World Organisation for Animal Health

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WOAH Collaborative Centre Reports Activities 2025

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CENTRE INFORMATION

***Title of WOAH Collaborating Centre**	Diagnosis and Control of Bacterial Animal Diseases in Eastern Europe, Central Asia and Transcaucasia
***Address of WOAH Collaborating Centre**	The Russian State Center for Animal Feed and Drug Standardization and Quality (VGNKI)
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***Name of the writer:**	Olga Ivanova

TOR 1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOAH

Category	Title of activity	Scope
		As part of the implementation of the state epizootological monitoring plan for the territories of the Russian Federation and the identification of risks associated with the spread of infectious animal diseases, 9,130 studies were conducted, of which 4,660 were conducted using the PCR method as part of the monitoring of Aleutian disease in minks, reproductive and respiratory syndrome in pigs, highly pathogenic avian influenza, African swine fever, nodular dermatitis, and leukemia. A total of 4,470 diagnostic studies were performed using serological methods to control the spread of brucellosis and leptospirosis in animals. The following results were obtained as a result of this work: - Aleutian disease of minks: 620 samples of material (feces and feed mixtures) from 8 regions of the Russian Federation were tested. ABN virus DNA was detected in 15 samples, accounting for 2.4% of the total number of samples tested; - Porcine

Disease control (true)	State epizootiological monitoring	reproductive and respiratory syndrome: 1,245 samples of pig blood serum from 10 regions of the Russian Federation were tested. Genetic material of the virus was detected in 24 samples from three regions, accounting for 1.93% of the total number of samples tested; - Highly pathogenic avian influenza: 380 samples (pathological material from domestic and wild birds, droppings from domestic birds) from 8 regions of the Russian Federation were tested. No genetic material of the avian influenza A virus was detected in the samples tested. - Bovine leukemia: 878 whole blood samples from cattle from 5 regions of the Russian Federation were tested. Leukemia provirus DNA was detected in 3 samples from three regions, which is 0.3% of the total number of samples tested; - African swine fever (ASF): 677 samples of blood serum and pathological material from domestic pigs from 13 regions of the Russian Federation were examined. No genetic material of the ASF virus was detected in the samples tested. - Nodular (contagious nodular) dermatitis: 860 samples of cattle biomaterial from 8 regions of the Russian Federation were tested. No DNA of the nodular dermatitis virus was detected in the samples. - Brucellosis: 4,000 blood serum samples from 11 regions of the Russian Federation were tested. Eleven samples from three regions tested positive, accounting for 0.27% of the total number of samples tested. - Leptospirosis: 470 blood serum samples from six regions of the Russian Federation were tested using the microagglutination reaction. Seventy-three samples from six regions tested positive, accounting for 15.53% of the total number of samples tested.
Diagnosis, biotechnology and laboratory (true)	Research	In order to identify antibiotic resistant bacteria the method "Organization and monitoring of antibiotic resistance of zoonotic disease pathogens", approved and recommended for publication by the Scientific and Technical Council of the Ministry of Agriculture of Russian Federation (Minutes No. 29a dated September 15, 2025) and intended for use by specialists of the State Veterinary Service of the Russian Federation, has been developed. For the purpose of studying the genes of antibiotic resistance Recommendations for the Use of Molecular Genetic Methods in Veterinary Monitoring of Antibiotic Resistance have been drawn up. 8,950 molecular genetic studies were conducted, including the identification of microorganism strains as part of the procedure for depositing and quality control of veterinary drugs, analysis of genetically modified strains of microorganisms for the production of medicines, and testing of biomaterial for the carriage of hereditary diseases in domestic and farm animals. The second stage of developing a technology for producing plates to identify antibiotic resistant agents determine the minimum inhibitory concentration of antibacterial drugs for veterinary use has been completed.
		As part of a government assignment and in

