

WOAH Reference Laboratory Reports Activities 2025

This report has been submitted: 10 mars 2026 14:45

LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Brucellosis (Brucella abortus, Brucella melitensis, Brucella suis)
*Address of laboratory:	Friedrich-Loeffler-Institut, Naumburger Strasse 96a, 07743 Jena, Germany
*Tel:	+49-3641 804 2100
*E-mail address:	heinrich.neubauer@fli.de
Website:	www.fli.de
*Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Falk Melzer
*Name (including Title and Position) of WOAH Reference Expert:	Prof. Dr. Heinrich Neubauer
*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			
RBT	Yes	85	0
CFT	Yes	122	15
ELISA	Yes	57	114
Direct diagnostic tests			
PCR	Yes	102	0
Maldi-Tof	Yes	16	0
Whole-Genome-Sequencing	Yes	31	27

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?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOAH Member Countries	Country of recipients
antigen	RBT	provided	-	100 ml	1	KUWAIT,

Heinrich Neubauer - - GERMANY

control sera	RBT, CFT, ELISA	procused and provided	21 ml	24 ml	1	KYRGYZSTAN,
control strains	isolation	procused and provided	33 cryo tubes	-	1	GERMANY,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAHA Members?

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 WOAHA Standards for the designated pathogen or disease?

No

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

9. Did your laboratory validate vaccines according to WOAHA Standards for the designated pathogen or disease?

TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

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

Yes

Research need : 1

Please type the Research need: antimicrobial resistance

Relevance for WOAHA Standard Setting,

Relevance for the Code or Manual

Field Therapeutics,

Animal Category Terrestrial,

Disease:

Brucellosis (Brucella melitensis)

Kind of disease (Zoonosis, Transboundary diseases) Zoonosis,

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

Heinrich Neubauer - - GERMANY

If the answer is yes, please provide details of the data collected:

Serological, phenotypic and molecular characterization of brucellosis in small ruminants in northern Algeria.

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:

Serological, phenotypic and molecular characterization of brucellosis in small ruminants in northern Algeria.

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:

3

Dematheis F, Papaparaskevas J, Matuschek E, Wahab T, Fröding I, Mori M, Fancello T, Jensen VK, Johansen TB, Solheim M, Melzer F, Elschner MC, Manzulli V, Galante D, Mantel E, Grunow R, Kahlmeter G, Jacob D, Zange S. (2025) Defining epidemiological cutoff values for Brucella melitensis: an European multicentre study. Clin Microbiol Infect. 2026 Jan;32(1):95-101. doi: 10.1016/j.cmi.2025.09.001

Melzer F, Linde J, Brangsch (2025) Genomic epidemiology of Brucella suis biovar 2 in German swine and wildlife, 2003-2023. Front Vet Sci 12, 1611681. doi: 10.3389/fvets.2025.1611681

Nabi I, Achek R, Karim A, Melzer F, Brangsch H, Elschner MC, Neubauer H and El-Adawy H (2025) Serological, phenotypic and molecular characterization of brucellosis in small ruminants in northern Algeria. Front Microbiol 15, 1505294. doi: 10.3389/fmicb.2024.1505294

b) International conferences:

7

Daaloul M, Brangsch H, Chehida F, Mamlouk A, Melzer F, Elschner MC, Messadi L (2025) Learning from each other: an international laboratory training in Tunisia about detecting zoonotic bacterial diseases, Medical Biodefense Conference 2025, 07-10.04.2025, München, Abstract.

Elschner M, Fürst D, Brangsch H, Harpke M, Melzer, F (2025) Over a decade of German-Ukrainian cooperation in bacterial zoonoses. Medical Biodefense Conference 2025, 07-10.04.2025, München, Abstract.

Harpke M, Melzer F (2025) Establishment of a supra-regional laboratory network for highly pathogenic bacterial pathogens between Central Asian countries, BACAC-ISTC SAC Conference, 14.-16.19.2025, Almaty, Kasachstan, Abstract & Poster

Harpke M, Melzer F (2025) Establishment of a supra-regional laboratory network for highly pathogenic bacterial pathogens between Central Asian countries, 77th Annual Brucellosis Research Conference, 04.-07.11.2025, San José, Costa Rica, Abstract & Poster.

Melzer F (2025) The tasks of a WOA and National Reference Laboratory for Brucellosis. Int. Scientific Workshop "Revolutionizing the use of synthetic antibodies in theranosis: A cutting-edge approach for One Health perspectives". 29.01.2025, Kairo, Ägypten. Online. Abstract.

Wareth G, Akar K, Brangsch H, YıldızÖz G, Erdenlig S, Melzer F, Neubauer H (2025) Assessment of the genetic diversity and relatedness of Turkish animal and human Brucella isolates using NGS technology. Medical Biodefense Conference 2025, 8.-10. April 2025. Abstract.

Wareth G (2025) Brucellosis in the Mediterranean Basin: History, prevalence, distribution and the current situation. Pasteur de Tunis, 8-12 December, 2025.

c) National conferences:

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

1

book chapter: Neubauer H (2025) Brucellose. In: Löscher T, Burchard GD, Hörauf A, May J (Hrsg.), Tropenmedizin, Reisemedizin – Globale Gesundheit. Elsevier, 1. Auflage, S. 223-230.

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

Heinrich Neubauer - - GERMANY

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

Yes

a) Technical visit : 1

b) Seminars : 0

c) Hands-on training courses: 4

d) Internships (>1 month) 0

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
A	KYRGYZSTAN	4
C	KYRGYZSTAN	16
C	NEPAL	3
C	UKRAINE	3

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_Anlage_2024.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Microbiological, serological and molecular diagnosis	DAkKS Deutsche Akkreditierungsstelle D-PL-14002-02-00

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

Yes

following the German law of Biostoff-Verordnung, e.g. Access control to all labs by administrative regulations, Existence of a Biorisk Committee, regularly audits by external responsible 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. Are you a member of a network of WOAHP Reference Laboratories designated for the same pathogen?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
Brucellosis	participant	20	ANSES

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	No. participating Laboratories	Participating WOAHP Ref. Labs/ organising

Heinrich Neubauer - - GERMANY

	(organiser/ participant)		WOAH Ref Lab
ILPT Brucellosis milk ELISA 2024	participant	15	ANSES

26. Did your laboratory collaborate with other WOAH 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 WOAH Reference Laboratories
PCR HRM	development of a high resolution melting point PCR scheme for Brucella spp.	ANSES

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAH 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
ILCT for INgezim® Brucella Compac 2.0	participant	5	cELISA	AUSTRIA, GERMANY, ITALY, SPAIN,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report: