

WOAH Reference Laboratory Reports Activities 2025

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LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Scrapie
*Address of laboratory:	University of Bern, Vetsuisse Faculty, Division of Neurological Sciences, Bremgartenstrasse 109a. CH-3012 Bern
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*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	
		Nationally	Internationally
Indirect diagnostic tests			
none		0	0
Direct diagnostic tests			
PrP Western immunoblot	Yes	5	2
IDEXX HerdChek BSE Scrapie Ag ELISA	Yes	5	2

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?

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH Members?

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

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Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
PrP Western immunoblot	We developed and partially validated a PrP Western immunoblot technique using chromogenic signal detection and near-infrared fluorescence-based signal detection in order to enhance the analytical sensitivity and to facilitate this step of the Western blot procedure.

7. Did your laboratory validate diagnostic methods according to WOAHP Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

9. Did your laboratory validate vaccines according to WOAHP Standards for the designated pathogen or disease?

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOAHP Members?

No

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

Yes

Name of the WOAHP Member Country receiving a technical consultancy	Purpose	How the advice was provided
ARGENTINA	Scrapie prion decontamination procedures	Email correspondance

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	WOAHP Member Countries involved other than your country
Scrapie in Island – a model for prion diseases worldwide (ScIce)	2023-2026	Understanding prion strain evolution in classical scrapie	FLI Germany, APHA United Kingdom, University of Giessen Germany, University of Edinburgh United Kingdom, IMRA France, INIA Spain, WOAHP Reference Lab for Scrapie Italy, University of Iceland Iceland; we are affiliated partner.	FRANCE GERMANY ICELAND ITALY SPAIN UNITED KINGDOM

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

Yes

Research need : 1

Please type the Research need: The genetic basis for classical scrapie resistance and control is still incompletely understood and some new candidate genetic PrP variants need to be investigated for their scrapie protective potential. This refers to sheep and goats.

Relevance for WOAHP Disease Control,

Relevance for the Code or Manual Code,

Field

Animal Category Terrestrial,

Disease:

Scrapie

Kind of disease (Zoonosis, Transboundary diseases) Transboundary diseases,

If any, please specify relevance for Codes or Manual, chapter and title

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(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

Answer: Terrestrial Manual Chapter: 14.8. Scrapie

Notes:

Answer:

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 on passive scrapie surveillance in Switzerland

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:

7

Neurotropic enteric viruses in animals: Comparative research, knowledge gaps, and the role of pathology. Dawson KLD, Seuberlich T, Pesavento PA. *Vet Pathol.* 2025 Jul;62(4):440-448. doi: 10.1177/03009858251334347. Epub 2025 Apr 22.

Annual (2024) taxonomic update of RNA-directed RNA polymerase-encoding negative-sense RNA viruses (realm Riboviria: kingdom Orthornavirae: phylum Negarnaviricota). Kuhn JH et al. ... See abstract for full author list → *J Gen Virol.* 2025 Jun;106(6):002077. doi: 10.1099/jgv.0.002077.

Incidence and prevalence of rabies virus infections in tested humans and animals in Asia: A systematic review and meta-analysis study. Shams F, Jokar M, Djalali E, Abdous A, Rahnama M, Rahmanian V, Kanankege KST, Seuberlich T. *One Health.* 2025 Jun 5;20:101102. doi: 10.1016/j.oneht.2025.101102. eCollection 2025 Jun.

Discovery and rescue of porcine bastroviruses associated with polioencephalomyelitis in domestic pigs. Wildi N, Bagatella S, Zhang X, Hawes MC, Dawson KLD, Chen H, Walker S, Harvey G, van der Heide B, Williams DT, Hemphill A, Gurtner C, Wang J, Seuberlich T. *J Virol.* 2025 Sep 23;99(9):e0113025. doi: 10.1128/jvi.01130-25. Epub 2025 Aug 18.

Persistence and Organ Tropism of Filoviruses in Farmed European Perch (Perca fluviatilis). Perschthaler J, Wildi N, Matthiss LK, Seuberlich T, Schmidt-Posthaus H. *J Fish Dis.* 2025 Dec 6:e70105. doi: 10.1111/jfd.70105. Online ahead of print.