Veterinary medicinal products (true)	Monitoring of veterinary medicinal products	accordance with an order from the Federal Service for Veterinary and Phytosanitary Surveillance, 601 samples of pharmacological products were tested for compliance with established quality requirements using destructive testing methods. Among the samples selected in 2025, which are in civil circulation in the Russian Federation, the largest percentage – 53.91% – accounted for samples of medicinal products from domestic manufacturers and 46.08% from foreign manufacturers. Of these, 68.55% were medicinal products of liquid dosage forms, 27.45% were medicinal products of solid dosage forms, and 4.00% were soft medicinal forms. The studies confirmed that 97.17% of the samples met the established quality requirements, while 2.83% of the samples did not meet the established quality requirements. Non-compliance indicators most frequently encountered in 2025: assay of a substance (37.5%), determination of fractional composition (25.0%), dosing uniformity (12.5%), dissolution (6.25%), density (6.25%), etc. In addition, in accordance with Article 52.2 of Federal Law No. 61-FZ dated April 12, 2010 "On the Circulation of Medicines," an examination was conducted of the quality of 755 samples of pharmacological medicinal products for veterinary use upon their introduction into civil circulation for compliance with the requirements established during their state registration. 95 veterinary drug examinations with registration were conducted, 99 amendments were made to regulatory documents for medicinal products and feed recommendations, and 12 drugs were confirmed for compliance after registration within 5 years.
		As part of the control of each imported batch of immunobiological medicinal products for veterinary use, in order to detect intentional contamination and pollution of products associated with violations of GMP rules during the release of vaccines, more than 835 PCR studies were conducted on samples of vaccine products for the prevention of diseases in poultry, pigs, cattle, and small ruminants, selected at border crossing points. The detection rate for foreign contaminants was 0.6%. Among the samples collected in 2025 and currently in civilian circulation in the Russian Federation, the largest percentage (80.3%) were vaccine samples from foreign manufacturers, while 19.4% were samples from domestic manufacturers. During testing, compliance with established quality requirements was confirmed for 97.8% of samples, while non-compliance with established quality requirements was detected in 2.2%. The non-compliance rates in 2025 were: Potency – 75.0%, Safety – 25.0%. Development of a vaccine against infectious pancreatic necrosis, furunculosis, vibriosis, cold-water vibriosis, and winter ulcer disease in salmonids. The objective of the work is to select the optimal bacterial strains for inclusion in the vaccine and to develop methods for monitoring the vaccine's effectiveness against salmonid diseases in target fish species and

Vaccines (true)	Monitoring and development of vaccines 111	laboratory models. Based on the results of the work: - epizootic and museum isolates were selected, from which bacterial and viral strains optimal for vaccine production and control were selected; - infecting doses of control strains were determined for each fish species (salmon, trout); - tests were conducted on a pilot batch of vaccines manufactured by the FGBI "ARRIAH" using the challenge infection method and determining antibody production in salmon and trout fry in laboratory and field conditions; - alternative methods for evaluating vaccine activity on laboratory models were developed and tested. Development of a vaccine against colibacillosis in animals. The objective of the work is to create a new generation vaccine against colibacillosis in animals, based on adhesive antigens, thermolabile, thermostable, and verocytotoxins, with high antigenic and immunogenic activity and a broad spectrum of protective action. Based on the results of selection from epizootic and museum isolates of Escherichia coli, four of the most active producers of adhesive antigens, thermolabile, thermostable, and verotoxins were selected as promising candidates for inclusion in the composition of the drug. The biological and molecular genetic properties of the selected E. coli strains were studied and their whole-genome sequencing was performed. The technological scheme of production was tested under industrial conditions, the most effective method for obtaining adhesive antigens from the cell surface was determined, and pilot-industrial batches of the vaccine were manufactured.
		Of the total number of bacterial isolates studied, isolated from cattle feces, 10.53% of E. coli and 33.3% of Enterococcus spp. were resistant to tetracycline. E. coli bacteria isolated from small ruminants showed resistance to trimethoprim-sulfamethoxazole - 21.05% and gentamicin - 10.53%. Enterococcus spp. microorganisms were characterized by a high proportion of resistance to bacitracin - 60%. The proportion of enterococcus isolates resistant to virginiamycin and tetracycline was 18.18% and 18.75%, respectively. The isolated salmonellae were resistant to chloramphenicol - 14.29%, ampicillin - 28.57%, azithromycin - 28.57%, and ciprofloxacin - 85.71%. The resistance of Salmonella spp. bacteria isolated from birds to cefotaxime reached 45.5%. Determinants of Escherichia coli resistance: - to penicillins, cephalosporins – TEM-1, CTX-M-2, - to macrolides, lincosamides – mphA, - to fluoroquinolones – qnrS1, qnrB19, mutations in gyrA (S83L, D87Y), parC (S80I), - to tetracyclines – tetA, tetB, - to aminoglycosides – aadA1, aadA5, aph(6), aph(3), - to phenicols - catA1, cmlA1, - to sulfonamides - sul1, sul3, - to trimethoprim - dfrA1, dfrA14, dfrA15, dfrA17. Determinants of Salmonella enterica resistance: - to penicillins, cephalosporins – TEM-1, CTX-M-14, - to macrolides, lincosamides – mphA, - to fluoroquinolones – qnrB6, qnrB19, qnrE1, mutations in gyrA (S83L, D87N, D87Y), - to tetracyclines – tetA,

