

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:	Bovine spongiform encephalopathy
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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			
not applicable		0	0
Direct diagnostic tests			
BSE rapid test	Yes	1850	0
BSE confirmatory Western immunoblot	Yes	15	0

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?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOAH Member Countries	Country of recipients
Atypical)L-Type) BSE positive tissu	Discriminatory Western immunoblot	provide	0	15000 MG	1	ITALY,

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOAHA Members?

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?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
BSE confirmatory Western immunoblot	New methods of Western blot detection were validated: near-infrared fluorescence and chromogenic signal detection

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

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

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
ARGENTINA	Consultancy on BSE prion decontamination procedures	By email correspondence
URUGUAY	Consultancy on BSE positive reference material for PrP immunohistochemistry	By email coorespondence

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
Transmission study of Swiss putative atypical BSE strains to cattle (2nd passage)	Since 2015	To explore if an atypical prion protein observed in two cattle in Switzerland in 2011 relates to a novel transmissible prion strain	WOAHA reference laboratory for BSE. Lethbridge, Canada	CANADA

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:

As the national reference laboratory for BSE in Switzerland, we participate in active and passive disease surveillance for BSE 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

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

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

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

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. Discovery and rescue of porcine bastroviruses associated with polioencephalomyelitis in domestic pigs. *J Virol.* 2025 Sep 23;99(9):e0113025. doi: 10.1128/jvi.01130-25. Epub 2025 Aug 18.

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

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

Kouadria W, Poder SL, van Maanen K, Seuberlich T, Dawson KLD, Zientara S, Laabassi F. First serological evidence of equine coronavirus and severe acute respiratory syndrome coronavirus 2 in horses in North Africa. *Vet Res Commun.* 2025 Oct 4;49(6):347. doi: 10.1007/s11259-025-10928-0.PMID: 41045398

b) International conferences:

2

Annual EURL Reference laboratory meeting, Torino, Italy.
EFSA TSE Network, Parma Italy.

c) National conferences:

1

Coordination meeting of the Swiss Veterinary Diagnostic Laboratories, Bern, Switzerland.

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
	ALGERIA	

Torsten Seuberlich - - SWITZERLAND

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TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
According to ISO17025	The accreditation of our quality control system is awaiting final approval by the Swiss Accreditation Service. Please see attached letter. We have passed all audits, all non-conformities have been resolved and we are expecting final approval by mid- 2026 at latest.	Confirmation letter.pdf

19. Is your quality management system accredited?

No

Please see statement above. We are seeking for accreditation for two BSE rapid tests (Idexx Herdchek BSE/Srapie, Bio-Rad TeSeE ELISA), a confirmatory BSE Western immunoblot (Bio-Rad TeSeE Western Blot) and a BSE discriminatory Western immunoblot (APHA Bio-Rad TeSeE Hybrid Western Blot).

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

Yes

We are working under the requirements of the Swiss Ordinance on Handling Organisms in Contained Systems. Our activities are approved by the competent authority. A requirement for that is the maintenance of a biorisk management system.

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

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
EURL Network for TSEs	Participant	28	Switzerland, Italy

25. Did you organise or participate in inter-laboratory proficiency tests with WOAHP 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 WOAHP Ref. Labs/ organising WOAHP Ref Lab
BSE rapid test	Participant	30	Italy, Spain
BSE confirmatory Western immunoblot	Participant	20	Italy, Spain
BSE discriminatory Western immunoblot	Participant	13	Italy, Spain

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
Transmission study of Swiss putative atypical BSE strains to cattle (2nd passage)	To determine if these cases involve a new BSE type.	WOAHP Reference Laboratory for BSE, Lethbridge, Canada

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAHA 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
BSE rapid test	Participant	30	Idexx Herdcheck BSE/Scrapie Ag ELISA	AUSTRIA, BELGIUM, BULGARIA, CROATIA, CYPRUS, CZECH REPUBLIC, DENMARK, ESTONIA, FINLAND, FRANCE, GERMANY, HUNGARY, IRELAND, ITALY, LATVIA, LITHUANIA, MALTA, NORTH MACEDONIA (REP. OF), NORWAY, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, SWITZERLAND, THE NETHERLANDS,
BSE Western immunoblot	Participant	20	Bio.Rad TeSeE Western Blot	AUSTRIA, BELGIUM, BULGARIA, CROATIA, CZECH REPUBLIC, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, IRELAND, ITALY, NORWAY, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SPAIN, SWEDEN, SWITZERLAND,
BSE discriminatory Western immunoblot	Participant	11	APHA Bio-Rad TeSeE Hybrid Western Blot	BELGIUM, CZECH REPUBLIC, FRANCE, GERMANY, IRELAND, ITALY, POLAND, PORTUGAL, SPAIN, SWITZERLAND, THE NETHERLANDS,

TOR12: EXPERT CONSULTANTS

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

29. Additional comments regarding your report:

Yes

- We receive very little sample submissions from WOAHA member states, because we are located in Europe, where 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 WOAHA reference laboratories.*
- We are offering technical assistance, like diagnostic hands on training to WOAHA member states upon request, However there were no such demands in the past year except one.*
- 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.*