

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

Laboratory Information

Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:	RABBIT MYXOMATOSIS
Address of laboratory:	VIA ANTONIO BIANCHI 7/9
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Website:	https://www.izsler.it/chi-siamo/per-chi-e-con-chi-lavoriamo/centri-di-referenza/internazionali/oie-reference-laboratory-for-rabbit-haemorrhagic-disease/
Name (including Title) of Head of Laboratory (Responsible Official):	DR. GIORGIO VARISCO (DVM General Director)
Name (including Title and Position) of WOAHO Reference Expert:	DR. ANTONIO LAVAZZA ((DVM, MSc, Director Animal health and Welfare Department))
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 WOAHO Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
c-ELISA		539	40
Direct diagnostic tests			
PCR		61	4
EM		12	0
NGS sequencing		2	0

TOR2: REFERENCE MATERIAL

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

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAHO Members?

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAHO Members?

No

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?

No

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

No

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

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAHA MEMBER COUNTRY SEEKING ASSISTANCE	DATE	WHICH DIAGNOSTIC TEST USED	NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT	NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES
PANAMA	2023-03-08	PCR and Sanger sequencing	4	0
FRANCE	2023-02-09	Serological tests on vaccinated animals	40	0

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
POLAND	Interlaboratory tests	email messages

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
Improvement of preventive actions to emerging LAGoviruses in the MEDiterranean basin: development and optimisation of methodologies for pathogen detection and control(LAGMED)	3 years (extended)	i) To monitor RHD epidemiology in the Mediterranean basin and perform a genomic characterization of circulating strains, ii) To test and apply biosecurity measures to prevent outbreaks and better contain the disease in the field and in rabbit-production systems, particularly in countries located south to the Mediterranean basin. iii) To advise and train stakeholders and partners in Africa on disease diagnosis and prophylaxis, and technical management.	1.CIBIO/InBIO-UP Portugal 2.INIA Spain 3.Universidad de Córdoba Spain 4.ANSES France 5.ONCFS France 6.INRA-ENVT France 7.ENMV de Sidi Thabet Tunisia 8.ENSV d'Alger Algeria	ALGERIA FRANCE ITALY PORTUGAL SPAIN TUNISIA
Study of the health status of wild and domestic lagomorphs in the Iberian Peninsula from a One Health approach (Iber-LagoHealth)	Project Proposal	i) To assess the distribution and evolution of lagoviruses and MYXV in wild lagomorphs in the Iberian Peninsula. ii) To determine the role of wild and domestic lagomorphs in the epidemiology of zoonotic pathogens in the Iberian Peninsula. iii) To characterize the microbiome composition in relation to transmissible pathogens and to evaluate the presence of ARG in wild and	University of Sevilla	SPAIN

domestic lagomorphs in the Iberian Peninsula iv) To design integrated monitoring strategies for transmissible diseases of animal and public health importance in wild lagomorphs at the Iberian level.

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

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:

The outbreaks of myxomatosis worldwide are not very frequent. Indeed, the disease is still observed in those countries where European rabbit (*Oryctolagus cuniculus*) farming is developed and where wild and domestic rabbits are commonly present. In farmed animals, cases of myxomatosis evolving in the amyxomatous respiratory form are more frequently observed. In addition, in the Iberian peninsula the occurrence of the disease in Iberian hares is still reported.

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:

Other than what is reported to WAHIS based on data contained in the official reports, few data are available from member countries, and when available, they are often published in international journals.

Myxomatosis is an "old" disease, and it is generally endemic in some countries, both in wild and domestic animals. Nowadays, myxomatosis has an relative economic impact in endemic areas (e.g., South Europe) being the infection is quite well controlled by vaccination.

Other than the occurrence of a new Myxomatosis strain affecting Iberian hares (*Lepus granatensis*) in the Iberian Peninsula since 2018, in the last ten years, the disease has been reported in Finland (2020), in the UK (2016, 2018, 2020), Australia (2015), Mexico (2015) Brazil (2013) and The Netherlands (2011).

However, based on WAHIS data, the disease is present in many countries in Europe and in the Americas (Argentina, Belgium, Brazil, Costa Rica: Czech Republic, France; Germany, Ireland, Italy, Malta; Portugal, Slovakia, Spain, Sewed, UK and USA).

