

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 10 juin 2024 12:55

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
Tel.:	+48-81 889.31.14
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, Director General of NVRI
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	
		Nationally	Internationally
Indirect diagnostic tests			
ELISA (blocking and screening format)		723	0
Agar Gel Immunodiffusion Test (AGID)		33	0
Direct diagnostic tests			
PCR (nested PCR and real-time PCR)		36	0

TOR2: REFERENCE MATERIAL

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

No

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

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH 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 WOAHS 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 WOAHS Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

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

Yes

NAME OF THE WOAHS MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
BOSNIA AND HERZEGOVINA	Query regarding participation in PT	By e-mail
SPAIN	Query on preservation of milk samples for serological testing by ELISA	By e-mail
SPAIN	Query regarding participation in PT	By e-mail
UNITED STATES OF AMERICA	Query regarding BLV positive reference serum	By e-mail

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAHS MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
Circulation of BLV genotypes in dairy cattle from East Kazakhstan	12 months	Identification of new genotypes of BLV	Kazah Scientific Research Veterinary Institute, Almaty Kazakhstan	KAZAKHSTAN
Prevalence of bovine retroviruses (BIV, BLV, BFV) and herpesviruses (BHV1, BHV4, BHV6) in dairy cattle from Pakistan	12 months	Estimation of seroprevalence of infection with retro and herpesviruses in cattle from Pakistan	Animal Quarantine Department, Peshawar, Pakistan	PAKISTAN
Molecular Epidemiology of Bovine Leukosis Virus in Pakistan	24 months	Preparation of PhD thesis by dr Ali Sakhawat.	COMSATS University Islamabad	PAKISTAN

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

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:

1

Pluta A, Taxis TM, van der Meer F, Shrestha S, Qualley D, Coussens P, Rola-Luszczak M, Rylo A, Sakhawat A, Mamanova S, Kuźmak J. An immunoinformatics study reveals a new BoLA-DR-restricted CD4+ T cell epitopes on the Gag protein of bovine leukemia virus. *Scientific Report*, 2023 Dec 15;13(1):22356. doi: 10.1038/s41598-023-48899-4.

b) International conferences:

5

1. Cytokine secretion in hematopoietic stem cells CD34+ of cattle infected with bovine leukemia virus (BLV). Authors: Szczotka M. 15th Annual Meeting of EPIZONE, Novi Sad, Serbia, 26-28.04.2023

2. Impact of naturally occurring mutations in regulatory elements of BLV on viral replication and transcription activities. Authors: Pluta A. The International All Things Bovine Leukemia Virus Conference, Lansing, US, 8-10.11.2023

3. Inter-laboratory comparison of ten different quantitative and digital PCR assays for detection of proviral bovine leukemia virus in peripheral blood mononuclear cells. Authors: Pluta A., Kendrick T., Kuzmak J. 8th European Congress of Virology, Gdansk, Poland, 4-6.05, 2023

4. Functional relevance of naturally occurring mutations in bovine leukemia virus-encoded micro RNAs. Authors: Pluta A., Skovgaard K., Kuzmak J. 8th European Congress of Virology, Gdansk, Poland, 4-6.05, 2023

5. Deep sequencing reveals compartmentalization of bovine leukemia virus proviral variants in peripheral blood leukocytes and lymphoid tissues in cattle from Poland. Authors: Rola-Łuszczak M., Iwan E., Bomba A., Rylo A., Kuzmak J. 8th European Congress of Virology, Gdansk, Poland, 4-6.05, 2023

c) National conferences:

1

Lecture on „Current issues of diagnosis of infection with bovine leukemia virus in cattle in Poland”. Conference for regional veterinary laboratories, NVRI, Pulawy 06.12. 2023

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

1

Lecture on " Control of EBL in Poland", Seminar for veterinary inspectors, NVRI, Pulawy, September 13, 2023

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAHA Members?

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
PN-ENISOAS/IEC 17025:2018-2	pdf	certyfikat.pdf
PN-ENIOS/IEC 17025:2018-2	pdf	AB 1090-13.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
ELISA and AGID (Agar Gel Immunodiffusion Test)	PCA (Polish Accreditation Center)

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

Yes

NVRI maintains a complete and functioning laboratory biological risk management system, which ensures that the laboratory is in compliance with applicable 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 WOAHA?

No

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

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
Enzootic Bovine Leukosis	Partner	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?

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS/ ORGANISING WOAHP REF. LAB.
Validation of real time PCR for detection of proviral DNA of BLV	Reference Laboratory at NVRI prepared the DNA samples	Two	WOAHP Ref Lab for EBL at APHA

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 Kazakhstan with the participation of the United Kingdom	To build capacity of KazSRVI to be able to provide key elements of a WOAHP Reference Laboratory mandated in respect to EBL	WOAHP Reference Laboratory for Enzootic 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 WOAHP Reference Laboratories for the same pathogen?

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the Test	WOAHP Member Countries
Detection of BLV antibodies in serum by ELISA and AGID	Organizer and provider of serum samples	19	ELISA and AGID	BOSNIA AND HERZEGOVINA, CROATIA, ESTONIA, FINLAND, FRANCE, GREECE, HUNGARY, LATVIA, LITHUANIA, MOLDOVA, SLOVAKIA, SPAIN, TURKEY, UKRAINE,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No