AMR (true)	Studies on antimicrobial resistance of zoonotic agents	tetB, tetD, - to aminoglycosides – aadA1, aadA2, aadA16, strA/strB, aac(3),aac(6')-Ib-cr, - to phenicols - catA2, floR, - to sulfonamides - sul1, sul2, - to trimethoprim - dfrA12, dfrA14, dfrA25, dfrA27. Determinants of Enterococcus spp resistance: - to penicillins, cephalosporins – mutations in pbp5, - to macrolides, lincosamides – ermAB, msrC, lsaA, - to fluoroquinolones – mutations in gyrA (E87G), parC (S80I), - to tetracyclines – tetM, tetL, - to aminoglycosides – ant(6), aac(6), ant(9), aac(6)-aph(2), - to phenicols – cat, fexA, optrA, - to sulfonamides – - to trimethoprim –. Identification of resistance genes in metagenomic samples from environmental objects (swabs from cells, walls, equipment; fecal samples, bedding, etc.), without the stage of bacterial isolate selection using previously developed methods based on real-time PCR – more than 1,750 studies. More than 100 Enterobacteriaceae isolates were analyzed by Sanger sequencing for mutations in the gyrA DNA gyrase gene, which confer resistance to fluoroquinolones. The most common substitutions are found at positions 83 (S83L) and 87 (D87N, D87Y). As a result of the work carried out on the selection and optimization of lyophilization modes, the average preservation rate of antibacterial drug concentrations in the wells of the plates has been increased from 20.0% to 70.4% without the addition of lyoprotectors. A research plan has been developed and optimized for inclusion in the veterinary monitoring program for antibiotic resistance of 15 classes of drugs for lyophilization in plate wells with the aim of selecting the optimal composition of the mixture protecting ABPs from degradation and subsequent determination of their stability using a microbiological method of microdilutions in broth and HPLC-MS. The developed scheme made it possible to conduct research on a universal model, allowing both the introduction of additional necessary lyoprotectors and the exclusion of ineffective ones, as well as predicting the feasibility of using additional components. The scientifically based composition of the universal lyoprotector for all ABPs from 15 classes included in the veterinary monitoring program for antibiotic resistance ensures the preservation of drug activity at a level of 90.0-100.0% of the initial level. Test tablets are stored for the purpose of determining the expiration dates and optimal microenvironment conditions. Development of a bacteriophage preparation for the treatment and prevention of salmonellosis in piglets. The objective of the work is to develop an effective alternative to antibacterial medicinal products — a bacteriophage-based preparation for the treatment and prevention of salmonellosis in piglets. The medicianal product is based on selected bacteriophages that are active against the main causative agents of salmonellosis in piglets - S. typhimurium and S. choleraesuis. The composition uses several strains of phages with mutually overlapping lytic spectra, active against one pathogen, which significantly reduces the likelihood of phage-resistant bacteria appearing

		when using the drug. The preventative and therapeutic efficacy of the bacteriophage was proven during the development stage of the drug in experiments studying the distribution and persistence of phages in organs when infecting laboratory and target animals and during preclinical trials in pig farms.