The occurrence of myxomatosis in Italian hares (*Lepus corsicanus*) in South Italy was reported in 2020-2021.

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:

1

1. AGULLÓ-ROS I, JIMÉNEZ-MARTÍN D, CAMACHO-SILLERO L, GORTÁZAR C, CAPUCCI L, CANO-TERRIZA D, ZORRILLA I, GÓMEZ-GUILLAMÓN F, GARCÍA-BOCANEGRA I, RISALDE MA. *Pathological changes and viral antigen distribution in tissues of Iberian hare (Lepus granatensis) naturally infected with the emerging recombinant myxoma virus (ha-MYXV)*. *Vet Rec.* 2023 Jan;192(1):e2182. doi: 10.1002/vetr.2182. Epub 2022 Sep 21.

b) International conferences:

0

c) National conferences:

1

Rossini E, Trocchi V, Merzoni F, Cremonesi T, Knauf S, Hisgen L, Lavazza A, Bazzucchi M, Cavadini P. *Identificazione di un Myxoma virus rilevato per la prima volta in lepre italica (L. corsicanus)* XXII Congresso Nazionale SIDiLV Società Italiana Diagnostica di Laboratorio Veterinaria : Brescia, 11-13 Ottobre 2023: abstract book. p 366-369 (P079).

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

0

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

a) Technical visit : 1

b) Seminars : 0

c) Hands-on training courses: 0

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
A	SPAIN	3

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
UNI CEI ENISO/IEC 17025	pdf	certificato-148-L-rev.6.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
PCR/RT-PCR	ILAC MRA - ACCREDIA
Serological Competitive MAb ELISA (c-ELISA)	ILAC MRA - ACCREDIA
Histopathology/Immunohistochemistry	ILAC MRA - ACCREDIA
EM negative staining methods	ILAC MRA - ACCREDIA

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

Yes

The laboratory works according to the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4, and the WHO Laboratory Biosafety Manual. A risk analysis approach was adopted to manage the biological risks of specific agents aimed at biosecurity in veterinary laboratories and animal facilities. As a result of this process, the assignment of Myxoma virus to the risk group (BLS2) relevant to the country was defined, and the consequent steps were taken to work in laboratory facilities defined by containment levels appropriate to the types of risks identified.

TOR9: SCIENTIFIC MEETINGS

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

No

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

No

TOR10: NETWORK WITH WOAHA REFERENCE LABORATORIES

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

Not applicable (only WOAHA Reference Laboratory designated for the disease)

24. Do you network (collaborate or share information) with other WOAHA Reference Laboratories designated for the same pathogen?

Not applicable (Only WOAHA Reference Laboratory designated for the disease)

25. Did you organise or participate in inter-laboratory proficiency tests with WOAHA Reference Laboratories designated for the same pathogen?

Not applicable (Only WOA Reference Laboratory designated for the disease)

26. Did your laboratory collaborate with other WOA Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Not applicable (Only WOA Reference Laboratory designated for the disease)

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOA Reference Laboratories for the same pathogen?

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
To assess performances of PCR methods of viral detection in animal tissues	Participant	1	Inter-laboratory comparison tests on detection of myxoma virus DNA in animal tissues	POLAND,

TOR12: EXPERT CONSULTANTS

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

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
Review of OIE Standards	On site	Last review of the chapter of the Manual was completed in 2020 and published on 2021.

29. Additional comments regarding your report:

Yes

Myxomatosis is a well-known disease that is still present, often endemic, in almost all countries where lagomorphs (especially European rabbits) are present in the wild and/or as farmed and domestic animals. However, its occurrence is very rarely reported also because its notification is not compulsory in most countries. In particular, in Europe, the approved legislation (reg EU 429/201) does not provide for and does not include any rabbit diseases among those subject to notification and management by member states' laws. This obviously makes it difficult to know the real spread of the disease and consequently to have the possibility of studying it more in depth. The available epidemiological data are scarce, also because the clinical aspects and distribution patterns have been almost the same since its original appearance, making the diagnosis often based only on clinical signs. Thus, the request for testing samples and scientific advice is equally uncommon. The real interest in Europe for this disease just increased in 2018 and afterward due to the occurrence of a mutated strain typically affecting Iberian hares. Thus, in the last years, we received some requests for supporting diagnosis and furnishing reagents from Iberian countries.