

WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 8 mars 2023 14:11

Laboratory Information

Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	Chronic Wasting Disease
Address of laboratory:	Postboks 64, 1431 Ås, Norway
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Website:	www.vetinst.no
Name (including Title) of Head of Laboratory (Responsible Official):	Dr Torill Moseng
Name (including Title and Position) of WOA Reference Expert:	Dr Sylvie L. Benestad
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 WOA Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
PrP ELISA	Yes	17597	40
PrP WB	Yes	200	6
PrP IHC	Yes	150	60

Direct diagnostic tests		Nationally	Internationally

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?

No

4. Did your laboratory produce vaccines?

No

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

No

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

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOA?H 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
Tackling CWD in Europe	Several years	Study host/pathogen interactions relevant to disease transmission in wildlife, livestock and people	Roslin Institute Edinburgh	UNITED KINGDOM

Tackling CWD in Europe	Several years	Study host/pathogen interactions relevant to disease transmission in wildlife, livestock and people	INIA Madrid	SPAIN
Tackling CWD in Europe	Several years	Study host/pathogen interactions relevant to disease transmission in wildlife, livestock and people	FLI Riems	GERMANY
Tackling CWD in Europe	Several years	Study host/pathogen interactions relevant to disease transmission in wildlife, livestock and people	INRAe Toulouse and Jouy en Josas	FRANCE
CWD strain characterization	Several years	Comparison between CWD in Europe and North America	Canadian Food Inspection Agency, Ottawa	CANADA
CWD strain characterization	Several years	Bioassay in bank voles	ISS, Rome	ITALY
CWD strain characterization	Several years	Bioassay in transgenic mice	Colorado University, Fort Collins	UNITED STATES OF AMERICA
CWD strain characterization	Several years	Bioassay in transgenic mice	ANSES Lyon	FRANCE
CWD strain characterization	Several years	Bioassay in transgenic mice	Alberta University	CANADA
CWD strain characterization	Several years	Bioassay in transgenic mice	UCL London	UNITED KINGDOM

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 Norwegian Veterinary Institute analyzed 17597 cervids in 2022 through the National surveillance program on CWD

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 samples and results are daily published on the Institute web site <http://apps.vetinst.no/skrantesykestatistikk/NO/#omrade>

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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- Wadsworth JDF, Joiner S, Linehan JM, Jack K, Al-Doujaily H, Costa H, Ingold T, Taema M, Zhang F, Sandberg MK, Brandner S, Tran L, Vikøren T, Våge J, Madslien K, Ytrehus B, Benestad SL, Asante EA, Collinge J. Humanized Transgenic Mice Are Resistant to Chronic Wasting Disease Prions From Norwegian Reindeer and Moose. *J Infect Dis*. 2022 Sep 13;226(5):933-937. doi: 10.1093/infdis/jiab033. PMID: 33502474; PMCID: PMC9470110.
- Güere ME, Våge J, Tharaldsen H, Kvie KS, Bårdsen BJ, Benestad SL, Vikøren T, Madslien K, Rolandsen CM, Tranulis MA, Røed KH. Chronic wasting disease in Norway-A survey of prion protein gene variation among cervids. *Transbound Emerg Dis*. 2022 Jul;69(4):e20-e31. doi: 10.1111/tbed.14258. Epub 2021 Aug 17. PMID: 34346562.
- Pirisinu L, Di Bari MA, D'Agostino C, Vanni I, Riccardi G, Marcon S, Vaccari G, Chiappini B, Benestad SL, Agrimi U, Nonno R. A single amino acid residue in bank vole prion protein drives permissiveness to Nor98/atypical scrapie and the emergence of multiple strain variants. *PLoS Pathog*. 2022 Jun 22;18(6):e1010646. doi: 10.1371/journal.ppat.1010646. PMID: 35731839; PMCID: PMC9255773.
- Harpaz E, Salvesen Ø, Rauset GR, Mahmood A, Tran L, Ytrehus B, Benestad SL, Tranulis MA, Espenes A, Ersdal C. No evidence of uptake or propagation of reindeer CWD prions in environmentally exposed sheep. *Acta Vet Scand*. 2022 Jun 6;64(1):13. doi: 10.1186/s13028-022-00632-3. PMID: 35668456; PMCID: PMC9169292.

b) International conferences:

