

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 12 juillet 2024 11:10

Laboratory Information

Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:	Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis
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Website:	www.fli.de
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Patricia König, Deputy Head of Laboratory; patricia.koenig@fli.de
Name (including Title and Position) of WOAHO Reference Expert:	Prof. Dr. Martin Beer
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 WOAHO Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
BHV-1 whole virus ELISA		289	30
BHV-1 gB blocking ELISA		504	60
BHV-1 gE blocking ELISA		296	60
BHV-1 bulk milk ELISA indirect		4	0
BHV-2 whole virus ELISA		19	15
Bo/BuHV-1 differentiating ELISA		24	0
Serum neutralisation test		104	111
Direct diagnostic tests			
Virus isolation in cell culture			
Virus isolation in cell culture		6	0
IFA		6	0
PCR		290	122

TOR2: REFERENCE MATERIAL

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

No

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

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOAHP MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
Milk samples	Milk Ab ELISA	0/30	30 mL	67 mL	2	FRANCE, SWITZERLAND,
Serum samples	Ab-ELISA, SNT	0/50	46 mL	88 mL	4	CANADA, FRANCE, HUNGARY, SWITZERLAND,
Meat juice samples	Ab-ELISA 0/4 86 samples	0/4	86 samples in MT-plate; 6 mL	0	0	GERMANY,
DNA	PCR, RFLP	0/15	2	0	0	GERMANY,
Virus stocks	VI, IFA; SNT, PCR	2/13	0	4 ampoules	2	CZECH REPUBLIC, SPAIN,

4. Did your laboratory produce vaccines?

No

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

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAHP MEMBER COUNTRY SEEKING ASSISTANCE	DATE	WHICH DIAGNOSTIC TEST USED	NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT	NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES
ITALY	2023-01-04	PCR, ELISA	12	0
IRAN	2023-02-06	PCR	35	0
IRAN	2023-02-26	PCR	63	0
BELGIUM	2023-05-05	ELISA, SNT	30	0
PORTUGAL	2023-10-10	PCR	12	0
PORTUGAL	2023-11-08	PCR	12	0

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

Yes

NAME OF THE WOAHP MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
CANADA	Comparison indirect and blocking ELISA	e-mail
CANADA	Virus detection and isolation from semen	e-mail, phone, provision of protocols
LATVIA	AHL and pool milk resp. tank milk, practical aspects of testing	e-mail
SPAIN	Role of interference of BoHV-2 and BoHV-4 in IBR diagnostics	e-mail
UNITED KINGDOM	Meat juice diagnostics	e-mail

CANADA	VI from semen	e-mail
CZECH REPUBLIC	Differential diagnostics of related herpesviruses	e-mail
THE NETHERLANDS	Phylogenetic analyses	e-mail
HUNGARY	gE Marker diagnostics	e-mail and support of reference material
AUSTRALIA	Real time PCR protocols for different bovine herpesviruses	e-mail, exchange of protocols
AUSTRIA	IBR diagnostics in water buffaloes	e-mail
BELGIUM	Serology of cross reactive ruminant herpesviruses	e-mail

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOAAH 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
Whole genome sequencing	Since 2020 - ongoing	Evaluate possibilities and limits of molecular epidemiology	Royal GD Devanter	THE NETHERLANDS

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

Yes

Research need : 1

Please type the Research need: Improvement of milk testing in marker vaccinated cattle

Relevance for WOAAH Disease Control,

Relevance for the Codes or Manual Manual,

Field Diagnostics,

Animal Category Terrestrial,

Disease:

Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis

Kind of disease (Zoonosis, Transboundary diseases) endemic and transboundary,

If any, please specify relevance for Codes or Manual, chapter and title

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

Answer:

Notes:

Answer:

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:

The Institute of Epidemiology is hosting the IBR notification in our national disease reporting system (TSN) at FLI and is also collecting data of diagnostic tests and the associated test results of all German federal states and is annually reporting to COM.

If possible, BHV-1 outbreaks are investigated and probable ways of introduction are analysed, especially in the international context of cattle movement.

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:

Online access: <https://tsn.fli.de/> and <https://tsis.fli.de/>

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:

0
not applicable

b) International conferences:

2
M. Beer: Pitfalls of BHV-1 eradication, 12th Symposium of cattle health and welfare, Stendal

R. Dijkman, Royal GD, Phylogenetic analysis of BoHV-1 from Dutch cattle in 1995-2020 reveals high genetic heterogeneity, ESVV, Ghent
able

c) National conferences:

1
P. König: Von BHV-1 bis RHDV: Aktuelles aus den Referenzlaboren (Report from the National Reference Laboratories), 41. Arbeits- und Fortbildungstagung der DVG-Fachgruppe AVID (Arbeitskreis für Veterinärmedizinische Infektionsdiagnostik)

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

3
<https://www.fli.de/de>
Tiergesundheitsjahresbericht 2022, Hrsg. Friedrich-Loeffler-Institut
<https://tsn.fli.de/> and <https://tsis.fli.de/>
Presence on social media:
Instagram, LinkedIn, X, Mastodon

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAH 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)	
ISO 17025	Akkreditierungsurkunde_2019.jpg	Akkreditierungsurkunde_2019.jpg

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Flexible accreditation: ELISA marker and conventional on blood and milk samples, SNT	ILAC MRA
Flexible accreditation: VI, IFA, NA extraction, PCR	ILAC MRA
Flexible accreditation: RFLP	ILAC MRA

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

Yes

FLI has a well established biorisk control system (BRO, biorisk committee) with standardised laboratory biosafety and hygiene instructions, access restriction, quarantine regulations, and waste control. Regular official control visits and documentation control are carried out by independent state control authorities.

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?

No

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.
Serology including DIVA serology: blood; Serology milk; Virus detection : VI, PCR	organiser	appr. 60 non WOAHP labs + 1 WOAHP RL	WOAHP RL for IBR / UK

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
WOAHP reference sera for BoHV-1	Generation of reference sera for IBR and validation according to WOAHP standards	APHA, Weybridge, UK
Detection of BoHV-1 in bovine semen	Generation of sample panels and establishment and updating of relevant DNA extraction and PCR methods	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
Serology including DIVA serology: blood; Serology milk; Virus detection : VI, PCR	organiser	60	ELISA, SNT, VI, PCR	GERMANY,
State of the proficiency test in 2023	2023: Invitation, registration and preparation of the sample panels DE, IT, ES, FR, HU, CZ, LT, FI, SW, XI, IR, AT, CH, HR, IN, TR, KZ	60	international IBR pt	GERMANY,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

The WOAH laboratory is in charge with licensing and batch control of commercial diagnostic tests in Germany (laboratory control of 31 ELISA batches and 1 ELISA system in licensing procedure in 2023).

Member of CEN/TC469 Animal Health/WG1 - Reagents and methods: Standardisation in the field of animal health: quality control of diagnostic reagents and performing diagnostic methods according to the specifications and requirements of WOAH, European Union regulations and recommendations of European Union Reference Laboratories (EURLs).

Role as national expert in evaluation of "Risk traffic light" for infectious diseases in cattle (University of Vechta). The risk analyses will also serve as a basis for international assessments and evaluations of risk factors.

Elaboration and publication of a concept for the future monitoring of the BHV-1 free status in Germany (FLI: IfE, IVD in collaboration with selected German state labs).