WOAH Reference Laboratory Reports Activities 2023
Activities in 2023
This report has been submitted: 25 avril 2024 14:43

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, Vetsuisse Faculty, University of Zurich, Winterthurerstrasse 268, CH-8057 Zurich

Tel.: +41446358563

E-mail address: n.borel@access.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: Dr. med. vet. sc. nat. Hanna Marti

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

<table>
<thead>
<tr>
<th>Diagnostic Test</th>
<th>Indicated in WOAH Manual (Yes/No)</th>
<th>Total number of test performed last year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nationally</td>
<td>Internationally</td>
</tr>
<tr>
<td>Indirect diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELISA (IDEXX Chlamydia)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>ELISA (MVD Enfer Chlamydia abortus)</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Direct diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real-time PCR Chlamydiaceae</td>
<td>655</td>
<td>63</td>
</tr>
<tr>
<td>Real-time PCR Chlamydia abortus</td>
<td>62</td>
<td>0</td>
</tr>
<tr>
<td>Real-time PCR Chlamydia suis</td>
<td>500</td>
<td>0</td>
</tr>
<tr>
<td>16S rRNA PCR &amp; Sequencing</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>OmpA Typing</td>
<td>137</td>
<td>0</td>
</tr>
<tr>
<td>Immunohistochemistry for Chlamydia</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Isolation of Chlamydia</td>
<td>31</td>
<td>0</td>
</tr>
</tbody>
</table>

TOR2: REFERENCE MATERIAL

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

WOAH Reference Laboratory Reports Activities 2023
No

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

Yes

<table>
<thead>
<tr>
<th>TYPE OF REAGENT AVAILABLE</th>
<th>RELATED DIAGNOSTIC TEST</th>
<th>PRODUCED/ PROVIDE</th>
<th>AMOUNT SUPPLIED NATIONALLY (ML, MG)</th>
<th>AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)</th>
<th>NO. OF RECIPIENT WOAH MEMBER COUNTRIES</th>
<th>COUNTRY OF RECIPIENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>gDNA</td>
<td>qPCR establishment</td>
<td>produced</td>
<td>0</td>
<td>140 ul</td>
<td>1</td>
<td>FRANCE,</td>
</tr>
<tr>
<td>Bacterial stock (SPG)</td>
<td>Chlamydia research/cell culture</td>
<td>produced</td>
<td>0</td>
<td>200 ul</td>
<td>1</td>
<td>GERMANY,</td>
</tr>
<tr>
<td>gDNA</td>
<td>PCR establishment</td>
<td>produced</td>
<td>0</td>
<td>150 ul</td>
<td>1</td>
<td>TURKEY,</td>
</tr>
<tr>
<td>plasmid DNA</td>
<td>qPCR standard</td>
<td>produced</td>
<td>0</td>
<td>50 ul</td>
<td>1</td>
<td>AUSTRIA,</td>
</tr>
</tbody>
</table>

4. Did your laboratory produce vaccines?

No

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

No

**TOR4: DIAGNOSTIC TESTING FACILITIES**

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

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

Yes

<table>
<thead>
<tr>
<th>NAME OF THE WOAH MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY</th>
<th>PURPOSE</th>
<th>HOW THE ADVICE WAS PROVIDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURKEY</td>
<td>Establishment of Chlamydia isolation techniques; accreditation of real-time PCR for Chlamydia abortus</td>
<td>On site training, conference at Pendik Veterinary Control Institute, Istanbul</td>
</tr>
</tbody>
</table>

**TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES**

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

Yes

<table>
<thead>
<tr>
<th>Title of the study</th>
<th>Duration</th>
<th>PURPOSE OF THE STUDY</th>
<th>PARTNERS (INSTITUTIONS)</th>
<th>WOAH MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIE Twinning Project</td>
<td>3 years</td>
<td>Training, method transfer</td>
<td>Pendik Veterinary Control Institute, Istanbul</td>
<td>TURKEY</td>
</tr>
<tr>
<td>OIE ring trial, PCR methods to detect Chlamydia abortus</td>
<td>1 year</td>
<td>Improvement of diagnostic methods, collaboration between OIE reference laboratories</td>
<td>FLI Jena</td>
<td>GERMANY</td>
</tr>
<tr>
<td>OIE ring trial, PCR methods to detect Chlamydia abortus</td>
<td>1 year</td>
<td>Improvement of diagnostic methods, collaboration between OIE reference laboratories</td>
<td>ANSES Paris</td>
<td>FRANCE</td>
</tr>
<tr>
<td>OIE ring trial, PCR methods to detect Chlamydia abortus</td>
<td>1 year</td>
<td>Improvement of diagnostic methods, collaboration between OIE reference laboratories</td>
<td>Moredun Research Institute</td>
<td>UNITED KINGDOM</td>
</tr>
</tbody>
</table>
Please type the Research need: Our laboratory often receives inquiries concerning the viability/durability of Chlamydia abortus in animal products (e.g. wool, milk, semen) and animal waste (feces contaminated with placenta/vaginal fluid). While the literature states that Chlamydia abortus can survive cold temperatures for weeks or even months, there is no systematic study investigating the survival of Chlamydia abortus in the environment.

