State Scientific Control Institute of Biotechnology and Strains of Microorganisms (SSCIBSM) is a leading scientific facility within the area of development, expertise, registration testing, standardization, determine compliance of quality control of veterinary immunobiological preparations, development of regulations concerning their production, circulation and use.

The Institute was founded in 1998 on the basis of Kyiv subsidiary of State Scientific Control Institute for Veterinary Preparations and Feed Additives. For the present time the Institute numbers 80 special-ists including 2 NAAS academician, 2 corresponding members NAAS, 8 Doctors of Science and 12 Ph.D’s. For the present time SSCIBSM is the single veterinary biotechnology institution performing regis-tration trials of veterinary immunobiological preparations (as of national and foreign manufacturers) and state control of their quality.

Basis of the Institute activity is development of issues of expertise, new and improvement of existing production technologies for veterinary immunobiological preparations, development of methods and means of standardization, approbation and study of biological preparations used in Ukraine, expertise, approbation and studies of national and foreign veterinary immunobiological preparations targeting their registration in Ukraine; deposit, maintenance, storage and supply of microorganisms strains for organiza-tions and facilities producing biological preparations for veterinary branch, veterinary laboratories and scientific educational facilities.

Facilities functioning in the Institute:

~ National Centre for Strains of Microorganisms of Ukraine. At the moment Center stores and main-ains the collections containing 532 strains of microorganisms, cell cultures 24 lines 12 species of animals characterized, standardized and used for maintaining strains, standardization of laboratory research and expertise VIP;

~ Immunobiological Preparation Sector of the State Pharmacological Commission of Veterinary Medicine;

~ Reference Laboratory of Office International des Epizooties (OIE) for rabies;

~ Technical committee of Standardization No149 “Veterinary Biological Preparations and Veterinary Means to Work with Them”;

~ Three Universities affiliated chairs;

~ Highly qualified specialists are getting trained through postgraduate trainings for specialty 16.00.03 – veterinary microbiology, epizootology, infectious diseases, and immunology;

~ “Microbial and molecular biotechnology in agriculture” Cluster of the scientific and technological platform “Agri-food”.

Issued: scientific and production monthly journal – “Veterinary Medicine of Ukraine” (together with Vetinform, LLC) bulletin “Veterinary Biotechnology” (with IBM NAAS), a professional publication the State Accreditation Committee of Ministry of Education and Science, Youth and Sport of Ukraine in the fields of veterinary and agricultural science.

We invite all the interested partners to mutual successful work.

Director SSCIBSM,
Doctor of Veterinary Science,
Professor, Academician NAAS Ukraine

Anatoliy Golovko

MAIN ACTIVITIES:

According to the Law of Ukraine “On Veterinary Medicine” the main aim activity of the Institute are:

~ implementation of State Control, standardization and expertise of veterinary immunobiological preparations and means for veterinary medicine;

~ conducting scientific research to develop regulations concerning approbation of immunological veterinary preparations and their means of standardization;

The main activities of the Institute are:

~ research on the development of new and improved technologies for veterinary immunological products, methods for their control and means of standardization, development of regulations concerning their manufacturing, circulation and use;

~ deposit of the National Centre for Strains of Microorganisms and maintaining the viability of viruses, bacteria, fungi and other biological material that used for the manufacture of animal welfare and quality control, supply of microor-
organisms strains for organizations and facilities producing biological preparations for veterinary branch, veterinary laboratories and scientific educational facilities;
  ~ study and selection strains of microorganisms for manufacturing immunobiological preparations and standardization;
  ~ development of industry standard samples for quality control of biological preparations, new formulations of culture media, etc.;
  ~ development and implementation in practice of veterinary medicine means of standardization for microbiological research;
  ~ development of veterinary immunological preparations;
  ~ state control over compliance with the requirements the standards, pharmacopeia articles, technical regulations, veterinary and sanitary rules, guidelines on the use of veterinary medicine and other documents in the process of developing, testing, implementation and manufacturing, storage, transportation, sale and use of mentioned means of in enterprises institutions and organizations of all forms of ownership;
  ~ study reclamations by the way of analyzing the nature of the reclamion on the points with parallel laboratory research of quality preparation that received a complaint;
  ~ certification of the manufacture means of animal welfare and quality control department of veterinary immunobiological preparations;
  ~ approbation and organization of the State Trial's national and foreign protection of animals in order to register their in Ukraine;
  ~ testing means for veterinary medicine in order to study their effectiveness and safety in order to determine whether their production / application;

