

OIE Reference Laboratory Reports Activities

Activities in 2021

This report has been submitted : 2022-01-19 12:33:12

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Bovine spongiform encephalopathy
Address of laboratory:	Centro de Investigación en Encefalopatías y Enfermedades Transmisibles Emergentes. Universidad de Zaragoza. C/ Miguel Servet, 177 50013 Zaragoza SPAIN
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Name (including Title) of Head of Laboratory (Responsible Official):	Dra. Marta Monzón
Name (including Title and Position) of OIE Reference Expert:	Prof. Juan José Badiola Díez. Catedrático de Sanidad Animal. Director del Centro de Investigación en Encefalopatías y Enfermedades Transmisibles Emergentes
Which of the following defines your laboratory? Check all that apply:	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
PRIONICS®-CHECK PRIOSTRIP	SÍ	26	-
IDEXX herdCheck BSE antigen test kit, EIA ELISA	SÍ	1611	-
Direct diagnostic tests		Nationally	Internationally

**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
Material de referencia (portas con tejido bovino incluido en parafina para aplicar la técnica inmunohistoquímica).	Inmunohistoquímica para el diagnóstico de BSE.	Producido/suministrado	-	2 g	1	<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
CHILE	Diagnóstico de confirmación en casos sospechosos de EEB.	Ante la solicitud realizada por el país, se mostró la disposición para realizar el diagnóstico de confirmación en los casos sospechosos de EEB
PERU	Disponer de un protocolo de la técnica inmunohistoquímica homologado por la OIE para la detección de la PrPres de EEB en el tejido nervioso.	Se intentó solventar los problemas que el país expuso para acceder a los reactivos necesarios para la puesta a punto del protocolo de la técnica inmunohistoquímica homologada por la OIE para la detección de la PrPres de EEB en tejido nervioso.

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
Programa operativo de Cooperación Territorial España-Francia-Andorra (POCTEFA)	3 años	Red de investigación transfronteriza en enfermedades priónicas humanas y animales	Universidad de Zaragoza, INRA Toulouse, Universidad de Barcelona y Autónoma de Barcelona, CIC BioGUNE.	SPAIN FRANCE

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:

Se recogen datos para enviar al Ministerio de Agricultura, Pesca y Alimentación.
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12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

No

If the answer is no, please provide a brief explanation of the situation:

Los datos se remiten al Ministerio de Agricultura, Pesca y Alimentación para su divulgación.
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**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: 5

1. Betancor M, Moreno-Martínez L, López-Pérez Ó, Otero A, Hernaiz A, Barrio T, Badiola JJ, Osta R, Bolea R, Martín-Burriel I. Therapeutic assay with the Non-toxic C-Terminal fragment of tetanus toxin (TTC) in Transgenic Murine Models of Prion Disease. *Mol Neurobiol.* 2021 Oct;58(10):5312-5326. doi: 10.1007/s12035-021-02489-5. Epub 2021 Jul 20. PMID: 34283400; PMCID: PMC8497292.

2. Garcés M, Guijarro IM, Ritchie DL, Badiola JJ, Monzón M. Novel morphological glial alterations in the spectrum of prion disease types: A focus on common findings. *Pathogens.* 2021 May 13;10(5):596. doi: 10.3390/pathogens10050596. PMID: 34068251; PMCID: PMC8153175.

3. López-Pérez Ó, Sanz-Rubio D, Hernaiz A, Betancor M, Otero A, Castilla J, Andréoletti O, Badiola JJ, Zaragoza P, Bolea R, Toivonen JM, Martín-Burriel I. Cerebrospinal fluid and plasma small extracellular vesicles and miRNAs as biomarkers for prion diseases. *Int J Mol Sci.* 2021 Jun 25;22(13):6822. doi: 10.3390/ijms22136822. PMID: 34201940; PMCID: PMC8268953.

4. Marín B, Otero A, Lugan S, Espinosa JC, Marín-Moreno A, Vidal E, Hedman C, Romero A, Pumarola M, Badiola JJ, Torres JM, Andréoletti O, Bolea R. Classical BSE prions emerge from asymptomatic pigs challenged with atypical/Nor98 scrapie. *Sci Rep.* 2021 Aug 31;11(1):17428. doi: 10.1038/s41598-021-96818-2. PMID: 34465826; PMCID: PMC8408226.

5. Otero A, Betancor M, Eraña H, Fernández Borges N, Lucas JJ, Badiola JJ, Castilla J, Bolea R. Prion-associated neurodegeneration causes both endoplasmic reticulum stress and proteasome impairment in a murine model of spontaneous disease. *Int J Mol Sci.* 2021 Jan 5;22(1):465. doi: 10.3390/ijms22010465. PMID: 33466523; PMCID: PMC7796520.

b) International conferences: 2

1. Nombre del Congreso: 9th Iberian Congress on Prions. Jaca, 1-2 December 2021.
Poster. Study of the infectivity of goat tissues inoculated intracerebrally with caprine and bovine BSE. Sola D, Raksa HC, Pitarch JL, Langeveld J, Bossers A, Marín B, Betancor M, García M, Barillet F, Bouvier F, Monleón E, Bolea R, Torres JM, Andreoletti O, Badiola JJ, Acín, C.

