ  
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ  
КАФЕДРИ ІНОЗЕМНИХ МОВ**

**«TO MAKE THE WORLD SMARTER AND SAFER»**

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factors affecting the life expectancy of Ukrainians", cardiovascular disease is the main cause of death in recent years - 67.0%, which means that cardiovascular disease is one of the major medical and social problems of Ukraine today.

The main diseases that cause mortality from cardiovascular pathology are: stroke, sudden death syndrome, heart attacks and cardiomyopathies, their predecessors are angina, arterial hypertension, arrhythmias, etc. Also, according to the Ministry of Health, nearly 100,000 strokes and over 40,000 heart attacks are reported annually in Ukraine.

Statistics are shocking, and doctors keep saying that stress, hypodynamia and poor nutrition are the causes of cardiovascular disease. And now it is worth noting that hypodynamia and poor nutrition can be eliminated independently by changing the way of life, but it is difficult to influence the stresses in the modern world.

Stress is the functional state of an organism that has arisen as a result of an external negative effect on its mental functions, nervous processes or the activity of peripheral organs.

After conducting the study, it was confirmed that medical students are often stressed, and unfortunately, 35% of students believe they have heart problems.

## MODERN ACHIEVEMENTS OF GENETIC ENGINEERING AND BIOTECHNOLOGIES

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Modern medical science and the needs of practical health care require the use of scientific technology in basic research. The European federation of Biotechnology defines modern biotechnology as the use of sciences related to nature (biology, chemistry, physics) and engineering (e.g. electronics) in relation with biosystems in the bio-industry.

There are a few directions of biotechnological products :

- a cultivation of cells and tissues of animals (interferon, insulin, monoclonal antibodies, growth hormones, viral vaccines);
- a cultivation of cells and tissues of animals (alkaloids, hydroxy-cinnamic acids, polysaccharides);
- a production of preparations on the basis of microbiological synthesis (vitamins, antibiotics, enzymes). [2]

In highly developed countries biotechnology is considered to one of main directions of the development of the society. A medical biotechnology is the creation of medicines, bioregulators and vaccines, gene diagnostics and therapy, tissue engineering based on barrel cells. The world market of pharmaceutical products produces using biotechnological methods accounts for more than 60% of the total biotechnological market.

The genic engineering is the instrument of biotechnology. The task is to obtain certain genes that determine a particular feature of a cell or an organism. This task is solved by the chemical synthesis of gene by combination of nucleotides of DNA in a certain sequence; by the enzymatic synthesis of DNA on the matrices of informative PHA by means of reverse transcriptase; by fragmentation of total DNA of cage and further choice of fragments; by a receipt or creation of vector molecules - molecules of DNA, able to join the fragments of molecules of DNA of any origin, get to the cells and propagate in their autonomous or integrated state. Such vector molecules are created from bacteriophages and plasmids.[1]

The examples of the application of the genetic engineering are the creation of bacteria and fungi, which product hormones, antibiotics, vitamins, enzymes and other substances for the necessities of pharmaceutical and food industry; creation of transgene animals as living factories for the production of biomedical preparations, and also new breeds of experimental mice (knock-outs) for scientific researches of functioning of certain genes.[2]

The major achievement of the genic engineering is the creation of products of biologically active proteins (to insulin, interferon, growth hormone and others like that), and also the development of methods of activation of chains of metabolism associated with the formation of low-molecular BASS. [1] The genic engineering develops the methods of receipt especially of albumin vaccines against the viruses of hepatitis, flu, herpes, foot-and-mouth disease. The idea of using a combined smallpox virus for vaccination has been implemented. Genes encoding the synthesis of proteins from other viruses (e.g. hepatitis or influenza viruses) have been incorporated into the genome. As a result of vaccination an organism develops immunity not only against a pox but also against hepatitis, flu or other diseases caused by the virus.

One of main achievements of modern biotechnology is the production of recombinant, or genic-engineering therapeutic proteins of man in industrial scales. Currently, it is produced in different countries more than 120, of which 100, having passed clinical trials, have settled for use in the European Union and the United States.[2]

The development and production of innovative biotechnological medicinal facilities, of forming of research centers and clusters from the development of such preparations in Ukraine that are necessary and timely.

### **Literature**

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