



**Ministry of Healthcare  
of the Republic of  
Kazakhstan**

# **Perspectives of medical biotechnology in the Republic of Kazakhstan**

*Nur-Sultan, 2022*

# Development of medical biotechnology

**Development of innovative bioindustry in the Republic of Kazakhstan, based on the introduction of modern biotechnology in the healthcare system**



Development of fundamental and applied research in biomedicine to solve topical healthcare problems

Commercialization of innovations in the field of biotechnology

Development of innovative and industrial infrastructure for the manufacturing of biotech products



# Organizations conducting research and education in the field of medical biotechnology



1. Research and education in the field of medical biotechnology is carried out by 5 medical universities, 12 research institutes in the Ministry of Healthcare of the Republic of Kazakhstan, along with a number of scientific centers and research institutes such as the National Center for Biotechnology and Nazarbayev University.



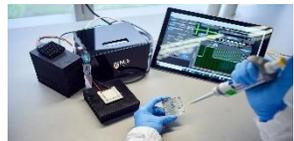
2. National Pharmaceutical Holding "Qazbiopharm" was created in 2021. It includes 6 research organizations and 1 pharmaceutical factory.

Holding is tasked to:

- develop conditions for sustainable development and improvement of the infrastructure of the biopharmaceutical production (from R&D to clinical trials, production and sale of finished products at the domestic and foreign market);*
- ensure the needs of the state and society in high-quality domestic biopharmaceutical and diagnostic products in timely manner.*

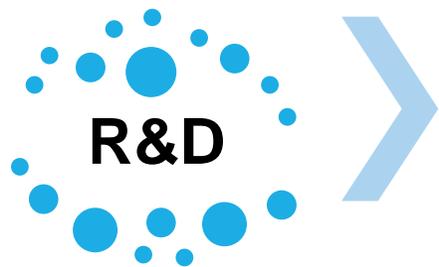
# Last achievements in the field of medical biotechnology in Kazakhstan

R&D projects implemented by scientific centers and universities of Kazakhstan led to the implementation of number of research innovations in the field of medical biotechnology:



-  *vaccine QazVac against COVID-19 was developed in 2021 and industrial scale production has been established;*
-  *a real time diagnostic PCR test system for the coronavirus infection was developed and registered for commercial use;*
-  *innovative stem cell based product have been developed for the regeneration of cartilage tissue in damaged joints. 1 and 2 phases of clinical trial is underway;*
-  *cellular product based on allogenic fibroblasts was developed for treatment of extensive burns and wounds;*
-  *30 molecular genetic and immunological diagnostic test systems were developed and protected by patents, a number of diagnostic test systems have been officially tested and registered in the Republic of Kazakhstan.*

# Further steps for the development of biotech R&D that would lead to production of new biomedical drugs

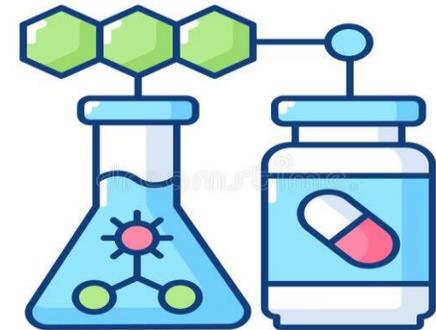


2. To develop production of biomedical cell and tissue-engineering drugs according to the GMP standards for regenerative medicine

1. Implement an investment project to build a production facility for the manufacturing of medical diagnostic test systems that meets GMP standards



3. Create a scientific center for accelerated high-performance cell-culture based screening of new drugs using robotic systems



# BIOTECHNOLOGY



**Thank you  
for your attention!**