

WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 8 mars 2023 11:09

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Ovine Chlamydiosis
Address of laboratory:	Institute of Veterinary Pathology (IVPZ) Vetsuisse Faculty, University of Zurich Winterthurerstrasse 268
Tel.:	+41446358563
E-mail address:	nicole.borel@uzh.ch
Website:	https://www.vetpathology.uzh.ch/de.html
Name (including Title) of Head of Laboratory (Responsible Official):	Prof. Dr. med. vet. Nicole Borel, DIPL. ECVP, FVH Pathology
Name (including Title and Position) of WOAH Reference Expert:	Prof. Dr. med. vet. Nicole Borel, DIPL. ECVP, FVH Pathology
Which of the following defines your laboratory? Check all that apply:	Academic institution

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			
ELISA (IDEXX Chlamydia)	no	2	44
ELISA (MVD Enfer Chlamydia abortus)	no	133	1

Direct diagnostic tests		Nationally	Internationally
Real-time PCR Chlamydiaceae	yes	220	0
Real-time PCR Chlamydia abortus	yes	76	0
Real-time PCR Chlamydia pecorum	no	1	0
Real-time PCR Chlamydia suis	no	0	350
16S rRNA PCR & Sequencing	no	7	0
Immunohistochemistry for Chlamydiaceae	yes	12	8
Isolation of Chlamydia	no	8	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
Genomic DNA of Chlamydia abortus	qPCR	produced	140 ul	0	1	Europe

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOA?H Members?

Not applicable

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?

No

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

No

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOA Member?

Yes

NAME OF WOA 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
TURKEY	2022-09-01	Real-time PCR for Chlamydia abortus	0	10

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

Yes

NAME OF THE WOA MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
TURKEY	Method transfer, accreditation of real-time PCR for Chlamydia abortus	Videoconference, on-site trainings at the PCVI and at the IVPZ
SWEDEN	Method transfer	Email, in person meetings (conferences)
AUSTRIA	Method transfer	Email, in person meetings (conferences)

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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
OIE Twinning Project	3 years	Training, method transfer	Pendik Veterinary Control Institute (PVC), Istanbul, Turkey	TURKEY
OIE ring trial, PCR methods to detect Chlamydia abortus	1 year	Improvement of diagnostic methods, collaboration between OIE reference laboratories	FLI Jena	GERMANY
OIE ring trial, PCR methods to detect Chlamydia abortus	1 year	Improvement of diagnostic methods, collaboration between OIE reference laboratories	ANSES Paris	FRANCE
OIE ring trial, PCR methods to detect Chlamydia abortus	1 year	Improvement of diagnostic methods, collaboration between OIE reference laboratories	Moredun Research Institute	UNITED KINGDOM
Chlamydia pecorum in ruminants and pigs	2 years	Research collaboration, method transfer	University of the Sunshine Coast Queensland	AUSTRALIA
Chlamydial				

transformation in animal chlamydiae	3 years	Research collaboration	Lübeck University	GERMANY
Investigation of zoonotic outbreaks due to Chlamydia abortus und Chlamydia psittaci	1 year	Diagnostics and epidemiological investigations	University of Zurich	SWITZERLAND
Co-infection Chlamydia suis and Aeromonas salmonicida ssp. salmonicida	3 years	Research collaboration	Laval University, Quebec	CANADA

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 IVPZ is investigating ovine and caprine abortion cases for Chlamydia abortus by PCR methods as part of the Swiss national surveillance regulation (Art. 129) for notifiable diseases.

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:

The data is centrally recorded by the Federal Veterinary Office (FVO). The IVPZ notifies the cantonal authorities about positive cases. This data is then submitted to the Swiss FVO.

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:

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Burgener AV, Seth-Smith HMB, Kern-Baumann S, Durovic A, Blaich A, Menter T, Bruder E, Roloff T, Martinez A, Borel N, Albini S, Hösli I, Egli A, Weisser M, Hinić V. A Case Study of Zoonotic Chlamydia abortus Infection: Diagnostic Challenges From Clinical and Microbiological Perspectives. *Open Forum Infect Dis*. 2022 Oct 12;9(10):ofac524.

Kuratli J, Leonard CA, Frohns A, Schoborg R, Piazena H, Borel N. Refinement of water-filtered infrared A (wIRA) irradiations of in vitro acute and persistent chlamydial infections *J Photochem Photobiol B*. 2022 Jul 23;234:112533.

Onorini D, Borel N, Schoborg RV, Leonard CA. Neisseria gonorrhoeae Limits Chlamydia trachomatis Inclusion Development and Infectivity in a Novel In Vitro Co-Infection Model. *Front Cell Infect Microbiol*. 2022 Jul 7;12:911818.

de Vries HJC, Pannekoek Y, Dean D, Bavoil PM, Borel N, Greub G, Morré SA; ICSP Subcommittee on the Taxonomy of Chlamydiae. Call for consensus in Chlamydia trachomatis nomenclature: moving from biovars, serovars, and serotypes to genovariants and genotypes. *Clin Microbiol Infect*. 2022 Jun;28(6):761-763.

