WOAH Reference Laboratory Reports Activities 2023
Activities in 2023
This report has been submitted : 12 juin 2024 16:00

Laboratory Information

| Name of disease (or topic) for which you are a designated WOAH Reference Laboratory: | Rabies |
| Address of laboratory: | 3851 Fallowfield Road, Ottawa ON K2J 4S1 |
| Tel: | +1-343 212 03 04 |
| E-mail address: | christine.fehlner-gardiner@inspection.gc.ca |
| Name (including Title) of Head of Laboratory (Responsible Official): | Dr. Abed Harchaoui, DVM (Laboratory Network Director, Animal Health) |
| Name (including Title and Position) of WOAH Reference Expert: | Christine Fehlner-Gardiner, PhD (Director, CFIA Ottawa Animal Health Laboratory) |
| 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

<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>Indirect diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Nationally</td>
<td>Internationally</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Direct diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluorescent Antibody Test</td>
<td>Yes</td>
<td>2370</td>
</tr>
<tr>
<td>RT-PCR</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>Virus variant typing by monoclonal antibody panel</td>
<td>Yes</td>
<td>81</td>
</tr>
</tbody>
</table>

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

<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>
</table>

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1
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?
No

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>COLOMBIA</td>
<td>1) At the request of ICA, assisted with a search for commercial sources for FAT conjugate. 2) At the request of the Ministries of Health and Agriculture, participated in a preliminary information gathering meeting held during the 2023 Rabies in the Americas Conference on how to develop a program for wildlife rabies control.</td>
<td>1) Email exchange; 2) in person</td>
</tr>
<tr>
<td>PERU</td>
<td>At the request of Unidad del Centro de Diagnóstico de Sanidad Animal, SENASA, provided information concerning Canada's regulatory framework (safety and quality) for laboratories for the production of biological products for veterinary use.</td>
<td>Email exchange</td>
</tr>
<tr>
<td>UNITED STATES OF AMERICA</td>
<td>At the request of United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services provided continued support for the initiative to develop an alternative monoclonal antibody for use in rabies surveillance testing for wildlife (started in 2022) through provision of advice for the project, backup storage of recombinant monoclonal antibody stocks, and testing data.</td>
<td>Email exchange and virtual meetings</td>
</tr>
<tr>
<td></td>
<td>At the request of Centro Nacional de Servicios de Diagnóstico en Salud Animal, Ministerio de Agricultura, presented on the topic of “Importancia</td>
<td></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?
No

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

**Research need : 1**

**Please type the Research need:** 1. Further work on validation and standardization of methodologies for rapid rabies diagnostic tests, particularly lateral flow assays.

**Relevance for WOAH** Disease Control, Capacity Building.

**Relevance for the Codes or Manual** Manual, Field Epidemiology and Surveillance, Diagnostics,

**Animal Category** Terrestrial,

**Disease:** Rabies

**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:** Terrestrial Manual Chapter 3.1.18 Rabies (infection with rabies virus and other lyssaviruses)

**Notes:**

Answer: This work is currently being carried out by several WOAH Reference Laboratories for Rabies, in particular US and India, and was on the agenda of several RABLAB meetings in 2023.

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:**

Rabies case data for Canada

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:**

Data are published on a monthly basis on the Canadian Food Inspection Agency website. Data are also disseminated by reporting to the Canadian Network for Public Health Intelligence (CNPHI) rabies module, WAHIS (data provided to Canada Focal Point for Reporting), and SIRVERA (Pan American Health Organization Rabies database), and through conference presentations, scientific publications and discussions at reference lab network meetings.
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


b) International conferences:

4


34th International Conference on Rabies in the Americas, Bogotá, Colombia, October 16-20 2023
Proceedings: https://doi.org/10.22354/24223794.1156


Fehlner-Gardiner C, Duivesteyn R, St-Pierre M-E, Thang C, Kang M. “Diagnostic evaluation of the first canine-variant rabies cases in Canada in over 60 years”

Fehlner-Gardiner C. “Should we worry about rabies in cats? - A northern Americas perspective”

c) National conferences:

