CREMLIN PLUS
Connecting Russian and European Measures for Large-scale Research Infrastructures

Federal Research Center Institute Cytology and Genetics SB RAS - Genetic Resources Center (CGR) of Laboratory Animals

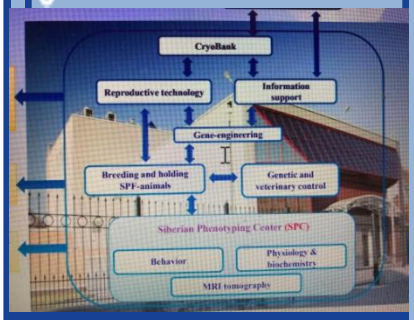
The Federal Research Center Institute of Cytology and Genetics, Siberian Branch of the Russian Academy of Sciences (IC&G, SB RAS) ranks among the largest biological institutes in Russia and abroad.

The Institute maintains leadership in many promising fields of genetics, breeding, cell and molecular biology, evolutionary and physiological genetics, systems biology, biotechnology, and biomedicine.

The IC&G has been involved in a number of the international projects supported by grants from INTAS, NATO and Britain's Wellcome Trust. Working agreements exist between IC&G and laboratories in many countries worldwide.

The **Genetic Resources Center (GRC)** of laboratory animals has a full range of technology for maintenance and development of animal genetic lines – models for human diseases and for performance of basic and applied research in biology, translational biomedicine, pharmacology, Nanobiology and Nanobiosafety.

The **GRC** performs breeding of specific pathogen free (SPF) laboratory animals, cryopreservation; develops transgenic reproductive technology, high-technology phenotyping of new genotypes, as well, genetic and experimental models of almost all socially important human diseases to identify novel methods of disease diagnostics, prevention and treatment.



Address:
Prospekt Lavrentyeva 10, 630090
Novosibirsk, Russia

Website:
http://www.bionet.nsc.ru /en
http://spf.bionet.nsc.ru/

Instruments (technique) used:	Domain and object of research : Env, H&F
The Genetic Resources Center (GRC)	The **Genetic Resources Center (GRC) has a full technological list of mouse collection** including the support, development and study: - **Breeding** (Assisted reproductive technology-ART); Cryopreservation; Monitoring of pathogens (full list of FELASA); Rederivation; Control of Genotype); - **Full cycle of transgenes from gene to the mouse;** - **Phenotyping** (Wide list of behavioral tests; Body composition; Blood pressure; Immunocompetence; Endocrinology; Magnetic resonance imaging; Magnetic resonance spectroscopy in vivo) etc. Currently the GRC has acquired a new competence - generating animals with target mutations on demand. The Centre is also close to developing humanized strains of mice susceptible to COVID-19 infection. The Centre for non-clinical studies in the frame of the GRC obtained a **GLP certificate** which allows to carry out a variety of the toxicological tests of new drugs and new materials. **Models of human diseases developed in the GRC:** **1. Genetic models:** Depression, Diabètes, Obesity, Immunodefficiency Autoimmune, encephalopathy, Hypertension, Accelerated aging, Catalepsy, Parkinson's disease etc. **2. Experimental models**: Inoculated human glioma, Adenocarcinoma and other mouse cancers, Opisthorchiasis: Chalongiocarcinoma, Brain ischemia, Cuprizone induced encephalopathy, Alcohol induced brain disorder, Alcohol induced lover disorder, Alimentary obesity, Drug induced parkinsonism, Depression induce by constant light (animal model of SAD) etc. **Diagnostics and Monitoring of Treatment: Behavioral tests** («Open field», Elevated plus-maze, Rota-Rod, Phenomaster (activity, food & water consumption), Laboras, Startle-reflex, Sonographe etc.); **Physiology** (Body composition, Blood pressure, Implanted thermologger, Thermovision, Phenomaster (Oxygen consumption, CO2 production)); **Clinical laboratory**: Blood cells, Biochmical analyses, Sperm analysis, HPLC, PCR, ELISA, SeaHorse (cell energy metabolism). **Bioimaging** (MRI - BioSpec 117/16, Bruker, 11.7 T InSyTE, TriFoil imaging).