

WOAH Reference Laboratory Reports Activities 2024

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LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Enzootic bovine leukosis
*Address of laboratory:	Al. Partyzantow str. 57 24-100 Pulawy
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*E-mail address:	jkuzmak@piwet.pulawy.pl
Website:	www.piwet.pulawy.pl
*Name (including Title) of Head of Laboratory (Responsible Official):	Stanislaw Winiarczyk, DVM, PhD, Professor
*Name (including Title and Position) of WOAH Reference Expert:	Jacek Kuzmak, DVM, PhD, Professor
*Which of the following defines your laboratory? Check all that apply:	Governmental

TOR1: DIAGNOSTIC METHODS

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

Diagnostic Test	Indicated in WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
ELISA (blocking and screening format)	Yes	6982	0
Agar Gel Immunodiffusion Test	Yes	15	0
Direct diagnostic tests		Nationally	Internationally

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PCR nested and real time)	Yes	82	0
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TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOA?

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOA Members?

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOA Members?

No

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

No

7. Did your laboratory validate diagnostic methods according to WOA Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOA Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOA Members?

No

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOA Member?

Yes

Name of the WOA Member Country receiving a technical consultancy	Purpose	How the advice was provided
ESTONIA	Query regarding participation in PT	by e-mail
LATVIA	Query regarding participation in PT	by e-mail
TURKEY	Query about scientific opinion on ELISA kit for BLV infection	by e-mail
COLOMBIA	Query regarding BLV positive reference serum	by e-mail
UKRAINE	Query about validation of ELISA test for BLV infection	by e-mail

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOA Members other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	WOAH Member Countries involved other than your country
Seroprevalence of bovine retroviruses (BLV, BIV and BFV) in dairy cattle in Pakistan	6 months	New epidemiological data on seroprevalence of infection with bovine retroviruses and possible impact of BIV and BFV on infection with BLV	Animal Quarantine Department, Peshawar, Pakistan	PAKISTAN
NGS sequencing of BLV strains circulation in dairy cattle in East Kazakhstan	10 months	Molecular epidemiology of infection with BLV in cattle in Kazakhstan	Kazakh Scientific Veterinary Research Institute, Almaty, Kazakhstan	KAZAKHSTAN

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

No

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

No

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

No

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

4

Pluta A., Jaworski, J.P., Droscha, C. et al. Inter-laboratory comparison of eleven quantitative or digital PCR assays for detection of proviral bovine leukemia virus in blood samples. *BMC Veterinary Research* 20, 381 (2024). <https://doi.org/10.1186/s12917-024-04228-z>

Pluta A., Rola-Łuszczak, M., Hoffmann, F. G., Donnik, I., Petropavlovskiy, M., Kuźmak, J. Genetic Variability of Bovine Leukemia Virus: Evidence of Dual Infection, Recombination and Quasi-Species. *Pathogens*, 13(2), 178. (2024) <https://doi.org/10.3390/pathogens13020178>

Szczotka M, Wasiak M, Kuźmak J. Extracellular vesicles in cattle infected with bovine leukaemia virus: isolation and molecular analysis. *J Vet. Res.* 2024 May 27;68(2):189-198. doi: 10.2478/jvetres-2024-0031. eCollection 2024 Jun.

Szczotka M, Kuźmak J. Cytokine secretion in stem cells of cattle infected with bovine leukaemia virus. *J. Vet. Res.* 2024 Mar 23;68(1):19-33. doi: 10.2478/jvetres-2024-0012. eCollection 2024 Mar.

b) International conferences:

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2

Rola-Łuszczak M, Ryło A, Woźniakowski G, Kuźmak J : Distribution of proviral DNA of bovine leukemia virus in blood and different tissues in asymptomatic BLV-infected cattle 21st Biennial International Conference on Human Retrovirology: HTLV and related viruses., HTLV2024; London, 2nd – 5th June 2024

Marzena Rola-Łuszczak, Anna Ryło, Saltanat Mamanova, Elvira Bashenova, Ewelina Iwan, Bhudipa Choudhury, Jacek Kuźmak : New insight into Bovine leukemia virus genotype G12 circulating in East Kazakhstan. 21st Biennial International Conference on Human Retrovirology: HTLV and related viruses., HTLV2024; London, 2nd – 5th June 2024

c) National conferences:

2

Ryło Anna, Rola-Łuszczak Marzena, Mamanova Saltanat, Kaimoldina Saira, Bashenova Elvira, Iwan Ewelina, Bomba Arkadiusz, Kuźmak Jacek. NGS-based analysis of a new G12 genotype of Bovine Leukemia Virus. XVII Congress of Polish Veterinary Society, Olsztyn, 19-21 09 2024.

Aneta Pluta, Joanna Kowalik, Wojciech Rożek, Małgorzata Kwaśnik, Jacek Kuźmak.
Confirmation of the transmissibility of enzootic bovine leukosis virus (BLV) via haematophagous cucmans in dairy herds in Poland. XVII Congress of Polish Veterinary Society, Olsztyn, 19-21 09 2024.

d) Other (Provide website address or link to appropriate information):

1

Current topics related to BLV infection. Lecture for veterinary surgeon, Pulawy, WCKP, 19 03, 2024

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOA H 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)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
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TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
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19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
ELISA, Agar Gel Immunodiffusion Test, PCR	PCA (Polish Accreditation Center) which is a part of ALAC

20. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

NVRI maintains functioning laboratory biological risk management system, which ensure that the laboratory is in compliance with applicable local, national and international standards and requirements for biosafety and laboratory biosecurity.,

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOAHP?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAHP?

No

TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOAHP Reference Laboratories designated for the same pathogen or disease?

Yes

24. Do you network (collaborate or share information) with other WOAHP Reference Laboratories designated for the same pathogen?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
Updating of WOAHP Manual, chapter corresponding to EBL	Exchange of information included in WOAHP Manual	2	WOAHP Reference Laboratory for EBL at APHA, Weybridge, UK

25. Did you organise or participate in inter-laboratory proficiency tests with WOAHP Reference Laboratories designated for the same pathogen during the past 2 years?

No

no applicable

26. Did your laboratory collaborate with other WOAHP Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Yes

Title of the project or contract	Scope	Name(s) of relevant WOAHP Reference Laboratories
Enzootic bovine leukosis: OIE Laboratory Twinning Program between Poland and	To build capacity of KazSRVI to be able to provide key elements of a WOAHP Reference	WOAHP Reference Laboratory for Enzootic

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Kazakhstan with the collaboration of the
United Kingdom

Laboratory mandated in respect to EBL

Bovine Leukosis at APHA, Weybridge, UK

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAHA Reference Laboratories for the same pathogen during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
Detection of BLV antibody in serum samples by ELISA and AGID tests	Organizer and provider of serum samples	22	ELISA, AGID	BOSNIA AND HERZEGOVINA, CROATIA, ESTONIA, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, KAZAKHSTAN, LATVIA, LITHUANIA, MOLDOVA, SLOVAKIA, SPAIN, TURKEY,

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOAHA?

No

29. Additional comments regarding your report:

No