Borel N, Greub G. International Committee on Systematics of Prokaryotes Subcommittee on the taxonomy of Chlamydiae, minutes of the closed meeting, 07 October 2021, via Webex. *Int J Syst Evol Microbiol*. 2022 Feb;72(2).

Imkamp F, Albini S, Karbach M, Kimmich N, Spinelli C, Herren S, Sprecher R, Meier K, Borel N. Zoonotic Chlamydiae as rare causes of severe pneumonia. *Swiss Med Wkly.* 2022 Jan 11;152:w30102.
 Marti H, Suchland RJ, Rockey DD. The Impact of Lateral Gene Transfer in Chlamydia. *Fron Cell Infect Microbiol.* 2022. 12:861899. doi: 10.3389/fcimb.2022.861899. Review

b) International conferences:

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23.-26.08.2022: Joint ESCCAR International congress on Rickettsiae and 9th Meeting of the European Society for Chlamydia Research (ESCR), Lausanne
 23.02.2022: Chlam talk seminar series, CBRS Inaugural session (digital meeting)
 26.01.2022: Chlam talk seminar series, CBRS Inaugural session (digital meeting)

c) National conferences:

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19.10.2022: BLV Laborleitertagung, Bern
 30.08.-01.09.2022: Annual Congress of the Swiss Society for Microbiology. Zurich, CH
 16.06.2022: 11th CABMM Symposium "One Health", Universität Zürich
 19.-20.05.2022: SVSM/SVTP-Tagung, Appenzell
 05.-06.05.2022: 9. Schweizerische Tierärztetagung, Basel
 10.02.2022: Kleinwiederkäuertagung SVW (Webinar)
 30.01.-01.02.2022: Cell Biology of Infection. Organizers: Platform Biology of the Swiss Academy of Sciences (SCNAT), Swiss Society of Microbiology (SSM), Life Sciences Switzerland (LS2). Zurich, CH

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

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Book chapter:
 Kuratli J, Marti H, Blenn C, Borel N. Chapter 21: Water-Filtered Infrared A (wIRA) Irradiation: Novel Treatment Options for Chlamydial Infections. In: *Water-filtered Infrared A (wIRA) Irradiation, From Research to Clinical Settings*, edited by P. Vaupel, Springer, 2022.
 Editorial:
 Marti H, Jelocnik M. Animal Chlamydiae: A Concern for Human and Veterinary Medicine. *Pathogens.* 11(3):364. 2022. doi: 10.3390/pathogens11030364
 Homepage:
https://www.vetpathology.uzh.ch/de/Diagnostik/infektionspatho.html#Chlamydiendiagnostik_%E2%80%93_Nationales_und_international (Diagnostics)
<https://www.vetpathology.uzh.ch/de/forschung/Chlamydia-related-diseases-in-animals-and-their-zoonotic-potential.html> (Research)
 LinkedIn:
<https://www.linkedin.com/company/74165915/admin/>
<https://www.linkedin.com/company/74158282/admin/>
 ResearchGate:
<https://www.researchgate.net/lab/Chlamydia-research-group-Borel-Laboratory-Nicole-Borel>

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

- a) Technical visit : 4
 b) Seminars : 4
 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,b,c,d	Turkey	4

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
17025	pdf	Akkreditierung-Urkunde-2020-2025.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Histology, Immunohistochemistry, PCR-based-molecular methods, sequencing	SAS (Schweizerische Akkreditierungsstelle)

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

Yes

Biorisk management is performed according to federal ordinance (Verordnung) 814.912 Ordinance on Handling Organisms in Contained Systems („Verordnung über den Umgang mit Organismen in geschlossenen Systemen“, Einschlussverordnung, EV). Adherence to these regulations is controlled and regularly assessed by the in-house biosafety officer (BSO), and is subject to checks on institutional, state (cantonal) and federal level.

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?

Yes

PURPOSE OF THE PROFICIENCY	ROLE OF YOUR REFERENCE	NO. PARTICIPANTS	PARTICIPATING WOA REF. LABS/ ORGANISING WOA REF.
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TESTS: 1	LABORATORY (ORGANISER/ PARTICIPANT)		LAB.
OIE ring trial for improvement of molecular tests for Chlamydia abortus	Organiser and Participant	4	3

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

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOAHA REF. LABS/ ORGANISING WOAHA REF. LAB.
OIE ring trial for improvement of molecular tests for Chlamydia abortus	Organiser and Participant	4	3

26. Did your laboratory collaborate with other WOAHA 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 WOAHA REFERENCE LABORATORIES
OIE ring trial for improvement of molecular tests for Chlamydia abortus	Comparison of molecular test for Chlamydia abortus	IVPZ Zürich, FLI Jena, ANSES Paris

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Region(s) of participating WOAHA Member Countries
PCR-based methods for the diagnosis of Chlamydia abortus	Organiser	5	Europe MiddleEast

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No