

WOAH Reference Laboratory Reports Activities 2024

This report has been submitted: 31 janvier 2025 10:00

LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Scrapie
*Address of laboratory:	
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*E-mail address:	torsten.seuberlich@unibe.ch
Website:	
*Name (including Title) of Head of Laboratory (Responsible Official):	Prof. Dr. med. vet. Torsten Seuberlich
*Name (including Title and Position) of WOAH Reference Expert:	Prof. Dr. med. vet. Torsten Seuberlich
*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

Diagnostic Test	Indicated in WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Direct diagnostic tests		Nationally	Internationally
Scrapie Western Immunoblot	Yes	3	0
Scrapie rapid test	Yes	10	0

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?

Not applicable

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

Not applicable

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
Scrapie in Island – a model for prion diseases	2023-2026	To investigate prion strain evolution using the	FLI Germany, APHA UK, University of Giessen Germany, University of Edinburgh, INRA France, INIA Spain, WOA?H Ref Lab Italy, University of Iceland, Iceland. We are not	FRANCE GERMANY

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worldwide (ScIce)		Icelandic classical scrapie situation as a model.	involved as an official project partner, but provided consultancy on a regular basis and samples for experimental investigations.	ICELAND ITALY SPAIN
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13. In exercising your activities, have you identified any regulatory research needs* relevant for WOA?

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:

Participation in the Swiss scrapie surveillance program.

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

No

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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Dawson KLD, Rosato G, Egloff S, Burgener C, Oevermann A, Grest P, Hilbe M, Seuberlich T. Fatal tick-borne encephalitis virus infection in Dalmatian puppy-dogs after putative vector independent transmission. *Vet Q.* 2024 Dec;44(1):1-7. doi: 10.1080/01652176.2024.2338385. Epub 2024 Apr 10.

Eroksuz Y, Timurkan MO, Shams F, Seuberlich T, Karabulut B, Incili CA, Kara E, Eroksuz H. Astrovirus induced nonpurulent encephalomyelitis in sheep: First report from Türkiye by high-throughput sequencing. *Vet Med Sci.* 2024 Jul;10(4):e1499. doi: 10.1002/vms3.1499.

Bosco L, Yanez O, Schauer A, Mauerer C, Cushman SA, Arlettaz R, Jacot A, Seuberlich T, Neumann P, Schlaeppli D. Landscape structure affects temporal dynamics in the bumble bee virome: landscape heterogeneity supports colony resilience. *Sci Total Environ.* 2024 Oct 10;946:174280. doi: 10.1016/j.scitotenv.2024.174280. Epub 2024 Jun 26. PMID: 38942311

Shams F, Jokar M, Abdous A, Mohammadi P, Abbassioun A, Seuberlich T, Rahmadian V. Seroprevalence of *Toxoplasma gondii* and *Neospora spp.* in horse population of Tehran, Iran. *Sci Rep.* 2024 Jul 24;14(1):17054. doi: 10.1038/s41598-024-61999-z.

Ebinger A, Santos PD, Pfaff F, Dürrwald R, Kolodziejek J, Schlottau K, Ruf V, Liesche-Starnecker F, Ensser A, Korn K, Ulrich R, Fürstenau J, Matiassek K, Hansmann F, Seuberlich T, Nobach D, Müller M, Neubauer-Juric A, Suchowski M, Bauswein M, Niller HH, Schmidt B, Tappe D, Cadar D, Homeier-Bachmann T, Haring VC, Pörtner K, Frank C, Mundhenk L, Hoffmann B, Herms J, Baumgärtner W, Nowotny N, Schlegel

J, Ulrich RG, Beer M, Rubbenstroth D. Lethal Borna disease virus 1 infections of humans and animals - in-depth molecular epidemiology and phylogeography. Nat Commun. 2024 Sep 10;15(1):7908. doi: 10.1038/s41467-024-52192-x. PMID: 39256401

b) International conferences:

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EURL for TSEs annual meeting, Roma, Italy
EFSA TSE Network, Parma, Italy

c) National conferences:

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

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?

No

We are operating according to ISO17015.

19. Is your quality management system accredited?

No

Currently, the accreditation is pausing for organizational and administrative reasons,. The re-accreditaion of this system by the Swiss Accreditation Agency is in the process. The final audit is scheduled for 14th / 15th of May 2025. Thereafter the formal accreditation will be granted in the next two months.

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

Yes

Our laboratory is recognized by the Swiss authorities as a BSL3** lab. This requires also to have a biorisk management in place. This includes guidelines, regular reviews and training.

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?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOA?H REF. LABS
National Reference Laboratory Network of the European Union Reference Laboratory for TSEs	Participant	30	WOA?H Ref Lab Italy and WOA?H Ref, Lab Spain

25. Did you organise or participate in inter-laboratory proficiency tests with WOA?H Reference Laboratories designated for the same pathogen during the past 2 years?

Yes

Purpose of the proficiency test:	Role of your Reference Laboratory (organiser/ participant)	No. participating Laboratories	Participating WOA?H Ref. Labs/ organising WOA?H Ref Lab
Scrapie rapid test	Participant	25	Spain, Italy and Switzerland
Scrapie confirmatory immunoblot	Participant	20	Spain, Italy Switzerland
TSE discriminatory Western immunoblot	Participant	10	Spain, Italy, Switzerland

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
Scrapie in Island – a model for prion diseases worldwide (ScIce	Investigation of prion strain evolution, with classical scrapie in Iceland as a model.	UK, Italy

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 during the past 2 years?

Yes

Purpose for inter-	Role of your reference	No. participating	WOA?H Member
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laboratory test comparisons ¹	laboratory (organizer/participant)	laboratories	Name of the test	Countries
Scrapie rapid test	Participant	20	Idexx BSE/Scrapie Herdchek ELISA	
Scrapie Western immunoblot	Participant	15	Bio-Rad TeSeE WB	
TSE Discriminatory WB	Participant	10	APHA Bio-Rad TeSeE Hybrid WB	

TOR12: EXPERT CONSULTANTS

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

Yes

Kind of consultancy	Location	Subject (facultative)
Revision of the Scrapie chapter of the Terrestrial Code	Email	WOAH Terrestrial Code

29. Additional comments regarding your report:

Yes

Our activities as a WOA Reference Laboratory for Scrapie are limited, because there are in total three WOA Ref Labs for Scrapie in Europe and one is at the same time the EURL, which covers most of the activities in Europe. Nevertheless, we keep our diagnostic capacities because there is a huge overlap with diagnostic techniques for BSE and the same methods are used for both diseases. We will also gain re-accreditation of scrapie diagnostics in 2025.