

WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 9 mars 2023 15:47

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Bovine viral diarrhoea
Address of laboratory:	Friedrich-Loeffler-Institut, Federal Research Institute for Animal Health, Südufer 10, 17493 Greifswald – Insel Riems, GERMANY
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Website:	https://www.fli.de/en/startpage/
Name (including Title) of Head of Laboratory (Responsible Official):	PD Dr. Kerstin Wernike (head of laboratory)
Name (including Title and Position) of WOAH Reference Expert:	PD Dr. Kerstin Wernike (head of laboratory)
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
Antibody ELISA	YES	10904	
Serum neutralisation (BVD)	YES	6	

Direct diagnostic tests		Nationally	Internationally
Virus isolation	YES	37	
BVDV antigen ELISA	YES	477	
RT-PCR	YES	1317	

TOR2: REFERENCE MATERIAL

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

No

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

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOA?H MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
Antibody positive and negative sera	Antibody ELISA, SNT	Produced and provided	13ml	4ml	2	Europe
Antibody positive and negative milk samples	Antibody ELISA	Provided	10ml		1	Europe
RNA	RT-PCR	Produced and provided	3.3ml	6.6ml	3	Europe
BVDV positive sera	RT-PCR, Antigen-ELISA, virus isolation	Provided		5ml	1	Europe
BVDV positive tissue	RT-PCR, Antigen-ELISA	Provided	30mg	150mg	2	Europe
Reference virus	RT-PCR, virus isolation, SNT	Produced and provided		1ml	1	Europe

4. Did your laboratory produce vaccines?

No

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

No

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

Yes

NAME OF THE NEW VACCINE DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
	Description: chimeric vaccine based on Bungowannah virus (BuPV, species Pestivirus F) as backbone, where glycoproteins E1 and E2 of BuPV were

BuPV_dNpro_E1E2 CP7 (modified live or inactivated)

substituted by the heterologous E1 and E2 of the BVDV-1 strain CP7
 Reference: Koethe et al. 2022, Bungowannah pestivirus chimeras as novel
 double marker vaccine strategy against bovine viral diarrhoea virus, doi:
 10.3390/vaccines10010088

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?

No

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
AUSTRIA	diagnostic testing, cell culture	Email, phone
JORDAN	diagnostic testing	Email
AUSTRALIA	diagnostic testing	Email
SPAIN	diagnostic testing, test validation	Email, material transfer
FINLAND	proficiency testing schemes	Email
POLAND	proficiency testing schemes	Email

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

TOR6: EPIZOOLOGICAL DATA

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

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:

Institute of Epidemiology at the Friedrich-Loeffler-Institut is hosting the TSN disease notification system; annual statistics about BVD/MD cases in Germany based on data obtained from the cattle trade database (HI-Tier); genotyping of BVDV strains

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

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:

Annual statistics about BVD/MD cases in Germany is provided

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:

5

Bauermann, F. V., Wernike, K., Weber, M. N., Silveira, S. (2022). Editorial: Pestivirus: Epidemiology, evolution, biology and clinical features. *Front Vet Sci*, 9, 1025314. doi: 10.3389/fvets.2022.1025314

Koethe, S., König, P., Wernike, K., Schulz, J., Reimann, I., Beer, M. (2022). Bungowannah pestivirus chimeras as novel double marker vaccine strategy against bovine viral diarrhoea virus. *Vaccines (Basel)*, 10(1). doi: 10.3390/vaccines10010088

Wernike, K. (2022). Bovine viral diarrhoea/mucosal disease - A commentary of the guest editor. *Vaccines (Basel)*, 10(4). doi: 10.3390/vaccines10040590

Wernike, K., Beer, M. (2022). International proficiency trial for bovine viral diarrhoea virus (BVDV) antibody detection: limitations of milk serology. *BMC Vet Res*, 18(1), 168. doi: 10.1186/s12917-022-03265-w

Wernike, K., Fischer, L., Holsteg, M., Aebischer, A., Petrov, A., Marquart, K., Schotte, U., Schön, J., Hoffmann, D., Hechinger, S., Neubauer-Juric, A., Blicke, J., Mettenleiter, T. C., Beer, M. (2022). Serological screening in wild ruminants in Germany, 2021/22: No evidence of SARS-CoV-2, bluetongue virus or pestivirus spread but high seroprevalences against Schmallenberg virus. *Transbound Emerg Dis*. doi:10.1111/tbed.14600

b) International conferences:

0

c) National conferences:

1

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

1

<https://www.fli.de/en/publications/annual-animal-health-reports/>

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

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Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025	Akkreditierungsurkunde_2022.pdf	Akkreditierungsurkunde_2022.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
flexible accreditation: antibody ELISA and neutralisation test	Deutsche Akkreditierungsstelle GmbH (DAkkS)
flexible accreditation: virus isolation, antigen ELISA and RT-PCR	Deutsche Akkreditierungsstelle GmbH (DAkkS)

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

Yes

A management system that ensures safe and secure handling, storage, and transport of biological materials is in place. The specifications are laid down in operating instructions. The designated Biorisk Officer oversees the biorisk management of the institute and the observance of biosafety and -security regulations.

TOR9: SCIENTIFIC MEETINGS

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

No

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

No

TOR10: NETWORK WITH WOA REFERENCE LABORATORIES

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

Yes

24. Are you a member of a network of WOA Reference Laboratories designated for the same pathogen?

No

25. Did you organise or participate in inter-laboratory proficiency tests with WOA Reference Laboratories designated for the same pathogen?

No

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

No

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

No

TOR12: EXPERT CONSULTANTS

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

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
review of the chapter on Bunyaviral diseases of animals (excluding Rift Valley fever and Crimean-Congo haemorrhagic fever)	remote	updating of the chapter

29. Additional comments regarding your report:

Yes

The WOA reference laboratory is acting as test laboratory for test authorisation and batch release testing in Germany.

Meetings were cancelled or postponed due to the SARS-CoV-2 pandemic.