TOR 3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main fucus area for which you were designated

Proposal title	Scope/Content	Applicable Area
A Joint Actions Package by the CIS Member States	VGNKI has developed and submitted for approval to the Intergovernmental Council for Cooperation in Veterinary Medicine a Joint Actions Package by the CIS Member States to Prevent and Combat Brucellosis for the Period up to 2032.	Laboratory Expertise
Methodological recommendations	Methodological recommendations "Organization and monitoring of antibiotic resistance of zoonotic disease pathogens" have been prepared, approved and recommended for publication by the Scientific and Technical Council of the Ministry of Agriculture of Russia (Minutes No. 29a dated September 15, 2025) and are intended for use by specialists of the State Veterinary Service of the Russian Federation.	Laboratory Expertise
Methodological recommendations	Recommendations have been developed on the use of molecular genetic methods in veterinary monitoring of antibiotic resistance.	Laboratory Expertise
Patent	An application for the patent "Symbiotic consortium containing strains of Lacticaseibacillus rhamnosus VKShM-b-24PD and Lactiplantibacillus plantarum VKShM-G-06PD" has been filed (application No. 20251235541 dated August 26, 2025).	Veterinary Products

3. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

No

4. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Federal Centre for Animal Health (FGBI ARRIAH)	Russia	Europa	Quality assurance of vaccines for animal diseases, eligible for export.
Federal Centre for Animal Health (FGBI ARRIAH) + Branch for the freshwater fisheries of the Federal State Budget		Europa	Preclinical and clinical trials of

Scientific Institution "Russian Federal Research Institute of Fisheries and oceanography"	Russia		vaccines for fish diseases.
National Research Center "Kurchatov Institute"	Russia	Europa	Laboratory control of vaccines with the use of reference attenuated strain of Brucella abortus
Institute of Antimicrobial Chemotherapy (IAC) of the "Smolensk State Medical University" of the Ministry of Health of the Russian Federation	Russia	Europa	Interdepartmental cooperation with the Institute of Antimicrobial Chemotherapy (IAC) within the framework of the implementation of the national strategy for preventing the spread of antibiotic resistance in the Russian Federation.

TOR 4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
UN FAO Rome, Italy	Rome, Italy	Europe	Establishing monitoring activities for safety and quality of domestic and foreign veterinary medicinal products on the territory of the Russian Federation and within the framework of the "Regional Laboratory Network on Antimicrobial Resistance in food and agriculture in Eastern Europe, Transcaucasia and Central Asia countries".

TOR 6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAH?

Yes

Name of expert	Kind of consultancy	Subject
S.P. Yatsentyuk	Special group of experts on revising the register of diagnostic kits and assessing the cost and feasibility of creating a new system for registering such diagnostic kits.	Diagnostic kits, bacteriology, PCR

TOR 7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

Yes

To ensure the quality of domestically-produced vaccines (produced by ARRIAH) intended for export, VGNKI provides testings on safety and quality (test parameters: immunogenicity, sterility, activity, safety for animal health). This service is requested by ARRIAH and is provided on a conntract base.

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAH, to personnel from WOAH Members?

Yes

a) Technical visit : 0

b) Seminars : 0

c) Hands-on training courses: 3

d) Internships (>1 month) : 0

Type of technical training provided (a, b, c or d)	Content	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
C	Preparation of nutrient media. Methods and procedures for quality control of nutrient media	Republic of Belarus	1
C	PCR diagnostics of infectious animal diseases	Republic of Belarus	2

TOR 8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOAH?

