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**GENETIC ENGINEERING IN MODERN MEDICINE**  
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Genetic engineering is a new direction in medicine, created on the basis of the achievements of modern molecular biology, biochemistry and genetics. These technologies are being developed rapidly currently. Being the achievements of the scientific community, genetic engineering rises also the most pressing issue of the deontology, ethics, and morality currently.

The main mechanism of genetic engineering is construction of the new genetic forms according to a certain plan and also creation of organisms with a new genetic program as a result of the transfer of genetic information from the other organisms.

The aims of the work are:

- Detailed description of methods for editing genetic material.
- Examples of genetic engineering application in modern medicine.
- Consideration of ethics and morals of this technology. Issues of human cloning.

The conclusions of the research were the following:

1. In genetic engineering, there is a large number of gene editing methods. The most common method is the use of restrictases. All methods are quite complex, but with a sufficient budget, these operations can be performed.

2. In 2020, 2 Nobel prizes (in chemistry and medicine) were awarded for new methods of genome editing, of hepatitis C treatment at the molecular and genetic levels.

3. But problems of morality and ethics in the modern scientific community are still unresolved. On the one hand, research on human cells and fertilized embryos is allowed in Sweden, England and the United States, but on the other hand, in March 2004, the United Nations and the World Health Organization insisted on banning all forms of human cloning. About 80 countries supported this initiative.