

# OIE Reference Laboratory Reports Activities

## *Activities in 2020*

**This report has been submitted : 2020-12-22 14:48:42**

<b>Name of disease (or topic) for which you are a designated OIE Reference Laboratory:</b>	Bovine spongiform encephalopathy
<b>Address of laboratory:</b>	University of Bern Vetsuisse Faculty Division of Neurological Sciences NeuroCenter Bremgartenstrasse 109A 3012 Bern SWITZERLAND
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<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	Prof Dr med vet Torsten Seuberlich FVH
<b>Name (including Title and Position) of OIE Reference Expert:</b>	Prof Dr med vet Torsten Seuberlich FVH
<b>Which of the following defines your laboratory? Check all that apply:</b>	Academic

**ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards**

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 OIE Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests		Nationally	Internationally
none	none	none	none
Direct diagnostic tests		Nationally	Internationally
BSE rapid test	Yes	2000	50
BSE Confirmatory Western Blot	Yes	28	0
BSE Immunohistochemistry	Yes	10	0

**ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards.  
To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.**

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by the OIE?

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient OIE Member Countries	Region of recipients
Bain stem tissue BSE positive	Rapid test	no	10 g	5 g	2	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Bain stem tissue blocks (BSE positive)	Confirmatory BSE IHC	no		10 g	2	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

***ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases***

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

***ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries***

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

No

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

Yes

Name of the OIE Member Country receiving a technical consultancy	Purpose	How the advice was provided
PHILIPPINES	Request on diagnostic training	Email
ARGENTINA	Request on reference material	Email
AUSTRIA	Request on differential testing capacities	Email
CANADA	Request on testing procedures	Email

***ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations***

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
Transmission of atypical Swiss BSE isolates to cattle	5 years	Risk assessment	CFIA Canada Leithbridge Laboratory	CANADA

***ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases***

11. Did your Laboratory collect epizootiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:
Active and passive surveillance for BSE according to OIE standards in the framework of disease control

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:
Surveillance data provided to official bodies and OIE

**13. What method of dissemination of information is most often used by your laboratory?  
(Indicate in the appropriate box the number by category)**

a) Articles published in peer-reviewed journals: 6

Neurological Disease and Encephalitis of Cattle. Int J Mol Sci. 2020 Jan 13;21(2):498. doi: 10.3390/ijms21020498. PMID: 31941046; PMCID: PMC7013525.

2: Kauer RV, Koch MC, Schönecker L, Becker J, Holwerda M, Glaus AN, Hierweger MM, Werder S, Dijkman R, Meylan M, Seuberlich T. Fecal Shedding of Bovine Astrovirus CH13/NeuroS1 in Veal Calves. J Clin Microbiol. 2020 Apr 23;58(5):e01964-19. doi: 10.1128/JCM.01964-19. PMID: 32102857; PMCID: PMC7180244.

3: Zaccaria G, Lorusso A, Hierweger MM, Malatesta D, Defourny SV, Ruggeri F, Cammà C, Ricci P, Domenico MD, Rinaldi A, Decaro N, D'Alterio N, Petrini A, Seuberlich T, Marcacci M. Detection of Astrovirus in a Cow with Neurological Signs by Nanopore Technology, Italy. Viruses. 2020 May 11;12(5):530. doi: 10.3390/v12050530. PMID: 32403368; PMCID: PMC7290991.

4: Hierweger MM, Koch MC, Seuberlich T. Bovine Polyomavirus 2 is a Probable Cause of Non-Suppurative Encephalitis in Cattle. Pathogens. 2020 Jul 29;9(8):620. doi: 10.3390/pathogens9080620. PMID: 32751201; PMCID: PMC7459705.

5: Schmidt-Posthaus H, Koch M, Seuberlich T, Birrer C, Hirschi R, Kugler M. Mysterious syndrome causing high mortality in wild brown trout in Eastern Switzerland, pathology and search for a possible cause. J Fish Dis. 2020 Oct;43(10):1317-1324. doi: 10.1111/jfd.13241. Epub 2020 Aug 24. PMID: 32830324.

6: Hierweger MM, Boujon CL, Kauer RV, Meylan M, Seuberlich T, Oevermann A. Cerebral Ovine Herpesvirus 2 Infection of Cattle Is Associated With a Variable Neuropathological Phenotype. Vet Pathol. 2020 Nov 18:300985820970493. doi: 10.1177/0300985820970493. Epub ahead of print. PMID: 33205708.

b) International conferences: 2

1. EFSA TSE network Meeting, Parma October, virtual Meeting
2. EURL annual meeting, Turino/Rome, November, virtual Meeting

c) National conferences: 1

1. Annual Meeting of National Diagnostic Laboratories, November, virtual meeting

d) Other:

(Provide website address or link to appropriate information) 0

**ToR 7: To provide scientific and technical training for personnel from OIE Member Countries**

**To recommend the prescribed and alternative tests or vaccines as OIE Standards**

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

No

**ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned**

15. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO 17025 (until June 2020)	Adobe Scan 22.12.2020 (3).pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Bio-Rad TeSe ELISA	SAS Switzerland
IDEXX Herdchek BSE	SAS Switzerland
Prionics Check Priostrip	SAS Switzerland
Prionics Check Western blot	SAS Switzerland
BSE Immunohistochemistry	SAS Switzerland
BSE confirmatory Western blot	SAS Switzerland
BSE discriminatory Western blot	SAS Switzerland

17. Does your laboratory maintain a “biorisk management system” for the pathogen and the disease concerned?

Yes

(See *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4*)

**ToR 9: To organise and participate in scientific meetings on behalf of the OIE**

18. Did your laboratory organise scientific meetings on behalf of the OIE?

No

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

No

**ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results**

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

Yes

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

Yes

Purpose of the proficiency tests: <sup>1</sup>	Role of your Reference Laboratory (organiser/ participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
BSE rapid test	participant	23	Italy, Turino
BSE confirmatory WB	participant	23	Italy, Turino
BSE IHC	participant	20	Italy, Turino

<sup>1</sup> validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

22. Did your laboratory collaborate with other OIE 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 OIE Reference Laboratories
Transmission of atypical BSE isolates	Risk assessment	CFIA Canada

**ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results**

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than

OIE Reference Laboratories for the same disease?

Yes

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at:  
<http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing> see point 1.3

Purpose for inter-laboratory test comparisons <sup>1</sup>	No. participating laboratories	Region(s) of participating OIE Member Countries
National BSE rapid test	5	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

### **ToR 12: To place expert consultants at the disposal of the OIE**

24. Did your laboratory place expert consultants at the disposal of the OIE?

Yes

Kind of consultancy	Location	Subject (facultative)
Request on testing procedures	Paris by email	BSE testing
Review of OIE Manual chapter	by email	BSe diagnostic procedures

25. Additional comments regarding your report: