

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:	Via Bologna 148
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Website:	www.izsplv.it
*Name (including Title) of Head of Laboratory (Responsible Official):	Dr Cristina Casalone
*Name (including Title and Position) of WOAH Reference Expert:	Dr Cristina Casalone
*Which of the following defines your laboratory? Check all that apply:	Governmental

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	No	0	0
Direct diagnostic tests			
HERDCHEK BSE/SCRAPIE ANTIGEN - KIT EIA IDEXX	Yes	2754	0
Immunohistochemistry for pathological prion protein	Yes	38	0
Histology	Yes	38	0
PrP genotyping	No	2190	0
Scrapie confirmatory immunoblot	Yes	70	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?

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

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Sections on paraffin slide	IHC and histology	Provided	0	60 slides (classical scrapie e lymphoid tissue)	1	ESTONIA,
Frozen nervous tissue classical Scrapie	Rapid test	Provided	0	30gr	1	POLAND,
Frozen homogenate nervous tissue negative Scrapie	Rapid test	Produced	800 ml	0	11	ITALY,
Frozen homogenate nervous tissue classical Scrapie	Rapid test	Produced	900 ml	o	11	ITALY,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOA Members?

TOR3: NEW PROCEDURES

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

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
RT-QuIC	Description: Development of standardised protocol for amplification in vitro of classical Scrapie agent. Publication: "Early and Pre-Clinical Detection of Prion Seeding Activity in Cerebrospinal Fluid of Goats using Real-Time Quaking-Induced Conversion Assay". Alessandra Favole, Maria Mazza, Elena Vallino Costassa, Antonio D'Angelo, Guerino Lombardi, Paola Marconi, Paola Crociara, Elena Berrone, Marina Gallo, Claudia Palmitessa, Christina D Orrù, Byron Caughey, Pier Luigi Acutis, Maria Caramelli, Cristina Casalone, Cristiano Corona. Sci Rep. 2019 Apr 16;9(1):6173. doi: 10.1038/s41598-019-42449-7

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

TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

Yes

Name of the WOA Member Country receiving a technical consultancy	Purpose	How the advice was provided
SWITZERLAND	Technical support on the immunohistochemistry diagnosis of scrapie cases	Continuous exchange of technical information via e-mail and sending of new slides
LITHUANIA	Technical support on the immunohistochemistry diagnosis of scrapie cases	Continuous exchange of technical information via e-mail and sending of new slides
LATVIA	Technical support on the immunohistochemistry diagnosis of scrapie cases	Continuous exchange of technical information via e-mail and sending of new slides
CZECH REPUBLIC	Technical support on the immunohistochemistry diagnosis of scrapie cases	Continuous exchange of technical information via e-mail and sending of new slides
CROATIA	Support for writing a scientific paper	Exchange of information via email

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)	WOAH Member Countries involved other than your country
The OIE Virtual Biobank: a Web-based catalogue of biological resources	Expeted duration:2-4 years	To create an online catalog of biological resources	IIZZSS	ITALY

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

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:

Yes, surveillance data collection and storage are currently underway. Our national database contains active and passive surveillance data from 2002 to the present. Based on EU requirements, monitoring of small ruminants covers approximately 40,000 animals, evenly distributed between adult sheep and goats in the target categories of healthy slaughtered animals and fallen stock.

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:

Each year, a national report on scrapie surveillance is provided to the Health Ministry. Additionally, these annual surveillance data are shared with EFSA. Summary data are accessible through the annual EU Summary Report on TSEs (e.g., the most recent report can be found at <https://efsa.onlinelibrary.wiley.com/doi/full/10.2903/j.efsa.2025.9732>) and through a freely accessible EFSA dashboard (<https://www.efsa.europa.eu/en/microstrategy/tse>).

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:

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- Mazza M*, Favole A*, Campia V*, Iulini B*, Nonno R, Ligios C, Pintus D, Peletto S*, Casalone C*, Corona C*, Bozzetta E* and Acutis PL* "Real-Time Quaking-Induced Conversion Assay Applied to the Italian Chronic Wasting Disease Monitoring Plan: Comparison of Classical and Innovative Diagnostic Methods" *Pathogens* 2025 doi.org/10.3390/pathogens14101053

- Rosanna Desiato; Ingravalle Francesco; Bertolini Silvia; Aiassa Eleonora; Barzanti Paola; Perrotta Maria Gabriella; Catelan Dolores; Ru Giuseppe. *Veterinary Research. Space-time distribution of classical scrapie in Italian sheep: assessing the effectiveness of the National Genetic Selection Plan. Accepted.*

b) International conferences:

