

OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-14 17:39:12

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Scrapie
Address of laboratory:	Centro de Investigación en Encefalopatías y Enfermedades Transmisibles Emergentes Universidad de Zaragoza Miguel Servet, 177 50013 Zaragoza SPAIN
Tel.:	+34-976 76 20 19
Fax:	+34-976 76 28 35
E-mail address:	badiola@unizar.es
Website:	http://centroeets.unizar.es
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
BioRad TeSeE ELISA	Sí	776	-
IDEXX herdCheck Scrapie/BSE antigen test kit, EIA ELISA	Sí	5893	-
Direct diagnostic tests		Nationally	Internationally
Histopatología	Sí	141	-
Inmunohistoquímica	Sí	141	-

**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 (tejido ovino fresco e incluido en parafina correspondiente a animales afectados de Scrapie clásico).	Inmunohistoquímica y pruebas moleculares para el diagnóstico de Scrapie clásico.	Producido y suministrado	-	35 g	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Material de referencia (tejido ovino incluido en parafina así como portas en los que se ha aplicado la técnica inmunohistoquímica).	Inmunohistoquímica para diagnóstico de Scrapie.	Producido y suministrado	-	3 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?

No

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) 2014-2020 REDPRION.	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:
Los datos se obtienen dentro del marco del programa europeo de vigilancia epidemiológica del prurigo lumbar (scrapie) para su prevención, control y erradicación.

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 recogidos se envían al Ministerio de Agricultura, Pesca y Alimentación para su difusión y divulgación.

**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

- Huor A, Espinosa JC, Vidal E, Cassard H, Douet JY, Lugan S, Aron N, Marín-Moreno A, Lorenzo P, Aguilar-Calvo P, Badiola J, Bolea R, Pumarola M, Benestad SL, Orge L, Thackray AM, Bujdoso R, Torres JM, Androletti O. The emergency of classical BSE from atypical/Nor98 scrapie. *Proc Natl Acad Sci U S A*. 2019 Dec 16. pii: 201915737. doi: 10.1073/pnas.1915737116.

- López-Pérez Ó, Bolea R, Marín B, Badiola JJ, Martín-Burriel I. Autophagy impairment in highly prion-affected brain areas of sheep experimentally infected with atypical scrapie. *Vet Microbiol*. 2019;233:78-84 (doi: 10.1016/j.vetmic.2019.04.026).

- López-Pérez Ó, Otero A, Filali H, Sanz-Rubio D, Toivonen JM, Zaragoza P, Badiola JJ, Bolea R, Martín-Burriel I. Dysregulation of autophagy in the central nervous system of sheep naturally infected with classical scrapie. *Sci Rep*. 2019;9(1):1911.(doi:10.1038/s41598-019-38500-2).

- Langeveld JPM, Pirisinu L, Jacobs JG, Mazza M, Lantier F, Simon S, Androletti O, Acin C, Esposito E, Fast C, Groschup M, Goldmann W, Spiropoulos J, Sklaviadis T, Lantier F, Ekateriniadou L, Papisavva-Stylianou P van Keulen LJM, Acutis PL, Agrimi U, Bossers A, Nonno R. 2019. Four types of scrapie in goats differentiated from each other and bovine spongiform encephalopathy by biochemical methods. *Vet Res*. 2019 Nov 25; 50(1):97. (doi: 10.1186/s13567-019-0718-z).

-Otero A, Hedman C, Fernández-Borges N, Eraña H, Marín B, Monzón M, SánchezMartín MA, Nonno R, Badiola JJ, Bolea R, Castilla J. A single amino acid substitution, found in mammals with low susceptibility to prion diseases, delays propagation of two prion strains in highly susceptible transgenic mouse models. *Mol Neurobiol*. 56(9):6501-6511. (2019). (doi: 10.1007/s12035-019-1535-0).

- Otero A, Duque Velásquez C, Johnson C, Herbst A, Bolea R, Badiola JJ, Aiken J, McKenzie D. Prion protein polymorphisms associated with reduced CWD susceptibility limit peripheral PrPCWD deposition in orally infected white-tailed deer. *BMC Vet Res*. 2019;15(1):50 (doi: 10.1186/s12917-019-1794-z).

b) International conferences: 8

- Barrio T, Filali H, Otero A, Sheleby-Elías J, Marín B, Vidal E, Torres JM, Groschup M, Androletti O, Badiola JJ, Bolea R. Mixtures of prion substrains in mice bioassay of natural scrapie cases. *Prion 2019 emerging concepts*. Edmonton (Alberta) Canadá, 21-24 May 2019. Oral presentation.

- Barrio T, Filali H, Otero A, Sheleby-Elías J, Marín B, Vidal E, Torres JM, Groschup M, Androletti O, Badiola JJ, Bolea R. Scrapie strain typing of brain and lymph node-derived isolates in ovinized models reveals mixture of substrains with distinct pathobiological properties". *Prion 2019 emerging concepts*. Edmonton (Alberta) Canadá, 21-24 May 2019. Poster.

