

## Scientific Projects of Andrey V. Zhigailov

- Name of the project:** AP23487052 “Infectious bronchitis of birds in Kazakhstan: molecular monitoring and development of control strategies”  
**Type of project:** Applied research  
**Entity where project took place:** Almaty Branch of the National Center of Biotechnology (in Central Reference Laboratory), Almaty, Kazakhstan  
**Funding entity or bodies:** Ministry of Science and Higher Education of the Republic of Kazakhstan  
**Type of participation:** Principal investigator  
**Start-End date:** 01/08/2024 - 31/12/2026. **Duration:** 2.5 years
- Name of the project:** AP14869357 “The development of scientific basis for biotechnology for increasing the productivity of crops by modification of ribosomal protein S6 genes”  
**Type of project:** Applied research  
**Entity where project took place:** M. Aitkhozhin Institute of Molecular Biology and Biochemistry, Almaty, Kazakhstan  
**Funding entity or bodies:** Ministry of Science and Higher Education of the Republic of Kazakhstan  
**Type of participation:** Principal investigator  
**Start-End date:** 01/08/2024 - 31/12/2024. **Duration:** 2.5 years
- Name of the project:** AP14870683 “Distribution and genetic characterization of causative agents of tick-borne relapsing fevers (Relapsing Fever *Borrelia*) in the southern region of Kazakhstan”  
**Type of project:** Basic research  
**Entity where project took place:** Almaty Branch of the National Center of Biotechnology (in Central Reference Laboratory), Almaty, Kazakhstan  
**Funding entity or bodies:** Ministry of Science and Higher Education of the Republic of Kazakhstan  
**Type of participation:** Project participant (Leader researcher)  
**Start-End date:** 01/08/2024 - 31/12/2024. **Duration:** 2.5 years
- Name of the project:** AP08855746 “Development of biotechnology for increasing plant productivity by activating the ribosome biogenesis”  
**Type of project:** Applied research  
**Entity where project took place:** M. Aitkhozhin Institute of Molecular Biology and Biochemistry, Almaty, Kazakhstan  
**Funding entity or bodies:** Ministry of Education and Science of the Republic of Kazakhstan  
**Type of participation:** Principal investigator  
**Start-End date:** 01/10/2020 - 31/12/2022. **Duration:** 2.5 years
- Name of the project:** OR11465447 “Development of biotechnology for increasing plant productivity by activating the ribosome biogenesis”  
**Type of project:** Applied research  
**Entity where project took place:** M. Aitkhozhin Institute of Molecular Biology and Biochemistry, Almaty, Kazakhstan  
**Funding entity or bodies:** Ministry of Education and Science of the Republic of Kazakhstan  
**Type of participation:** Responsible executor  
**Start-End date:** 01/10/2020 - 31/12/2022. **Duration:** 2.5 years
- Name of the project:** #KZ-1612d (KZ35). Monitoring of Highly Pathogenic Swine Fever viruses (HPSFVs) in Kazakhstan

**Type of project:** Basic research

**Entity where project took place:** Almaty Branch of the National Center of Biotechnology (in Central Reference Laboratory), Almaty, Kazakhstan

**Funding entity or bodies:** Defense Threat Reduction Agency (DTRA)

**Type of participation:** Project participant (Leader researcher)

**Start-End date:** 01/01/2019 - 31/12/2019. **Duration:** 1 year

- 7 **Name of the project:** AP05130800 “Identification and study of universal translation enhancers suitable both for plant and bacterial expression systems”

**Type of project:** Applied research

**Entity where project took place:** M. Aitkhozhin Institute of Molecular Biology and Biochemistry, Almaty, Kazakhstan

**Funding entity or bodies:** Ministry of Education and Science of the Republic of Kazakhstan

**Type of participation:** Principal investigator

**Start-End date:** 01/01/2018 - 31/12/2020. **Duration:** 3.0 years

- 8 **Name of the project:** 7553 “Tick borne pathogens in Pavlodar region of Kazakhstan: distribution among hospitalized humans and ticks”

**Type of project:** Basic research

**Entity where project took place:** Almaty Branch of the National Center of Biotechnology (in Central Reference Laboratory), Almaty, Kazakhstan

**Funding entity or bodies:** Centers for Disease Control and Prevention (CDC)

**Type of participation:** Project participant

**Start-End date:** 01/01/2019 - 31/12/2020. **Duration:** 2 years

- 9 **Name of the project:** BR06249242 “Scientific support of veterinary welfare and food safety”; task #3 “Monitoring of bluetongue in sheep on the territory of Kazakhstan and molecular genetic characteristics of pathogen genotypes”