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- Mazza M, Tran L, Loprevite D, Cavarretta MC, Dell'Atti L, Våge J, Madslien K, Vikøren T, Vuong TT, Benestad SL, Bozzetta E. Surveillance of Chronic Wasting Disease in Europe: evaluation of diagnostic performances of rapid tests and confirmatory western blot methods. Poster EPIZONE Annual Meeting, Barcelona, Spain 18 - 20 May 2022
- R, Nonno; S, Benestad. Chronic wasting disease in European cervids. Oral presentation 10th Iberian Prion Congress Vila Real, Portugal, 19-20 of May 2022
- SL, Benestad; TT, Vuong; L, Tran; T, Vikøren; J, Våge; K, Madslien; GC, Telling; L, Pirisinu; R, Nonno. Emerging CWD strains in Europe, overall view of current/emerging situation. Oral presentation (invited) Prion2022 Göttingen, Germany, 13-16 September 2022
- Mazza M, Tran L, Loprevite D, Cavarretta MC, Dell'Atti L, Våge J, Madslien K, Vikøren T, Vuong TT, Bozzetta E, Benestad SL. Are rapid tests and confirmatory western blot for cattle and small ruminants reliable tools for the diagnosis of Chronic Wasting Disease in Europe? Poster Prion2022 Göttingen, Germany, 13-16 September 2022
- C, Diaz-Dominguez; Anjo N, Gonzalves; JM, Charco; TT, Vuong; L, Fernandez-Veiga; L, Tran; C, Sampedro-TorresQuevedo; E, Bascos; H, Erana; SL, Benestad; J, Castilla. Evaluation of naturally occurring polymorphic variants of the PrP from cervids as RT-QuIC substrates for the detection of multiple CWD strains. Poster Prion2022 Göttingen, Germany, 13-16 September 2022
- CD, Velasquez; C, Kim; E, Funk; S, Gilch; SL, Benestad; J, Aiken; D, McKenzie. Propagation and adaptation of chronic wasting disease (CWD) prions. Poster Prion2022 Göttingen, Germany, 13-16 September 2022
- Pritzkow; D, Gorski; F, Ramirez; F, Wang; GC, Telling; JJ, Greenlee; SL, Benestad; C, Soto. Application of PMCA to understand CWD strains, species barrier and zoonotic potential. Poster Prion2022 Göttingen, Germany, 13-16 September 2022
- S, Benestad. Chronic Wasting Disease in Europe: EU provisions and monitoring programme. Oral presentation BTSF course European Commission- 3 sessions in 2022

c) National conferences:

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

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- SL, Benestad; TT, Vuong; L, Tran; T, Vikøren; J, Våge; K, Madslien; GC, Telling; L, Pirisinu; R, Nonno. Characterization of CWD emerging

strains in Europe. Oral presentation 17th Meeting of the EFSA BIOCONTAM BIOHAZ BSE-TSE Network, Parma, 13th October 2022
 -CM Rolandsen, J Våge, P Hopp, SL Benestad, H Viljugrein, EJ Solberg, EB Nilsen, R Andersen, O Strand, T Vikøren, K Madslie, A Tarpai, V Veiberg, M Heim, F Holmstrøm, A Myserud Kartlegging og overvåking av skrantesjuka (Chronic wasting disease - CWD) NINA NINA Rapport 2158 / Veterinærinstituttets rapportserie, rapport 22 2022.
 file:///C:/Users/04benest/Downloads/Kartlegging%20og%20overv%C3%A5king%20av%20skrantesjuka%20CWD%202021%20(1).pdf

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)	
NS-EN ISO/IEC 17025 (2017)	Accreditation documents 2022	Akkrediteringsdokument 08.02.22.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
PrP TeSeE ELISA (Bio-Rad)	Norwegian accreditation (NA)
PrP HerdChek ELISA (IDEXX)	Norwegian accreditation (NA)
PrP TeSeE Western Blot (Bio-Rad)	Norwegian accreditation (NA)

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

Yes

Work with TSE takes place in BSL3 laboratories in accordance with guidelines for work with infection risk group 3 agents, we have carried out risk assessments and implemented procedures to ensure biosafety for employees and the environment.

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOAHA?

No

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

No

TOR10: NETWORK WITH WOAHA REFERENCE LABORATORIES

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

Yes

24. Are you a member of a network of WOAHA Reference Laboratories designated for the same pathogen?

No

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

No

26. Did your laboratory collaborate with other WOA 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 REFERENCE LABORATORIES
Collaborative framework concerning CWD reference laboratories	Advancing strategies to detect, control and characterize CWD	Canadian Food Inspection Agency, Ottawa, Canada

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

No

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No