Successful implementation of a risk assessment and mitigation program to control bovine digital dermatitis at the herd-level. Weber J, Hillen M, Seuberlich T, Fürmann A, Gurtner C, Becker J, Syring C, Ruiters MW, Alsaad M, Mazurek L, Schüpbach G, Steiner A. *Sci Rep.* 2025 Aug 20;15(1):30577. doi: 10.1038/s41598-025-12093-5.

First serological evidence of equine coronavirus and severe acute respiratory syndrome coronavirus 2 in horses in North Africa. Kouadria W, Poder SL, van Maanen K, Seuberlich T, Dawson KLD, Zientara S, Laabassi F. *Vet Res Commun.* 2025 Oct 4;49(6):347. doi: 10.1007/s11259-025-10928-0.

b) International conferences:

0

c) National conferences:

1

Current BSE/TSE Situation worldwide and future surveillance strategies. Presentation at the Swiss Veterinary Diagnostic Laboratory Meeting. Bern, December 2025.

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 WOA Members?

Yes

a) Technical visit : 0

b) Seminars : 0

c) Hands-on training courses: 0

d) Internships (>1 month) 1

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
D	ALGERIA	1

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO17015	Not yet available, will be provided as soon as available. In the meantime we are providing a letter of the Swiss Accreditation Service on the current status of the process.	Confirmation letter.pdf

19. Is your quality management system accredited?

No

We are in the final step of accreditation of our quality management system by the the Swiss Accreditation Service. All audits have been passed by the end of 2025 and we currently awaiting final recognition.

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

Yes

We are operating according to the Swiss Ordonance on Handling Organisms in Containd Systems. This requieres to permission for the acivities and to maintain a "biorisk management system. We have permissions for handling scrapie and BSE prions.

TOR9: SCIENTIFIC MEETINGS

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

No

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

No

TOR10: NETWORK WITH WOA REFERENCE LABORATORIES

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

Yes

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

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOA REF. LABS
European Union Reference Laboratory Network for TSEs	Participant	28	Italy, Spain

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25. Did you organise or participate in inter-laboratory proficiency tests with WOA 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 Ref. Labs/ organising WOA Ref Lab
Scrapie rapid test	Participant	29	Italy
Scrapie confirmatory Western immunoblot	Participant	22	Italy
Scrapie discriminatory Western immunoblot	Participant	18	Italy

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
Scrapie in Island – a model for prion diseases worldwide (ScIcE)	Classical scrapie strain evolution	APHA UK, WOA Reference laboratory for Scrapie Italy

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 during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
Scrapie rapid test	Participant	28	IDEXX herdchek BSE Scrapie Ag ELISA	AUSTRIA, BELGIUM, BULGARIA, CROATIA, CYPRUS, CZECH REPUBLIC, ESTONIA, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, ICELAND, ITALY, LATVIA, LITHUANIA, MALTA, NORTH MACEDONIA (REP. OF), NORWAY, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, THE NETHERLANDS,
Scrapie confirmatory Western immunoblot	Participant	22	Bio-Rad TeSeE Western Blot	AUSTRIA, BELGIUM, BULGARIA, CYPRUS, CZECH REPUBLIC, DENMARK, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, ICELAND, IRELAND, ITALY, NORWAY, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, THE NETHERLANDS,
Scrapie discriminatory Western immunoblot	Participant	18	APHA Bio-Rad TeSeE Hybrid Western Blot	BELGIUM, BULGARIA, CZECH REPUBLIC, FRANCE, GEORGIA, HUNGARY, IRELAND, ITALY, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SPAIN, THE NETHERLANDS,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

1. We receive very little sample submissions from WOA member states, because we are located in Europe, were most of the TSE reference laboratory activities are covered by the European Union Reference Laboratory for TSE in Italy. EU members states are obliged to refer to the EURL before consulting the WOA reference laboratories.
2. We are offering technical assistance, like diagnostic hands on training to WOA member states upon request, However there were no such demands in the past year except one.

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3. *We are in the process of re-accreditation of the scrapie and BSE diagnostic service according to ISO 17025 (see attached confirmation) and expect being accredited by mid 2026 at latest.*
4. *Overall there is little Scrapie testing activity, however, test systems used are the same for BSE and Scrapie and we maintain our competence largely by continued activities in BSE surveillance.*