**Type of project:** Basic research

**Entity where project took place:** Almaty Branch of the National Center of Biotechnology (in Central Reference Laboratory), Almaty, Kazakhstan

**Funding entity or bodies:** Ministry of Education and Science of the Republic of Kazakhstan

**Type of participation:** Responsible executor of the task

**Start-End date:** 01/01/2018 - 31/12/2020. **Duration:** 3.0 years

- 10 **Name of the project:** AP05135904 “Study of the distribution of different genotypes virus and the risk of infection of people with West Nile fever in Kazakhstan”

**Type of project:** Basic research

**Entity where project took place:** Almaty Branch of the National Center of Biotechnology (in Central Reference Laboratory), Almaty, Kazakhstan

**Funding entity or bodies:** Ministry of Education and Science of the Republic of Kazakhstan

**Type of participation:** Responsible executor of the project

**Start-End date:** 01/01/2018 - 31/12/2020. **Duration:** 3.0 years

- 11 **Name of the project:** 1920/GF4 “Study of mRNA translation regulation in plants by means of phosphorylation of initiation factor 2 alpha subunit (peIF2 $\alpha$ )”

**Type of project:** Basic research

**Entity where project took place:** M. Aitkhozhin Institute of Molecular Biology and Biochemistry, Almaty, Kazakhstan

**Funding entity or bodies:** Ministry of Education and Science of the Republic of Kazakhstan

**Type of participation:** Responsible executor of the project

**Start-End date:** 01/01/2015 - 31/12/2017. **Duration:** 3.0 years

- 12 **Name of the project:** 4538/GF4 “Development of biotechnology for engineering of genetically modified potato plants with increased resistance to abiotic stresses on the basis of expression optimization of mutated *AteIF2 $\alpha$*  transgene variants”  
**Type of project:** Applied research  
**Entity where project took place:** M. Aitkhozhin Institute of Molecular Biology and Biochemistry, Almaty, Kazakhstan  
**Funding entity or bodies:** Ministry of Education and Science of the Republic of Kazakhstan  
**Type of participation:** Responsible executor of the project  
**Start-End date:** 01/01/2015 - 31/12/2017. **Duration:** 3.0 years
- 13 **Name of the project:** 877/GF3 “Study of the molecular mechanisms of mRNA interaction with plant translation machinery to improve the technology of recombinant proteins synthesis”  
**Type of project:** Applied research  
**Entity where project took place:** M. Aitkhozhin Institute of Molecular Biology and Biochemistry, Almaty, Kazakhstan  
**Funding entity or bodies:** Ministry of Education and Science of the Republic of Kazakhstan  
**Type of participation:** Responsible executor of the project  
**Start-End date:** 01/01/2013 - 31/12/2015. **Duration:** 3.0 years
- 14 **Name of the project:** 0226/GF1 “Study of molecular mechanisms of interaction of a virus and plant: detection of potato M viral proteins that suppress of host-cell RNA-interference process”  
**Type of project:** Basic research  
**Entity where project took place:** M. Aitkhozhin Institute of Molecular Biology and Biochemistry, Almaty, Kazakhstan  
**Funding entity or bodies:** Ministry of Education and Science of the Republic of Kazakhstan  
**Type of participation:** Project participant (Researcher)  
**Start-End date:** 01/01/2012 - 31/12/2014. **Duration:** 3.0 years
- 15 **Name of the project:** O.0592 “Development of domestic genome-proteomic and cellular technologies for the needs of medicine, agriculture and environmental protection in Kazakhstan”  
**Type of project:** Basic research  
**Entity where project took place:** M. Aitkhozhin Institute of Molecular Biology and Biochemistry, Almaty, Kazakhstan  
**Funding entity or bodies:** Ministry of Education and Science of the Republic of Kazakhstan  
**Type of participation:** Project participant (Researcher)  
**Start-End date:** 01/01/2012 - 31/12/2014. **Duration:** 3.0 years
- 16 **Name of the project:** O.0592 “Development of domestic genome-proteomic and cellular technologies for the needs of medicine, agriculture and environmental protection in Kazakhstan”  
**Type of project:** Basic research  
**Entity where project took place:** Research institute for biological safety problems, Gvardeisky village, Kazakhstan (basic organization) / M. Aitkhozhin Institute of Molecular Biology and Biochemistry, Almaty, Kazakhstan (co-executor)  
**Funding entity or bodies:** The International Science and Technology Center (ISTC)  
**Type of participation:** Project participant (Researcher)  
**Start-End date:** 01/01/2009 - 31/12/2012. **Duration:** 4.0 years