

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:	Infectious bovine rhinotracheitis
*Address of laboratory:	Südufer 10, 17493 Greifswald/ Insel Riems, Germany
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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 WOAH Reference Expert:	Prof. Dr. Martin Beer; martin.beer@fli.de
*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			
BHV-1 whole virus ELISA	Yes	123	2
BHV-1 gB blocking ELISA	Yes	263	426
BHV-1 gE blocking ELISA	Yes	227	288
BHV-1 bulk milk ELISA indirect	Yes	3	0
BHV-2 whole virus ELISA	No	5	1

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Bo/BuHV-1 differentiating ELISA	No	32	0
Serum neutralisation test	Yes	57	79
Direct diagnostic tests		Nationally	Internationally
Virus isolation in cell culture	Yes	85	0
IFA	Yes	15	0
PCR/ qPCR	Yes	394	0

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
milk	Milk Ab ELISA	0/30	33 ml	52ml	1	SWITZERLAND,
serum, (plasma)	Ab-ELISA , SNT	0/50	39ml	93ml	7	EGYPT, FRANCE, HUNGARY, INDIA, INDONESIA, SLOVENIA, SPAIN, SWITZERLAND,
meat juice	Ab-ELISA	0/4	4ml	-	1	GERMANY,
DNA	PCR, RFLP	0/15	0	-	1	GERMANY,
virus stock	VI, IFA ; SNT, PCR, NT sequencing	0/15	2	2	1	SPAIN,
cell culture	virus growth, virus isolation	0/3	1	-	1	GERMANY,

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?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
ab and genome detection in oral fluids	www.fli.de

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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
DENMARK	2024-03-15	ELISA, SNT	1	1
CANADA	2024-05-24	ELISA	115	0
CANADA	2024-09-24	VI, IFA ; SNT, PCR, NT sequencing	307	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
SWEDEN	real time PCR	E-mail, exchange of protocols
FINLAND	Ab test selection: blood, bulk milk	E-mail
HUNGARY	confirmatory ELISAs, use of SNT, possible cross-reaction	E-mail, reference material
BELGIUM	Discriminatory realtime PCR gB/gE	E-mail, exchange of protocols
SWEDEN	milk ELISAs	E-mail
CANADA	PCR, virus stock propagation	E-mail, exchange of protocols
ITALY	semen testing	E-mail: cooperation
BELGIUM	test licensing	E-mail
CANADA	differentiating SNT	video conference
NIGERIA	Ab ELISA diagnostics, genome detection	meeting, E-mail, transfer of consumables initiated
KAZAKHSTAN	cooperation in the field of BHV-1 and BVDV diagnostics; proficiency test	E-mail, phone
SWITZERLAND	meat juice diagnostics	E-mail

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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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
Evaluate modern techniques of virus detection in semen	2024-2025	adapt DNA extraction protocols from semen to modern diagnostic and technical development	Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche	ITALY
collaboration in the field of IBR and BVDV	start 2024	collaboration and development of standardised reference material	Kazakh Scientific Research Veterinary Institute, Almaty	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?

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

Germany, Austria, Switzerland

Risikobewertung für die Einschleppung von BHV-1

31. DACH Epidemiologie-Tagung 2024 4.-6.9.2024 Salzburg, Austria

J. Gethmann, P. König, M. Beer and C. Sauter-Louis

11. RDT, 21.-22.11.2024 Greifswald, Germany

Aktuelles aus der Diagnostik: News und Normen

P. König, M. Justiniano-Suarez und M. Beer

c) National conferences:

1

Risikofaktoren für die Einschleppung von BHV-1 in Rinderbestände

J. Gethmann, P. König, M. Beer and C. Sauter-Louis

DVG Vet-Congress, 30.10.-02.11.2024, Berlin, Germany

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

3

<https://www.fli.de/de>

Tiergesundheitsjahresbericht 2023, Hrsg. Friedrich-Loeffler-Institut

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

Presence on social media:

Instagram, LinkedIn, X, Twitter

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

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025	ISO 17025 Akkreditierungsurkunde_2019.jpg	Akkreditierungsurkunde_2019.jpg

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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?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
IBR	participant	2	WOAHP RL for IBR / UK; proceeding in production of new standard references; Twinning

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?

Yes

Purpose of the proficiency test:	Role of your Reference Laboratory (organiser/ participant)	No. participating Laboratories	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

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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?

Yes

Title of the project or contract	Scope	Name(s) of relevant WOA Reference Laboratories
WOAH reference sera for BoHV-1	Generation of reference sera for IBR and validation according to WOA standards	APHA , Weybridge, UK

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 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
Serology including DIVA serology: blood; Serology milk; Virus detection : VI, PCR	organiser Ger, IT, ES, FR, HU, CZ, LT, FI, SW, XI, IR, AT, CH, HR, IN, TR, KZ	61	ELISA , SNT, VI, PCR	GERMANY,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

The WOA laboratory is in charge with licensing and batch control of commercial diagnostic tests in Germany (laboratory control of 31 ELISA batches and control of modification of 1 ELISA system in 2024).

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 WOA, 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.

Preparation of manuscripts. data and presentation for control DG SANTE 2025-0118 - control - Cat B+C diseases: IBR und BVD

FLI: South American Camelids Project: Evaluation of viral and bacterial pathogens in South American camelids in Central Germany