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- 13th Iberian Congress on Prion 22-23 may 2025
- 22nd Annual Meeting of the TSE EURL 12-13 may 2025, Torino
- Prion 2025, 3-7 November 2025 - Buzios, Rio De Janeiro - Brasile

c) National conferences:

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- Beyond formalin: GAF® as the new standard of safety and quality in tissue fixation – September 23, 2025, Rome
- Processed animal proteins in animal feed, June 10, 2025
- XXIV Conference of Istituti Zooprofilattici Sperimentali on Transmissible Spongiform Encephalopathies November 24-25, 2025, Turin, IZSPLV.

d) Other (Provide website address or link to appropriate information):

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Training courses and organized conferences

- Meeting at the IZSPLV on September 16-17, 2025, between the staff of the Proteomics and TSE Diagnostics Department and experts from IDEXX to discuss: reviewing the production and purification phase of recombinant PrP substrates in order to assess the feasibility of producing stable batches according to a quality protocol. This meeting was based on a collaboration agreement signed between our Institute and IDEXX.
- XXIV Conference of Experimental Zooprophyllactic Institutes on Transmissible Spongiform Encephalopathies, 24-25 November 2025, Turin
- Training in Senegal at CasaBio - Centre de Formation, Ferme pédagogique et Ecolodge d'application. 2-9 April, 2025.

Scientific committees and working groups in which staff participated

- WOAHS Specialist Commissions on scrapie 2024-2025
- Working group coordinated by the Ministry of Health for the management of sheep breeds at risk of extinction through genetic selection.

Participation in the following Working Groups of the EFSA Biological Hazards Panel:

- TSE working group for the production of the TSE EU Summary Report.

Abstracts for international conferences:

- Iulini B*, Frizziero S, Florio C*, Gazzuola P*, Pirisinu L, Chiappini B, Boniotti MB, Ru G*, Bozzetta E*, Mazza M*, Casalone C* "Biological Treasures: Biobanks in Service of Prion Science" Iberian Congress on PRION – 22-23 may 2025 Porto
- Giuseppe Ru, Renata Carvalho, José Neves, Romolo Nonno, and Leonor Orge, "Large-scale association study on the combined effect of genetics and age on atypical scrapie risk in the Portuguese sheep population." Iberian Congress on PRION – 22-23 may 2025 Porto
- Rosanna Desiato, Allegra Sartore, Paola Barzanti, Mattia Begovoeva, Anna Ladogana, Maria Puopolo, Dorina Tiple, Luana Vaianella, Elisa Colaizzo, Dolores Catelan, Giuseppe Ru. "Spatial patterns of classical scrapie in small ruminants and Creutzfeldt-Jakob disease in humans: a geographical approach to investigate the zoonotic potential of scrapie." Iberian Congress on PRION – 22-23 may 2025 Porto
- Vera Silva, Paula Tavares, Natalia Campbell, Fátima S. Silva, Neuza Bacalhau, Inês Carolino, Nuno Carolino, Renata Carvalho, Gabrielle Vaccari, Giuseppe Ru and Leonor Orge, "Preventing future TSE outbreaks: exploring prnp diversity for resistance in Portuguese Goats- setting up a project" Iberian Congress on PRION – 22-23 may 2025 Porto

Abstracts for national conferences

- N.F. Fiscella, S. Frizziero, M. Mazza, E. Bozzetta, G. Ru, MG Perrotta, C. Testori, V. Carta, C.L. Florio, C. Casalone, B. Iulini. Neuropathological lesions in deer monitored for chronic wasting disease in Italy. SIDILV 15-17 ottobre 2025, Palermoo della ricerca sui prioni. SIDILV 15-17 ottobre e 2025, Palermo
- Paola Gazzuola, Serena Frizziero, Alessio Ferrari, Virginia Mattioda, Laura Pirisinu, Barbara Chiappini, Maria Beatrice Boniotti, Giuseppe Ru, Elena Bozzetta, Maria Mazza, Cristina Casalone, Barbara Iulini. Biobanks at the service of prion research. SIDILV 15-17 ottobre 2025, Palermo
- Rosanna Desiato, Allegra Sartore, Paola Barzanti, Mattia Begovoeva, Anna Ladogana, Maria Puopolo, Dorina Tiple, Luana Vaianella, Elisa Colaizzo, Dolores Catelan, Giuseppe Ru. Spatial patterns of classical scrapie in sheep and goats and Creutzfeldt-Jakob disease in humans: a geographical approach to investigating the zoonotic potential of scrapie. XLIX Congress AIE 8-11 april 2025, Salerno.