0
nil

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

3

SIRVERA portal: https://sirvera.panaftosa.org.br/Site/Inicio/Index?idl=3

CNPHI portal: https://www.cnphi-rcrsp.ca/cnphi/index.jsp

**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

<table>
<thead>
<tr>
<th>Quality management system adopted</th>
<th>Certificate scan (PDF, JPG, PNG format)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WOAH Reference Laboratory Reports Activities 2023</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>Fluorescent antibody test</td>
<td>Standards Council of Canada</td>
</tr>
</tbody>
</table>

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

The Ottawa Laboratory Fallowfield, Canadian Food Inspection Agency, has a dedicated Biosafety Officer who manages the biosafety, biocontainment, biosecurity, and health and safety portfolios for the laboratory. The OLF holds valid Human Pathogens and Toxins Act (HPTA) licences, administered by the Public Health Agency of Canada, for all of the facilities where work with regulated materials is performed. As a condition of the licences, OLF must ensure compliance with the Canadian Biosafety Standard, which details the physical and operational requirements for Containment Level 2 and 3 laboratories, including Prion facilities. As well, many of the activities at OLF are further regulated by the CFIA’s Office of Biohazard Containment and Safety. In order to demonstrate compliance to both these regulatory bodies, the Biosafety Officer regularly submits performance and verification testing results for the recertification of the containment facilities, and participates in on-site inspections by the federal biosafety regulators.

**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>RABLAB/Rabies</td>
<td>Participant</td>
<td>14</td>
<td>Chinese Taipei, France, Germany, India, Israel, Italy, Korea (Rep. of), Mexico, People’s Republic of China, Romania, South Africa, UK, USA</td>
</tr>
</tbody>
</table>

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen?
No

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

<table>
<thead>
<tr>
<th>TITLE OF THE PROJECT OR CONTRACT</th>
<th>SCOPE</th>
<th>NAME(S) OF RELEVANT WOAH REFERENCE LABORATORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLI-OMNRF-CEVA collaboration for evaluation of ONRAB oral vaccine for rabies in wildlife</td>
<td>Further study of the ONRAB oral vaccine and development of assays for regulatory use</td>
<td>Friedrich Loeffler Institut (WOAH Reference Laboratory for Rabies); other collaborators - Ontario (Canada) Ministry of Natural Resources and Forestry, CEVA Animal Health (Germany and Canada)</td>
</tr>
</tbody>
</table>

**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?
Yes
### Competency assessment of laboratory staff - interlaboratory comparison with CFIA

**Lethbridge Laboratory (fluorescent antibody test)**

- **Organizer:** 2
- **Name of the Test:** Fluorescent antibody test
- **WOAH Member Countries:** CANADA

### Proficiency testing of laboratory staff - Wisconsin State Laboratory of Hygiene proficiency panels for rabies fluorescent antibody test

- **Participant:** 0
- **Name of the Test:** Fluorescent antibody test
- **WOAH Member Countries:** CANADA, UNITED STATES OF AMERICA

### TOR12: EXPERT CONSULTANTS

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

Yes

<table>
<thead>
<tr>
<th>KIND OF CONSULTANCY</th>
<th>Location</th>
<th>SUBJECT (FACULTATIVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review of Terrestrial Manual chapter on Rabies</td>
<td>Remote</td>
<td>Review of revised Terrestrial Manual chapter prior to release to Member Countries. WOAH staff had changed some wording as a result of Member Country comments on previous version circulated.</td>
</tr>
<tr>
<td>Participation in RABLAB network meetings.</td>
<td>5 virtual meetings and one hybrid (CFG unable to attend in person)</td>
<td>Various topics, including: member lab summaries, lateral flow devices, oral vaccination for dogs, proficiency testing, risk mapping, country support</td>
</tr>
<tr>
<td>Review/revision of WOAH position statements or other resources</td>
<td>Remote</td>
<td>RABLAB statement on the use of commercial rapid immunochromatographic tests for rabies surveillance purposes; WOAH RABLAB warns of risk of using substandard dog rabies vaccines.</td>
</tr>
</tbody>
</table>

#### 29. Additional comments regarding your report:

Yes

*This year we also provided heads from naturally infected red and arctic foxes to the New York State Department of Health Rabies Laboratory to support a research project examining rabies virus distribution in hosts and validation of novel diagnostic tests.*