- Pirisinu L, Androletti O, Lantier F, Acutis PL, Acin C, Goldmann W, Sklaviadis T, Ekateriniadou L, Fast C, Papisawa - Stylianou P, Simon S, Spiropoulos J, Agrimi U, Jacobs JG, Bossers A, van Keulen LM, Mazza M, Nonno R, Langeveld JPM. TSEs in European goats discriminated by Western blotting into five types based on five robust molecular parameters. *Prion 2019. Emerging concepts*. Edmonton (Alberta) Canadá, 21-24 Mayo 2019. Poster.

- Barrio T, Filali H, Otero A, Sheleby-Elías J, Marín B, Vidal E, Torres JM, Groschup M, Androletti O, Badiola JJ, Bolea R. Mixtures of prion substrains in field cases of scrapie revealed by mice bioassay. *8th Iberian Congress on Prions*. Castelo Branco (Portugal) 24-25 Octubre 2019. Oral communication.

- Betancor M, López-Pérez O, Moreno L, Otero 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 scrapie. *8th*

Iberian Congress on Prions. Castelo Branco (Portugal) 24-25 Octubre 2019. Oral communication.

- Guijarro IM, Garcés M, Marín B, Otero A, Barrio T, Badiola JJ, Monzón M. Assessment of host immune response in natural ovine scrapie after chronic dexamethasone treatment. 8th Iberian Congress on Prions. Castelo Branco (Portugal) 24-25 Octubre 2019. Poster.

- García M, Serrano B, Bolea R, Monleón E, Badiola JJ, Garza MC. Analysis of Toll-like receptors in ileum of orally inoculated lambs with classical scrapie. 8th Iberian Congress on Prions. Castelo Branco (Portugal), 24-25 Octubre 2019. Poster.

- Marín-Moreno A, Aguilar-Calvo P, Espinosa JC, González L, Pitarch JL, Sola D, Acín C, Orge L, Andreoletti O, Nonno R, Torres JM. Broad study of the diversity of scrapie prions circulating in Europe by using just two rodent models. 8th Iberian Congress on Prions. Castelo Branco (Portugal), 24-25 Octubre 2019. Comunicación Oral.

c) National conferences: 4

- Guijarro IM, Garcés M, Marín B, Otero A, Barrio T, Badiola JJ, Monzón M. Efecto de la administración crónica de dexametasona en un modelo natural de scrapie. XXXI Reunión de la SEAPV. Puerto de la Cruz (Tenerife), 12-14 de junio de 2019. Comunicación oral.

- Betancor M, López-Pérez O, Moreno L, Barrio T, Otero A, Badiola JJ, Osta R, Martín-Burriel, Bolea R. Ensayo terapéutico con la toxina tetánica (TTC) en modelos murinos transgénicos infectados con scrapie. XXXI Reunión de la SEAPV. Puerto de la Cruz (Tenerife), 12-14 de junio de 2019. Comunicación oral.

- García M, Martín-Burriel I, Serrano-Pérez B, Bolea R, Monleón E, Badiola JJ, Garza MC. Análisis de los receptores tipo Toll en scrapie ovino natural. XXXI Reunión de la SEAPV. Puerto de la Cruz (Tenerife), 12-14 junio 2019. Comunicación oral.

- Barrio T, Vidal E, Betancor M, Otero A, Marín B, Filali H, MartínBurriel I, Monleón E, Monzón M, Pumarola M, Badiola JJ, Bolea R. Las neurotrofinas y las enfermedades priónicas: el rol de p75NTR en el scrapie natural y experimental. XXXI Reunión de la SEAPV. Puerto de la Cruz (Tenerife), 12-14 de junio de 2019. Poster. Premio al mejor póster del congreso.

d) Other:

(Provide website address or link to appropriate information) 3

- Libro: Badiola JJ, Garza MC, Raksa HC, Bolea R, Monzón M, Acín C. Enfermedades Infectocontagiosas en pequeños rumiantes. Capítulo 46. Encefalopatías espongiiformes transmisibles. ISBN: 978-84-9113-353-7 © 2019. Elsevier España, S.L.U.

- XIII Seminario de Patología Veterinaria de la Fundación "Charles L Davis" en Bariloche (Argentina). Enfermedades Nerviosas en Pequeños Rumiantes. 14, 15 y 16 de Noviembre del 2019. C.Acín

- Además se han impartido otros cursos y conferencias 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?

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)
UNE-EN ISO/IEC 17025:2017	794_LE1663.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
ELISA BIORAD	ENAC (ENTIDAD NACIONAL DE ACREDITACIÓN)
ELISA IDEXX	ENAC (ENTIDAD NACIONAL DE ACREDITACIÓN)
HISTOPATOLOGÍA	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?

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?

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 de diagnosticar correctamente muestras para prurigo lumbar, 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 del prurigo lumbar (como parte del programa de acreditación de dicho laboratorio).	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

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?

No

25. Additional comments regarding your report:

Tras la oferta de colaboración formulada por nuestro laboratorio a varios países, se mantiene el contacto para la potencial colaboración con los laboratorios responsables del diagnóstico de Prúrigo lumbar de Guatemala (está previsto el envío a su laboratorio de material de referencia), Ecuador y Paraguay (en la próxima estancia en nuestro laboratorio de los responsables del diagnóstico de Encefalopatías espongiformes transmisibles, recibirán formación en el diagnóstico de BSE y Prúrigo lumbar).