Relevance for WOAH Disease Control,
Relevance for the Codes or Manual Manual,
Field Epidemiology and Surveillance, Diagnostics,
Animal Category Terrestrial,
Disease: Enzootic abortion of ewes (ovine chlamydiosis)
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:

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:

6


b) International conferences:

7

o Borel N. ChlamHealth – zoonotic infections: an overview. ESGMAC Webinar, online, 2023 (invited presentation).


o Marti H, Shima K, Onorini D, Rupp J, Charette S, Borel N. A truncated antibiotic resistance-carrying plasmid pRAS3-3432 was transformed into Chlamydia suis following modification with chromosomal DNA. Biennial Chlamydia Basic Research Society Meeting, CBRS 2023, Omaha, USA, 2023 (poster).


o Marti H, Biggel M, Shima K, Onorini D, Rupp J, Charette S, Borel N: Transformation of pRAS3 plasmids from Aeromonas salmonicida into Chlamydia suis is achieved only by modification of the vector with chlamydial DNA. 10th Congress of European Microbiologists, Hamburg, Germany, 2023. (poster)

c) National conferences:

2

o Borel N. Chlamydia infections in animals and humans — a view from both sides. DIP talk, Vetsuisse Faculty Bern, 2023 (invited presentation).


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

3

o Homepage:

https://www.vetpathology.uzh.ch/de/Diagnostik/infektionspatho.html#Chlamydiendiagnostik_%E2%80%93_Nationale_und_internationales_Referenzlabor_f%C3%BCr_Chl

Diagnosics)


LinkedIn:

https://www.linkedin.com/company/74165915/admin/

https://www.linkedin.com/company/74158282/admin/

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

a) Technical visit: 2

b) Seminars: 1

c) Hands-on training courses: 0
d) Internships (>1 month) 0

<table>
<thead>
<tr>
<th>Type of technical training provided (a, b, c or d)</th>
<th>Country of origin of the expert(s) provided with training</th>
<th>No. participants from the corresponding country</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>GERMANY</td>
<td>1</td>
</tr>
<tr>
<td>A</td>
<td>TURKEY</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>TURKEY</td>
<td>25</td>
</tr>
</tbody>
</table>

**TOR8: QUALITY ASSURANCE**

18. Does your laboratory have a Quality Management System?
Yes

<table>
<thead>
<tr>
<th>Quality management system adopted</th>
<th>Certificate scan (PDF, JPG, PNG format)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO 17025</td>
<td>pdf</td>
</tr>
</tbody>
</table>

19. Is your quality management system accredited?
Yes

<table>
<thead>
<tr>
<th>Test for which your laboratory is accredited</th>
<th>Accreditation body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Histology, Immunohistochemistry, PCR-based-molecular methods, sequencing</td>
<td>SAS (Schweizerische Akkreditierungsstelle)</td>
</tr>
</tbody>
</table>

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 WOAH?
No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAH?
No

**TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES**

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

24. Do you network (collaborate or share information) with other WOAH Reference Laboratories designated for the same pathogen?
Yes

<table>
<thead>
<tr>
<th>NETWORK/DISEASE</th>
<th>ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)</th>
<th>NO. PARTICIPANTS</th>
<th>PARTICIPATING WOAH REF. LABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ovine Chlamydiosis</td>
<td>Organizer and Participant</td>
<td>2</td>
<td>ANSES, Paris FLI Jena</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>PURPOSE OF THE PROFICIENCY TESTS: 1</th>
<th>ROLE OF YOUR REFERENCE LABORATORY/ (ORGANISER/ PARTICIPANT)</th>
<th>NO. PARTICIPANTS</th>
<th>PARTICIPATING WOAH REF. LABS/ ORGANISING WOAH REF. LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proficiency of Real-time PCR for Chlamydiaceae</td>
<td>Participant</td>
<td>20</td>
<td>ANSES</td>
</tr>
<tr>
<td>Proficiency of Real-time PCR for Chlamydia abortus</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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
**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?
No

**TOR12: EXPERT CONSULTANTS**

28. Did your laboratory place expert consultants at the disposal of WOAH?
No

29. Additional comments regarding your report:
No