Yes

National/International	Title of event	Co-organiser	Date	Location	No. Participants
Internationally	International Scientific and Practical Conference "Formation of a Common Policy to Combat Antibiotic Resistance in Zoonotic Disease Pathogens"	-	2025-12-10	Moscow, Russia	55

TOR 9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAH that may be useful to Members of WOAH

a) Articles published in peer-reviewed journals:

9

1. Bezborodova N.A., Poryvaeva A.P., Shilova E.N., Kozhukhovskaya V.V., Sokolova O.V., Yatsentyuk S.P.
Assessment of the effectiveness of vaccines against clostridiosis in cattle, taking into account the dominant anaerobic pathogens in the Sverdlovsk region/
Veterinaria Kubani. 2025. No. 1. pp. 4-7.
2. Krasnikova M.S., Bryusova M.B., Kozlova A.D., Gorbacheva N.S., Dolinskaya K.G., Lozovaya E.A., Yatsentyuk S.P.
Method for detecting Pangasius genetic material using real-time PCR and its potential use for monitoring fish products/
Veterinary Medicine, Animal Husbandry, and Biotechnology. 2025. No. 5. pp. 202505109.
3. Identification and detection of salmon roe adulteration using PCR, IR spectroscopy, and digital colorimetry
Amelin V.G., Emelyanov O.E., Tretyakov A.V., Gergel M.A., Zaitseva E. V.
Journal of Analytical Chemistry. 2025. Vol. 80. No. 4. pp. 772-783.
4. Mass spectrometry as a tool for ensuring food safety: practical aspects of application based on the example of the work of VGNKI

Tretyakov A.V., Lavrukhina O.I., Kish L.K., Nekrasov D.Yu., Batov I.V., Ispiryan A.Z., Lebedev A.M., Makarov D.A., Kozeicheva E.S., Gergel M.A.
Journal of Analytical Chemistry. 2025. Vol. 80. No. 2. pp. 125-139.
5. Dynamics of the spread of antibiotic resistance in Escherichia coli isolated from productive animals between 2017 and 2025.
Ivanova O.E., Blumenthal D.A., Makarov D.A., Krylova E.V., Timofeeva I.A., Borunova S.M.
Veterinary Medicine, Animal Husbandry, and Biotechnology. – 2025. – No. 11. – Vol. 3
6. The influence of methodological decisions on the results of metagenomic sequencing of bacterial communities/ O.V. Prasolova. International Veterinary Bulletin. 2025 - No. 3 - pp. 563-568
DOI:10.52419/issn2072-2419.2025.3.563
7. Biological properties and genetic characteristics of Ornithobacterium rhinotracheale in vivo and in vitro
Motorygin A.V., Lenyov S.V., Pirozhkov M.K., Prasolova O.V., Abrosimova N.S., Babicheva O.V., Rusanov I.A., Litvinov N.A., Putintseva A.V., Kirsanova N.A.
International Veterinary Bulletin. 2025 - No. 2 - pp. 75-84. DOI:10.52419/issn2072-2419.2025.2.75
8. Methods for determining the sensitivity of zoonotic bacteria to antibiotics
Makarov D.A., Pyrsikov A.S., Ivanova O.E., Blumenthal D.A., Borunova S.M., Komarov A.A., Semyonova E.S.
Veterinary Medicine, Animal Husbandry, and Biotechnology. – 2025. – No. 2. – pp. 107–122. DOI: 10.36871/vet.zoo.bio.202502112
9. Bondarenko V.O., Muravyova V.B., Soboleva N.I., Makhlis O.A., Likhikh T.N., Vorobyova I.A., Kolyachkina S.V. Determination of flavophospholipol in various media by agar diffusion and HPLC methods // Russian Journal "Problems of Veterinary Sanitation, Hygiene and Ecology". 2025. No. 1 (53). pp. 102–109. DOI: 10.36871/vet.san.hyg.ecol.202501013 EDN: DFQDTQ