RESEARCH DEPARTMENT

Department of Scientific and Technical Expertise, State Control and Monitoring of VIP (Head of department, Academician NAAS – A.M. Golovko):
  ~ Sector of scientific and technical expertise;
  ~ Registration Sector;
  ~ Laboratory inspection and monitoring of immunological veterinary preparations;
  ~ Sector of state control of immunological veterinary preparations.

National Centre for Strains of Microorganisms (Head of department, corresponding members NAAS – V.O. Ushkalov):
  ~ Deposit of Microorganisms for the Sector;
  ~ Sector growth media and lyophilic dry;
  ~ Laboratory standardization and maintenance of biological material:
  ~ Sector “Bank of biological material”.

Department of Molecular Biology and Immunochemistry (Head of department, Doctor of agricultural sciences - V.O. Postoenko)
  ~ Sector molecular biochemistry and electronic microscopy;
    ~ Sector Immune-Enzyme Analysis;
    ~ Sector of the physical and chemical research.

Department of Biotechnology and quality control viral preparations (Head of department, Candidate of Veterinary Science – M.V. Babkin):
  ~ Biotechnology Sector and control virus preparations;
~ Maintenance of productive sector and control strains;
~ Sector maintaining cell cultures;
~ Laboratory for the study of animal rabies.

**Department of Biotechnology and Quality Control of Bacterial Preparations (Head of department, Candidate of Veterinary Science, Senior Researcher – N.G. Pinchuk):**

~ Sector standardization and quality control of bacterial preparations;
~ Sector spore infections;
~ Sector maintain reference cultures of microorganisms.

**Department of Biotechnology and Quality Control of Bacterial Preparations (Head of department, Candidate of Veterinary Science, Senior Researcher – N.G. Pinchuk):**

~ Sector standardization and quality control of bacterial preparations;
~ Sector spore infections;
~ Sector maintain reference cultures of microorganisms.

**Department Study and Control of Especially Dangerous Infections (Head of department, Doctor of Veterinary Science – V.G. Skrypnyk):**

~ Sector biotechnology of VIP especially dangerous infections;
~ Sector standardization and Quality Control of VIP especially dangerous infections.

**Department of scientific and information maintenance, standardization and patent licensing studies (Head of department, Doctor of Veterinary Science – V.V. Chumachenko):**

~ Sector scientific and information provision;
~ Sector standardization and patent licensing studies.

Department of scientific providing of innovative development and transfer of biological industry innovation, (Head of department, Candidate of Veterinary Science - Y.M. Tyutchenko):

~ Sector of scientific providing of innovative development of biological industry;
~ Sector scientific providing transfer of innovation.

**Postgraduate Studies (Head of PhD in biological sciences – L.I. Akimenkov)**

For the last five years defended 5 theses for the degree of candidate and 2 theses for the degree of Doctor of Veterinary Science. In preparation to defend another 5 theses for the degree of PhD.

**Research Library (Head – N.V. Ivashchenko)**

Areas of Research Library SSCIBSM:

~ The electronic Catalogue, updating and compiling databases;
~ Publishing and bibliographical bibliographies;
~ The study of the history of veterinary immunobiology in Ukraine.

**SCIENTIFIC DEVELOPMENT OF SSCIBSM**

Scientific novelty developments Institute staff confirmed 23 patents of Ukraine and developed and implemented in practice more than 30 DSTU harmonized with international standards.

During the last years the Institute has developed and actively introduced into the practice veterinary medicine of standardization biotechnology industries, research and industrial laboratories.

