OIE Reference Laboratory Reports Activities

Activities in 2021

This report has been submitted : 2022-01-18 06:24:26

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Enzootic bovine leukosis
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Name (including Title) of Head of Laboratory (Responsible Official):	Krzysztof Niemczuk, DVM, PhD, Professor, Director General of NVRI
Name (including Title and Position) of OIE Reference Expert:	Jacek Kuzmak, DVM, PhD, Professor, Head of Department of Biochemistry of NVRI
Which of the following defines your laboratory? Check all that apply:	Governmental

ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards

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 OIE Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
ELISA (blocking or screening format)	Yes	709	0
Direct diagnostic tests		Nationally	Internationally
PCR(nested PCR, real-time PCR)	Yes	39	0

ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards.
To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.

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

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
SPAIN	August	0	16

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

Yes

Name of the OIE Member Country receiving a technical consultancy	Purpose	How the advice was provided
SWEDEN	Query regarding BLV positive reference serum	By email
EGYPT	Query regarding BLV positive reference serum	By email
KAZAKHSTAN	BLV serology diagnostics	By email

ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
Molecular analysis of bovine leukemia virus circulating in cattle from Kazahstan	3 months	Sequence analysis of env gene of 41 BLV isolates	Kazah Scientific Research Veterinary Institute, Almaty	KAZAKHSTAN
Analysis of genetic diversity and molecular epidemiology of bovine leukemia virus in Pakistan	1 month	Preparation of scientific project	University of Veterinary and Animal Science, Lahore	PAKISTAN

ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:
119 DNA samples, collected from cattle from Kazahstan, were tested by qPCR and nested PCR for provirus detection. In addition, 41 of them were sequenced and subjected to phylogenetic analysis.

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:
Yes, via peer-reviewed international journals

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

a) Articles published in peer-reviewed journals: 3
Sakhawat A., Rola-Łuszczak M., Osiński Z., Bibi N., Kuźmak J. Bayesian Estimation of the True Seroprevalence and Risk Factor Analysis of Bovine Leukemia Virus Infection in Pakistan. Animals (Basel) 2021 May 14;11(5):1404. doi: 10.3390/ani11051404.

Rola-Łuszczak M., Sakhawat A., Pluta A.,Ryło A., Bomba A.,Bibi N., Kuzmak J. Molecular characterization of the env Gene of Bovine Leukemia Virus in Cattle from Pakistan with NGS-Based Evidence of Virus Heterogeneity. Pathogens 2021, 19;10(7):910. doi: 10.3390/pathogens10070910.

Pluta A., Blazhko N., Ngirande C., Joris T., Willems L., Kuźmak J Analysis of Nucleotide Sequence of Tax, miRNA and LTR of Bovine Leukemia Virus in Cattle with Different Levels of Persistent Lymphocytosis in Russia. Pathogens, 2021 Feb 20;10(2):246. doi: 10.3390/pathogens10020246.

b) International conferences: 0

c) National conferences: 2
Rola-Łuszczak M., Iwan E., Bomba A., Kuźmak J. Diversity of bovine leukemia virus field isolated collected from cattle in Poland by the use of next generation sequencing. XVI Congress Polish Veterinary Society, Warsaw, 26-27 November, 2021

Szczotka M., Kuźmak J. Secretion of cytokines by stem cells of cattle naturally infected with bovine leukemia virus. XVI Congress Polish Veterinary Society, Warsaw, 26-27 November, 2021

d) Other:
(Provide website address or link to appropriate information) 1
Lecture on " Current status of EBL control in Poland", Seminar for veterinary inspectors, NVRI, Pulawy, 17 September, 2021

ToR 7: To provide scientific and technical training for personnel from OIE Member Countries
To recommend the prescribed and alternative tests or vaccines as OIE Standards

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

No

ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned

15. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
PN-ENISO/IEC 17025:2018-02	certyfikat nr AB 1090.pdf
PN-EN ISO/IEC 17025:2018-02	scope of accreditation nr AB 1090.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
ELISA, AGID	PCA (Polish Accreditation Center) whicj is a part of ALAC

17. Does your laboratory maintain a “biorisk management system” for the pathogen and the disease concerned?

No

(See Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4)

ToR 9: To organise and participate in scientific meetings on behalf of the OIE

18. Did your laboratory organise scientific meetings on behalf of the OIE?

No

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

No

ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results

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

Yes

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

No

22. Did your laboratory collaborate with other OIE 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 OIE Reference Laboratories
Enzootic bovine leukosis: OIE Laboratory Twinning Program between Poland and Kazahstan with the collaboration of the United Kingdom	To build the capacity of KazSRVI to be able to provide key elements of an OIE Reference Laboratory mandated in respect to EBL	OIE Reference Laboratory for Enzootic Bovine Leukosis - APHA Weybridge, UK

ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

Yes

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at: http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing see point 1.3

Purpose for inter-laboratory test comparisons[1]	No. participating laboratories	Region(s) of participating OIE Member Countries
BLV antobody detection in serum samples by ELISA and AGID	19	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East

ToR 12: To place expert consultants at the disposal of the OIE

24. Did your laboratory place expert consultants at the disposal of the OIE?

No

25. Additional comments regarding your report:

Reference laboratory supported the preparation of doctoral thesis "Prevalence of enzootic bovine leukosis in three upcountry commercial dairy farms in Sri Lanka" of dr Kalaichelvan Nizanantha from University of Peradenya University, Sri Lanka. Professor Jacek Kuzmak was co-supervisor for this thesis.