b) International conferences:
20
1. Kozlova A.D., Krasnikova M.S., Bryusova M.B., Dolinskaya K.G., Yatsentyuk S.P. Identification of strains included in vaccine preparations for the prevention of infectious bronchitis in chickens using real-time PCR. 2025. Proceedings of the XII International Scientific and Practical Conference "Molecular Diagnostics" pp. 320-322.
2. Krasnikova M.S., Dolinskaya K.G., Yatsentyuk S.P. Study of genetic material from wild saigas and dzerenes for the presence of DNA from bacteria that cause infectious diseases. 2025. Proceedings of the XII International Scientific and Practical Conference "Molecular Diagnostics" pp. 353-354.
3. Peshkov D.G., Kozlova A.D., Yatsentyuk S.P.
Method for identifying and differentiating serotypes 2, 5, 6, and 8 of Actinobacillus pleuropneumoniae based on real-time PCR. 2025 Proceedings of the XII International Scientific and Practical Conference "Molecular Diagnostics" pp. 339-340.
4. Kozlova A.D., Peshkov D.G., Yatsentyuk S.P.
Development of a method for detecting the causative agent of swine pleuropneumonia Actinobacillus pleuropneumoniae serotypes 5, 6, and 8
In the collection: Problems and ways of development of veterinary and zootechnical sciences. Materials of the International scientific and practical conference of professors, teachers, postgraduate students, young scientists and students, dedicated to the 100th anniversary of the birth of Ivan Ivanovich Tarasov, Honored Scientist of the USSR, Doctor of Veterinary Sciences, Professor of the Department of Animal Diseases and Veterinary and Sanitary Expertise at the Saratov State University of Genetics, Biotechnology and Engineering named after N.I. Vavilov. Saratov, 2025. pp. 341-346.
5. Yatsentyuk S.P., Gorbacheva N.S., Bryusova M.B.
Control of vaccine contamination using the PCR method
In the collection of materials from the international scientific and practical conference dedicated to the 95th anniversary of the Ural Scientific Research Veterinary Institute, Yekaterinburg, 2025, pp. 97-104
6. Kozlova A.D., Krasnikova M.S., Bryusova M.B., Dolinskaya K.G., Yatsentyuk S.P. Identification of strains of infectious bronchitis virus in chickens in immunobiological preparations using the PCR-RB method. In: Proceedings of the International Scientific and Practical Conference "Biotechnology: Scientific Research and Links to Production." Losino-Petrovsky, 2025. pp. 171-175.
7. Shchekoldina A.A., Pimenov N.V., Yatsentyuk S.P. Current status of diagnosis and epizootological monitoring of nephritis in chickens
In: Proceedings of the international scientific and practical conference "Biotechnology: scientific research and links with production." Losino-Petrovsky, 2025. pp. 30-34
8. Problems and prospects for controlling the safety of hunting products in the Russian Federation
Zhikhareva S.V., Gergel M.A.
Biological and veterinary aspects of wildlife conservation and treatment: proceedings of the International Scientific and Practical Conference at Primorsky State Agricultural University (November 7, 2025). –Primorsky State Agricultural University – Ussuriysk, 2025. – pp. 191.
9. The role of bioinformatic analysis in the development of PCR test systems for the detection of bacterial pathogens in animals
Bogomazova A.N., Krylova E.V., Soltynskaya I.V.
Molecular Diagnostics. Collection of works / coll. auth. Moscow: AO "Science Media Projects," 2025. – pp. 628 pp. 325-327
10. Molecular genetic characteristics of B. abortus strains used for the production of specific prophylactic agents for cattle and small ruminants
Prasolova O.V., Sklyarov O.D., Bogomazova A.N., Gordeeva V.D., Timofeeva I.A., Soltynskaya I.V.
Molecular diagnostics. Collection of works / coll. auth. Moscow: AO "Science Media Projects," 2025. – pp. 628 pp. 341-342.
11. Development of a microplate-based system for determining the sensitivity of zoonotic pathogens to antibiotics
Pyrskikov A.S., Ivanova O.E., Makarov D.A., Blumenkrants D.A.
Abstracts of the XXVII International Congress of IACMAC on Antimicrobial Therapy and Clinical Microbiology. May 28-30, 2025. CMAC. 2025. Vol. 27. Appendix 1, pp. 50-51.
12. Identification of mutations in the DNA gyrase gyrA gene that confer resistance to fluoroquinolones in bacteria of the Enterobacteriaceae family
Timofeeva I.A., Kirsanova N.A., Tityunova S.V., Osipova Yu.A., Soltynskaya I.V., Krylova E.V.
Abstracts of the XXVII International Congress of IACMAC on Antimicrobial Therapy and Clinical Microbiology. May 28-30, 2025. CMAC. 2025. Vol. 27. Appendix 1, pp.. 57.
13. The selection of target genes for detection of plant impurities in feeds
Kirsanova N.A., Bogomazova A.N., Pirsikov A.S.
Abstracts VIII International scientific conference «Plant genetics, genomics, bioinformatics & biotechnology», (PlantGen 2025) -Novosibirsk, Russia. – 2025. – pp. 257. DOI:

10.18699/PlantGen2025-Abstracts.
14. "Measures to curb antimicrobial resistance," Ivanova O.E., "Food Safety and Joint Efforts to Reduce Antimicrobial Resistance" as part of the project "Reducing the Spread of Antimicrobial Resistance in the Agricultural Sector" under the auspices of FAO, Kyrgyzstan, Bishkek, September 9-10, 2025.
15. Improving the diagnosis of antibiotic-resistant zoonotic pathogens and alternative approaches to their prevention, Ivanova O.E., Round table as part of World Antimicrobial Awareness Week (jointly with FAO, WHO, WOAH, UNEP), Moscow, November 18, 2025.
16. Improving the diagnosis of antibiotic-resistant zoonotic pathogens and alternative means of prevention in the fight against them, Ivanova O.E., Scientific and Practical Conference "Dyatlov Hills/Nizhny Novgorod 2025" on particularly dangerous animal infections in Nizhny Novgorod, November 19, 2025;
17. Development of a microplate system for determining the minimum inhibitory concentration of antibiotics used in veterinary medicine, A.S. Pyrsikov, XII International Conference of Young Scientists: Bioinformaticians, Biotechnologists, Biophysicists, Virologists, Molecular Biologists, and Specialists in Fundamental Medicine, Novosibirsk, November 2025.
18. Formation of a common policy to combat antibiotic resistance in zoonotic disease pathogens, Ivanova O.E., First International Forum "Veterinary Safety," at the Timiryazev Center in Moscow, November 27, 2025.
19. Formation of a common policy to combat antibiotic resistance in zoonotic disease pathogens, Ivanova O.E., international scientific and practical conference "Formation of a common policy to combat antibiotic resistance in zoonotic disease pathogens," (Moscow, VGNKI, December 10, 2025).
20. A new type of silver nanoparticle agglomerates induced by hydrophobic interaction in the practice of GKR Khrushchev A.Yu., Gulyaeva A.Yu., Kis I.V., Tretyakov A.V. "Optical chemo- and biosensors" within the framework of the annual international conference Saratov Fall Meeting - September 29 - October 3, 2025, Saratov. - Saratov: Saratov Istochnik Publishing House, 2025. - 62 pp. - https://sfmconference.org/files/abstracts-of-the-papers-optical-chemo-and-biosensors.pdf?ysclid=mkdzyw4hza906807004