1. **Sets of test strains:**
   ~ Bacteriological quality control of culture media;
   ~ identification of Listeria
   ~ quality control of culture media for the cultivation of mycoplasmas and aholeplasm;
   ~ differentiation of anthrax pathogen(agent) bacteriological method;
~ biological indicators for monitoring the effectiveness of the sterilization process;
~ quality control of disinfection by bacteriological method;
~ testing of new disinfectants bacteriological method;
~ determine the activity of antimicrobial preparations;
~ for quality and quantitative determination of residual amounts of antimicrobials in raw materials and products of animal origin.

2. Standardized line of cell cultures:
The collection SSCIBSM are 24 lines passaged cell cultures (pigs - 4, cattle – 2, fish - 1, dogs - 2 cats - 1, rabbits - 1, mice - 2, monkeys – 4, hamsters – 2, sheep – 2, chickens – 2, people - 1), which is used for maintaining strains and standardization of laboratory research and expertise VIP.

3. Standardization of serological tests:
~ National Standard of sera – "A set of sera for standardization of antigen bovine leukemia reactions in immunofluorescence";
~ Standard reference sample for the diagnosis of rabies in reaction immunofluorescence (IF) test;
~ Sample rabies industry standard (reference vaccine to assess the quality of inactivated vaccines against rabies);
~ National standard for quality assessment of tuberculin;
~ Set to detect antibodies to Newcastle disease in reaction Hemagglutination Inhibition Test (HI);
~ A set of antigens for the diagnosis of animal salmonellosis.

4. Means for detect genetic material of infectious agents and contaminants raw materials and VIP:
~ Test system "ASF-test" for the detection of DNA of African swine fever virus polymerase chain reaction (PCR);
~ Test system "ANTHRAX-test" for the detection of bacteria of the genus Bacillus anthracis by polymerase chain reaction (PCR);
~ Test system "RABIES-test" for the detection of rabies virus RNA by reverse transcriptase polymerase chain reaction (RT-PCR);
~ Test system "HCV-test" for detecting RNA viral haemorrhagic septicemia of trout by reverse transcriptase polymerase chain reaction (RT-PCR);
~ diagnostic set for the detection pestivirus "PCR-PESTIVIR";
~ Test system "Chla-Test" to detect bacteria of the genus Chlamydia by polymerase chain reaction;
~ Test system "Toho-test", which is designed to detect DNA toxoplasmosis parasite Toxoplasma gondii by polymerase chain reaction;
~ Test system "Parvo-Test" for the detection of DNA parvovirus (Canine parvovirus) by polymerase chain reaction;
~ Test system "Sal-test", which is designed to detect the DNA of bacteria genus Salmonella by polymerase chain reaction;
~ Diagnostic set for the detection of mycoplasma DNA and aholeplasm PCR - Mollicutes-test.

OUR OFFER

1. Conducting seminars and training on compliance with applicable requirements for the VIP circulation, their development and registration, attestation and quality control departments of enterprises of biological industry.
2. Training on the use of etalon test-strains of microorganisms in the standardization of the microbiological studies and the assessment of food safety, quality of disinfection, etc.
3. Expertise of normative documentation for veterinary immunobiological preparations.
4. Manufacturing attestation and departments of biological control producers VIP.
5. Manufacturing and providing standard samples for quality control VIP.
9. Depositing, storage strains of microorganisms and other biological material.
10. Selection of protective environments for lyophilization (freeze-drying) microorganisms.
11. Lyophilization (freeze-drying) strains of microorganisms.
12. Study of biological properties strains of microorganisms.
13. Providing manufacturers VIP production, control strains of microorganisms.
14. Providing manufacturers VIP research and education lines inoculated cell cultures.
15. Providing enterprises producing VIP research and education facilities standardization of microbiological testing in accordance with international requirements (reference test strains of microorganisms).
17. Consultations concerning storage methods, research and identification strains of microorganisms.
18. PCR, ELISA and serological studies for the purpose of veterinary medicine, biotechnology and agriculture.
19. Development of primers for PCR
20. Detection of contaminants (foreign bacteria and viruses, mycoplasma, pestivirus etc.) PCR in veterinary immunobiological preparations and biotechnology raw materials.

Evaluation and/or controlling the biological safety of nanomaterials genotoxicity, mutagenicity, etc.

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