

# WOAH Reference Laboratory Reports Activities 2023

## Activities in 2023

This report has been submitted : 12 juin 2024 16:00

### Laboratory Information

<b>Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:</b>	Rabies
<b>Address of laboratory:</b>	3851 Fallowfield Road, Ottawa ON K2J 4S1
<b>Tel.:</b>	+1-343 212 03 04
<b>E-mail address:</b>	christine.fehlner-gardiner@inspection.gc.ca
<b>Website:</b>	<a href="https://www.inspection.gc.ca/en/animal-health/terrestrial-animals/diseases/reportable/rabies/canada">https://www.inspection.gc.ca/en/animal-health/terrestrial-animals/diseases/reportable/rabies/canada</a>
<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	Dr. Abed Harchaoui, DVM (Laboratory Network Director, Animal Health)
<b>Name (including Title and Position) of WOAHO Reference Expert:</b>	Christine Fehlner-Gardiner, PhD (Director, CFIA Ottawa Animal Health Laboratory)
<b>Which of the following defines your laboratory? Check all that apply:</b>	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 WOAHO Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
nil		0	0
Direct diagnostic tests			
Fluorescent Antibody Test		2370	0
RT-PCR		3	0
Virus variant typing by monoclonal antibody panel		81	0

### TOR2: REFERENCE MATERIAL

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

No

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

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOAHO MEMBER COUNTRIES	COUNTRY OF RECIPIENTS

polyclonal antibody conjugate	Direct rapid immunohistochemical test for rabies	produced and provided	1 mL	0 mL	1	CANADA,
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4. Did your laboratory produce vaccines?

No

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

No

### 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?

Yes

NAME OF THE WOAHA MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
COLOMBIA	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.	1) Email exchange; 2) in person
PERU	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.	Email exchange
UNITED STATES OF AMERICA	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.	Email exchange and virtual meetings
	At the request of Centro Nacional de Servicios de Diagnóstico en Salud Animal, Ministerio de Acicultura, presented on the topic of "Importancia	

MEXICO	de los Laboratorios de Referencia para la Rabia" in the "3er Foro Nacional para los Laboratorios que realizan el diagnóstico de rabia en México", an annual training multi-day training course provided to laboratorians in Mexico that carry out rabies testing. The role of international reference laboratories and ways that they can support member countries, including at the bench level, were presented.	Virtual presentation followed by question period
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## TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

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

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 WOAHA** 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 WOAHA 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

*Di Salvo, Paul et al. "Rabies in an imported dog, Ontario, Canada, 2022." Canada communicable disease report = Releve des maladies transmissibles au Canada vol. 49,1 1-4. 5 Jan. 2023, doi:10.14745/ccdr.v49i01a01*

*Davis A, Gagnier M, Masse A, Nelson K, Kirby J, Wallace R, Ma X, Fehlner-Gardiner C, Chipman R, Gilbert A. 2023. Raccoon rabies control and elimination in the northeastern USA and southern Québec, Canada. Epidemiology and Infection 151, e62, 1–11. <https://doi.org/10.1017/S095026882300047X>*

*Ma, Xiaoyue et al. "Rabies surveillance in the United States during 2021." Journal of the American Veterinary Medical Association vol. 261,7 1045-1053. 8 Mar. 2023, doi:10.2460/javma.23.02.0081*

b) International conferences:

4

*One Health, One Future 2023 International Conference, Fairbanks AK USA. Feb 28-Mar 3, 2023.*

*Harms J, Andrew C, Henaff M, Fehlner-Gardiner C, Knowles K, Thang C, Magnusson K, Lester J, Lindskog-Wheeler A, VanderKop M. "Where have all the rabies cases gone? Rabies surveillance, risk assessment and community dog care in the Yukon, Canada"*

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

*Thang C, Snodgrass M, Iqbal Z, Fehlner-Gardiner C. "Rabies in Canada – 2022"*

*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):

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*CFIA website: <https://inspection.canada.ca/en/animal-health/terrestrial-animals/diseases/reportable/rabies/canada>*

*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 WOAHA 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/IEC 17025:2017

ASB\_CTF\_15367-CFIA-Certificate\_v2\_2022-08-29.pdf

ASB\_CTF\_15367-CFIA-Certificate\_v2\_2022-08-29.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Fluorescent antibody test	Standards Council of Canada

20. Does your laboratory maintain a "biosafety 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 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
RABLAB/Rabies	Participant	14	Chinese Taipei, France, Germany, India, Israel, Italy, Korea (Rep. of), Mexico, People's Republic of China, Romania, South Africa, UK, USA

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

No

26. Did your laboratory collaborate with other WOAHP 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 WOAHP REFERENCE LABORATORIES
FLI-OMNRF-CEVA collaboration for evaluation of ONRAB oral vaccine for rabies in wildlife	Further study of the ONRAB oral vaccine and development of assays for regulatory use	Friedrich Loeffler Institut (WOAHP Reference Laboratory for Rabies); other collaborators - Ontario (Canada) Ministry of Natural Resources and Forestry, CEVA Animal Health (Germany and Canada)

## TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

Yes

Purpose for inter-laboratory test	Role of your reference	No. participating		

comparisons1	laboratory (organizer/participant)	laboratories	Name of the Test	WOAH Member Countries
Competency assessment of laboratory staff - interlaboratory comparison with CFIA Lethbridge Laboratory (fluorescent antibody test)	Organizer	2	Fluorescent antibody test	CANADA,
Proficiency testing of laboratory staff - Wisconsin State Laboratory of Hygiene proficiency panels for rabies fluorescent antibody test	Participant	0	Fluorescent antibody test	CANADA, UNITED STATES OF AMERICA,

## TOR12: EXPERT CONSULTANTS

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

Yes

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

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.*