c) National conferences:
4
1. Improving the diagnosis of antibiotic-resistant zoonotic pathogens and alternative solutions for combating them
Ivanova O.E., Blumenthal D.A., Panin A.N., Pyrsikov A.S.
Food safety and joint efforts to reduce antimicrobial resistance: collection of abstracts from the II Conference with international participation (Moscow, November 20-21, 2025) / edited by Academician of the Russian Academy of Sciences V.G. Akimkin. Moscow: Federal Budgetary Institution Central Research Institute of Epidemiology of Rospotrebnadzor, 2025. 51 pp. – pp. 17–18.
2. Development of a microplate system for determining the minimum inhibitory concentration of antibiotics used in veterinary medicine
Pyrskikov A.S., Ivanova O.E., Makarov D.A., Blumenthal D.A.
XII International Conference of Young Scientists: Bioinformaticians, Biotechnologists, Biophysicists, Virologists, Molecular Biologists, and Specialists in Fundamental Medicine — 2025: Collection of Abstracts / ANO "Koltsovo Innovation Center." — Novosibirsk: IPC NSU, 2025. 776 pp. – pp. 240-241. DOI: 10.25205/978-5-4437-1843-9-119
3. Molecular genetic studies on the carriage of mutations responsible for the development of progressive retinal atrophy in dogs and cats
Osipova Yu.A., Kirsanova N.A., Timofeeva I.A., Krylova E.V.
Proceedings of the First National (All-Russian) Interdisciplinary Scientific and Practical Conference "Genetics in Agricultural Sciences and Practice," 2025. – pp. 79–83.
4. ASSESSMENT OF THE CONTENT OF POLYMER MICROPARTICLES IN ORGANS AND TISSUES OF POULTRY BY THE METHOD OF RAMAN SPECTROSCOPY IN SIMULATION OF AN IN VIVO EXPERIMENT Khrushchev A.Yu., Tretyakov A.V., Konovalova G.V., Lavrukhina O.I., Yaroslavov A.A., Tokar V.V. ISBN 978-908015-36-3, Abstracts of reports in the conference proceedings "Microplastics as the newest toxicant of vertebrates", pp. 55-56

d) Other (Provide website address or link to appropriate information):
1
1. Results of veterinary monitoring of antibiotic resistance in pathogens causing zoonotic diseases in animals, Ivanova O.E., Blitz News from VNIMI (Moscow, June 27, 2025), https://rutube.ru/video/37ab7ec8c47f489426adf970f556a4c2/?r=wd).

11. What have you done in the past year to advance your area of focus, e.g. updated technology?
Development of a vaccine against infectious pancreatic necrosis, furunculosis, vibriosis, cold-water vibriosis, and winter ulcer disease in salmonids.
The objective of the work is to select the optimal bacterial strains for inclusion in the vaccine and to develop methods for monitoring the vaccine's effectiveness against salmonid diseases in target fish species and laboratory models.
Based on the results of the work:
- epizootic and museum isolates were selected, from which bacterial and viral strains optimal for vaccine production and control were selected;
- infecting doses of control strains were determined for each fish species (salmon, trout);
- tests were conducted on a pilot batch of vaccines manufactured by the FGBI "ARRIAH" using the challenge infection method and determining antibody production in salmon and trout fry in laboratory and field conditions;
- alternative methods for evaluating vaccine activity on laboratory models were developed and tested.

Development of a vaccine against colibacillosis in animals.
The objective of the work is to create a new generation vaccine against colibacillosis in animals, based on adhesive antigens, thermolabile, thermostable, and verocytotoxins, with high antigenic and immunogenic activity and a broad spectrum of protective action.
Based on the results of selection from epizootic and museum isolates of Escherichia coli, four of the most active producers of adhesive antigens, thermolabile, thermostable, and verotoxins were selected as promising candidates for inclusion in the composition of the drug.

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The biological and molecular genetic properties of the selected E. coli strains were studied and their whole-genome sequencing was performed.
The technological scheme of production was tested under industrial conditions, the most effective method for obtaining adhesive antigens from the cell surface was determined, and pilot-industrial batches of the vaccine were manufactured.

12. Additional comments regarding your report:
In 2025, VGNKI signed a Scientific, Technical, and Practical Cooperation Agreement with Centro Nacional de Sanidad Agropecuaria (CENSA) of the Republic of Cuba. The agreement covers cooperation between the parties in the areas of quality control and standardization of veterinary drugs, feed and feed additives, and food safety.
In addition VGNKI and the State Scientific Center for Quality Control and Circulation of Veterinary Medicines and Feed Additives under the Committee for Veterinary and Livestock Development of the Republic of Uzbekistan are coordinating to sign a Scientific, Technical, and Practical Cooperation Agreement. The agreement shall cover cooperation between the parties in the areas of quality control and standardization of veterinary drugs, feed and feed additives, and food safety.
Preparatory work is still being conducted on signing agreements on scientific and technical cooperation with 2 research centers in China.