2. Nombre del Congreso: 9th Iberian Congress on Prions. Jaca, 1-2 December 2021.
Oral presentation. Glycans are not crucial for the preservation of the pathobiological features of BSE. Barrio T, Otero A, Eraña H, Charco JM, Betancor, Díaz-Domínguez CM, Marín B, Fernández-Borges N, Andréoletti O, Torres JM, Kong Q, Badiola JJ, Bolea R, Castilla J.

c) National conferences: 3

1. Nombre del congreso: XXXII Reunión de la SEAPV. 1 de octubre 2021
Comunicación oral: "Estudio de la infectividad de tejidos de caprinos inoculados intracerebralmente con encefalopatía espongiforme bovina caprina y bovina". Sola D, Raksa HC, Pitarch JL, Langeveld J, Bossers A, Marín B, Betancor M, García M, Barillet F, Bouvier F, Monleón E, Bolea R, Andreoletti O, Badiola JJ, Acín, C

2. Nombre del congreso: XXXII Reunión de la SEAPV. 1 de octubre 2020-2021

Comunicación oral: Estudio de la expresión de las proteínas PERK y BiP como marcadores de estrés del retículo endoplásmico en enfermedades priónicas. Lozada Ortiz J, Pérez Lázaro S, Betancor M, Bolea R, Badiola JJ, Otero A

3. Nombre del congreso: XXXII Reunión de la SEAPV. 1 de octubre 2020-2021

Comunicación oral: Influencia de la región del sistema nervioso central en la neuroinflamación asociada a las enfermedades priónicas.

García, M, Cortez L, Serrano B, Betancor M, Sola D, Bolea R, Monleón E, Badiola JJ, Garza MC.

d) Other:

(Provide website address or link to appropriate information) 1

Chapter update of the Bovine Spongiform Encephalopathy. The MSD Veterinary Manual.

Merck/MSD Manuals editor.2021.

Se han impartido conferencias, cursos y seminarios dirigidos a investigadores, veterinarios, ganaderos, asociaciones de consumidores y público en general. También se ha proporcionado información a través de los medios de comunicación (periódicos, revistas, radio y televisión).

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?

Yes

a) Technical visits: 0

b) Seminars: 1

c) Hands-on training courses: 1

d) Internships (>1 month): 0

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
b y c. Seminario y curso de formación práctica	Guatemala	58

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)
UNE-EN ISO/IEC 17025:2017	CERT_1951_LE_1663_rev2.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
ELISA IDEXX	ENAC (ENTIDAD NACIONAL DE ACREDITACIÓN)
PRIO STRIPS PRIONICS	ENAC (ENTIDAD NACIONAL DE ACREDITACIÓN)
HISTOLOGÍA	ENAC (ENTIDAD NACIONAL DE ACREDITACIÓN)
INMUNOHISTOQUÍMICA	ENAC (ENTIDAD NACIONAL DE ACREDITACIÓN)

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?

No

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?

No

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?

No

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 ¹	No. participating laboratories	Region(s) of participating OIE Member Countries
Comprobar la capacidad de los laboratorios participantes en diagnosticar muestras de EEB, mediante el empleo de técnicas de diagnóstico rápido autorizadas en la UE.	18	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Determinar la aptitud de un laboratorio para efectuar pruebas de diagnóstico de la EEB (Nicaragua).	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

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)
Participación como experto (JJ Badiola) en el Grupo ad hoc sobre BSE de la OIE.	Reunión virtual los días 16-19 Noviembre 2021	Evaluación del riesgo de BSE en países miembros de la OIE.

25. Additional comments regarding your report:

Se mantiene la relación con los laboratorios responsables del diagnóstico de EEB en Perú y Paraguay con los que está previsto llevar a cabo la capacitación de personal especializado en técnicas de diagnóstico de EEB. También con los de Guatemala, con los que se pretendía iniciar un ensayo interlaboratorial, pero que ha resultado imposible por motivos logísticos. De hecho, el material está preparado, dispuesto para ser enviado tan pronto se logre resolverlos.

Como comentario general debe tenerse en cuenta que, al igual que en el pasado año 2020, la Pandemia Covid-19 ha reducido de forma muy importante las actividades previstas en varios países de Latinoamérica, así como la anulación de la mayoría de los congresos previstos sobre enfermedades priónicas lo que ha afectado a la actividad de nuestro laboratorio.