

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 28 juin 2024 17:40

Laboratory Information

Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:	Chronic Wasting Disease
Address of laboratory:	3851 Fallowfield Road
Tel.:	3432120272
E-mail address:	gordon.mitchell@inspection.gc.ca
Website:	www.inspection.gc.ca
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Abed Harchaoui, Executive Director, Ontario Laboratories Network, Canadian Food Inspection Agency
Name (including Title and Position) of WOAHO Reference Expert:	Dr. Gordon Mitchell, Head, National and WOAHO Reference Laboratory for Scrapie and CWD
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 WOAHO Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
Direct diagnostic tests			
PrP ELISA		2940	0
PrP Immunohistochemistry		1476	0
PrP Western Blot		354	0
PRNP Genotyping		1589	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
Tissue Homogenates	PrP ELISA / PRNP Genotyping	Provide	Multiple	None	1	CANADA,

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
BRAZIL	TSE diagnostic testing	Email

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAHA MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
Investigating cross-species transmission of CWD	Ongoing	Characterizing transmission of Korean and Canadian CWD Isolates	Animal and Plant Quarantine Agency	KOREA (REP. OF)
CWD prions from Norwegian Cervids	Multiple years	Assessing the pathogenesis, shedding, spillover and zoonotic potential	NVI, INRAe, NMBU, IRCCS, ISS, CSU, INIA, UiT, UMN	FRANCE ITALY NORWAY SPAIN UNITED STATES OF AMERICA
Genetic approaches and tools to prevent, control, and eradicate TSEs	Ongoing	Developing genetic and diagnostic tools to manage CWD	Washington State University, USDA	UNITED STATES OF AMERICA

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

No

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:

Data arising from all surveillance and disease investigation-associated diagnostic testing is collected.

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:

Case data from all disease positive herds or regions is collated and communicated to regulatory agencies.

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:

1

Arifin MI, Kaczmarczyk L, Zeng D, Hannaoui S, Lee C, Chang SC, Mitchell G, McKenzie D, Beekes M, Jackson W, Gilch S. Heterozygosity for cervid S138N polymorphism results in subclinical CWD in gene-targeted mice and progressive inhibition of prion conversion. *PNAS*. 2023; 120(15), e2221060120.

b) International conferences:

1

Jerez-Garrido N, Canoyra S, Fernández-Borges N, Moreno AM, Benestad SL, Olivier Andreoletti O, Mitchell G, Balachandran A, Torres JM and Espinosa JC. Strain characterization of chronic wasting disease in bovine-PrP transgenic mice. *Annual Prion Conference, Faro, Portugal, 2023*.

c) National conferences:

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

2

Mitchell G. *Current Trends in CWD Diagnosis and Research. Seminar at the Animal and Plant Quarantine Agency (QIA), WOAHP Reference Laboratory for CWD, Gimcheon, South Korea, 2023*.

Information on CWD in Canada: <https://inspection.canada.ca/en/animal-health/terrestrial-animals/diseases/reportable/cwd>

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAHP 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
PrP Immunohistochemistry	Standards Council of Canada (SCC)
PrP ELISA	SCC
PrP Western blot	SCC
PRNP Genotyping	SCC

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 WOA?H?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOA?H?

No

TOR10: NETWORK WITH WOA?H REFERENCE LABORATORIES

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

Yes

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

No

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

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOA?H REF. LABS/ ORGANISING WOA?H REF. LAB.
PrP Immunohistochemistry	Participant	2	NVSL, USDA WOA?H Ref. Lab

26. Did your laboratory collaborate with other WOA?H 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 WOA?H REFERENCE LABORATORIES
Investigating cross-species transmission of CWD	Characterizing transmission of Korean and Canadian CWD Isolates	Animal and Plant Quarantine Agency, Republic of Korea
CWD Prions from Norwegian Cervids	Assessing the pathogenesis, shedding, spillover and zoonotic potential	Norwegian Veterinary Institute
Evaluation of IDEXX HerdChek CWD Ag Test	Validation of test kit for CWD surveillance in wild cervids	National Veterinary Services Laboratories, USDA

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the Test	WOA?H Member Countries
PrP Immunohistochemistry proficiency testing	Organizer	3	PrP Immunohistochemistry	CANADA, UNITED STATES OF AMERICA,
PrP ELISA proficiency testing	Organizer	6	PrP ELISA	CANADA,
PRNP Genotyping proficiency testing	Organizer	4	PRNP Genotyping	CANADA, UNITED STATES OF AMERICA,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No