International teaching

22st Meeting EURL TSE 12 e 13 May 2025- l'NH Hotel Genio, Turin:

- "EURL TSE Work programme 2024-2025: what done, what to do"
- "Rapid Tests EQA (RB & RS): results of the 2024 round and forthcoming 2025 round"
- "Confirmatory immunoblotting (WB & WS): results of the 2024 round and forthcoming 2025 round"
- "Rapid and confirmatory Tests: issues & news"
- "PrP Immunohistochemistry Technical 2024 EQA"
- "Histopathology interpretation 2024 EQA"

National teaching:

- Lecturer at the University of Sassari, Pathology in Transmissible Spongiform Encephalopathies, February 28, 2025
- Lecturer at the conference in Masicelle (SA) on Animal Health, April 23-26, "Monitoring TSEs in African Countries: a useful commitment for everyone." – Lecturer at the University of Bari Aldo Moro as part of the seminars organized by the School of Specialization in "Infectious Diseases, Prophylaxis, and Veterinary Police," March 24, 2025
- Lecturer at the University of Sassari, Epidemiology of Transmissible Animal Encephalopathies, February 28, 2025
- "WOAH Standards for TSE Surveillance" at the Workshop on Processed Animal Proteins in Feed 2025 – online lecture June 10, 2025.
- "Alkaline hydrolysis in animal by-products: prospects and challenges for the circular economy" in the Processed Animal Proteins in Feed 2025 Workshop - online lecture June

10, 2025

CEA conference presentations:

- WOAHA guidelines for BSE surveillance
- TSE surveillance in Italy: what are the prospects?
- Taking stock of the risk of transmission of atypical BSE to humans
- Processed animal proteins and feed: everything you need to know -
- Hides and protein hydrolysates: new prospects
- Alkaline hydrolysis of SOAs: scientific evidence for a sustainable transition
- Update on genetic scrapie selection in Italy
- New diagnostic principles for new TSE surveillance
- TSE surveillance in Italy: critical issues and updates

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAHA Members?

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO17025	PDF	Certificato di accreditamento revisionato il 23.01.25 -705252.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
HERDCHEK BSE/SCRAPIE ANTIGEN KIT TEST EIA IDEXX	ACCREDIA-ILAC MRA
Scrapie confirmatory immunoblot	ACCREDIA-ILAC MRA
Immunohistochemistry for pathological prion protein	ACCREDIA-ILAC MRA
Histology	ACCREDIA-ILAC MRA
PrP Genotyping	ACCREDIA-ILAC MRA

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

Yes

Biosafety guidelines have been produced for personnel working within laboratories that handle prions

TOR9: SCIENTIFIC MEETINGS

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

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

Yes

Title of event	Date	location	Role (speaker, presenting poster, short communications)	Title of the work presented
EURL TSE MEETING	2025-05-10	Turin	Speakers	Feedback on the Proficiency Testing EQA round
EURL TSE MEETING	2025-05-11	Turin	Speakers	Feedback on the Proficiency Testing EQA round
Training course at CasaBio - Centre de Formation, Ferme pédagogique et Ecologie	2025-04-01	Senegal	Speakers	Nous ne devons PAS oublier les maladies à prions! Pourquoi?

Cristina Casalone - - ITALY

d'application

TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES

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

No

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

No

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
Scrapie Confirmatory Immunoblot	Participant	22	NRLs
TSE Histopathology and immunohistochemistry interpretation EQA	Participant	38	NRLs
PrP immunohistochemistry technical EQA	Participant	19	NRLs
Scrapie screening rapid test Participant	Participant	29	NRLs

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?

No

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAHP 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	WOAHP Member Countries
Harmonising existing test methods (IDEXX HerdCheck BSE-scrapie Antigen Kit EIA for Italian network laboratory)	Organizer	11	Rapid test	ITALY,

TOR12: EXPERT CONSULTANTS

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

29. Additional comments regarding your report:

Yes

Our WOAHP Centre for scrapie collaborates with EURL TSE as part of the same Institution and also all staff, including myself, works for both centres. From 2019 we have been providing diagnostic advice to European Nrls. From some years we have been working closely with countries in North Africa and South Africa.