

OIE Reference Laboratory Reports Activities

Activities in 2018

This report has been submitted : 2019-01-22 12:43:44

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Rabbit haemorrhagic disease
Address of laboratory:	Via A. Bianchi No. 7/9 25124 Brescia ITALY
Tel.:	+39-30 229 06 17
Fax:	+39-30 229 05 59
E-mail address:	lorenzo.capucci@izsler.it
Website:	https://www.izsler.it/izs_home_page/servizi/00003936_OIE_Reference_Laboratory_for_Rabbit_Haemorrhagic_Disease.html
Name (including Title) of Head of Laboratory (Responsible Official):	Prof. Stefano Cinotti IZSLER General Manager
Name (including Title and Position) of OIE Reference Expert:	Lorenzo Capucci Biologist Head of Proteomic Unit
Which of the following defines your laboratory? Check all that apply:	Governmental

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
RHDV Competition ELISA	yes	477	310
RHDV2 Competition ELISA	yes	277	16
RHDV Isotype ELISA	yes	13	36
EBHSV Competition ELISA	yes	686	51
Direct diagnostic tests		Nationally	Internationally
RHDV Sandwich ELISA	yes	344	13
EBHSV Sandwich ELISA	yes	177	54
PCR RHDV/RHDV2	yes	66	3
PCR EBHSV	yes	45	1
Genome sequencing	no	21	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
RHDV serological kit	c-ELISA	produced	n. 4	n. 9	3	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
EBHSV serological kit	c-ELISA	produced	n. 5	n. 10	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
RHDV/EBHSV virological kit	MAbs sandwich ELISA	produced	n. 18	n. 11	3	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
RHDV2 serological kit	c-ELISA	produced	n. 6	n. 16	3	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
RHDV/RHDV Differential kit	MAbs sandwich ELISA	produced	0	n. 3	1	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
RHDV/RHDVa/RHDV2 positive control	PCR	produced	0	3 gr	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

Three positive hyperimmune sera respectively for RHDV, RHDva and RHDV2	Serological methods	produced	0	3,6 ml 81,2 ml each)	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Monoclonal antibodies	Immunohisto-chemistry and ELISA	produced	0	16 ml	2	<input type="checkbox"/> Africa <input type="checkbox"/> Americ as <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

4. Did your laboratory produce vaccines?

Yes

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

Yes

Vaccine name	Amount supplied nationally (ml, mg) (including for own use)	Amount supplied to other countries (ml, mg)	Name of recipient OIE Member Countries
RHDV2 inactivated autogenous vaccine	40700	0	ITALY
EBHS inactivated autogenous vaccine	4040	0	ITALY

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?

Yes

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

No

Name of the new test or diagnostic method or vaccine developed	Description and References (Publication, website, etc.)
Isotype (IgG, IgM, Iga)anti-RHDV2 antibody ELISAs	not yet published

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?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
FRANCE	April	274	0
FRANCE	August	26	0
SWEDEN	January	1	0
SWEDEN	July	2	0
SWEDEN	September	2	0
NEW ZEALAND	May	1	0
BELGIUM	January	38	0
BELGIUM	June	23	0
SPAIN	April	15	0
SPAIN	July	390	0
SPAIN	January	111	0
THE NETHERLANDS	October	73	0
SWITZERLAND	March	1	0
AUSTRALIA	May	84	0

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
SWITZERLAND	Use of anti-RHDV mabs for immunohistochemistry diagnosis	letter and emails
BELGIUM	Interpretation of diagnostic results for RHDV/RHDV2 in rabbits and hares	letter and emails
SPAIN	Interpretation of field serology in wild rabbits naturally and experimentally infected with RHDV/RHDV2	letter and emails
SPAIN	Interpretation of serological results in vaccinated rabbits	letter and emails
UNITED STATES OF AMERICA	To give comments on RHDV2 outbreaks and relative diagnosis	By exchanging email messages and by providing diagnostic reagents
CANADA	To give comments on occurrence of RHDV2 outbreaks	By exchanging email messages and by providing diagnostic reagents

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
ANIHWA-ECALEP Emergence of highly pathogenic CALiciviruses in Leporidae through species jumps involving reservoir host introduction	3.5 years	The project aims at studying the emergence and reemergence of pathogenic lagoviruses, notably by exploring the hypothesis of a species jump involving introduction of a reservoir host species	ANSES(France) ONCFS (France) INRA/ENVT(France) INSERM (France) SVA (Sweden) IZSLER (Italy) CIBIO (Portugal)	SWEDEN
Serological analyses and epidemiological interpretation of results from wild rabbits infected with RHDV/RHDV2	1 year	To define the serological status of rabbit population exposed to RHDV/RHDV2 infections	Animal Health Department of Agrifood Research and Technology Centre of Aragon (Spain)	SPAIN

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

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

Yes

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

COOKE B, SPRINGER K, CAPUCCI L, MUTZE G (2017). Rabbit haemorrhagic disease: Macquarie Island rabbit eradication adds to knowledge on both pest control and epidemiology Wildl Res 44(2) 93-96.

SALVIOLI M, PASQUALI S, LAVAZZA A, ZANONI M, GUBERTI V, CHIARI M, GILIOLI G (2017). EBHS in European brown hares (*Lepus europaeus*): disease dynamics and control. Hystrix Ital J Mamm 28(2) 202-207.

YON LISA, DUFF PAUL, ÅGREN ERIK, ERDELYI KAROLY, FERROGLIO EZIO, GODFROID JACQUES, HARS JEAN, HESTVIK GETE, HORTON DAN, KUIKEN THIJS, LAVAZZA ANTONIO, MARKOWSKA-DANIEL IWONA, MARTEL AN, NEIMANIS ALEKSIIJA S., PASMANS FRANK, PRICE STEPHEN, RUIZ-FONS FRANCISCO, RYSER-DEGIORGIS MARIE-PIERRE, WIDEN FREDERIK, GAVIER-WIDEN DOLORES. (2019). Recent changes in infectious diseases in European wildlife. Journal Wildlife Diseases, 55(1), pp. 000-000 DOI: 10.7589/2017-07-172

COOKE BD, DUNCAN RP, MCDONALD I, LIU J, CAPUCCI L, MUTZE GJ, STRIVE T. (2018). Prior exposure to non-pathogenic calicivirus RCV-A1 reduces both infection rate and mortality from rabbit haemorrhagic disease in a

population of wild rabbits in Australia. *Transbound Emerg Dis.* Apr;65(2): e470-e477. doi: 10.1111/tbed.12786.

NEIMANIS AS, AHOLA H, ZOHARI S, LARSSON PETERSSON U, BRÖJER C, CAPUCCI L, GAVIER-WIDÉN D. (2018). Arrival of rabbit haemorrhagic disease virus 2 to northern Europe: Emergence and outbreaks in wild and domestic rabbits (*Oryctolagus cuniculus*) in Sweden. *Transbound. Emerg. Dis.* Feb;65(1):213-220. doi: 10.1111/tbed.12650.

b) International conferences: 2

CAVADINI P., LAVAZZA A., CAPUCCI L. Identification in European hare of new RHDV2 recombinant virus. 13th European Wildlife Disease Association Conference University of Thessaly, School of Health Sciences, Faculty of Veterinary Medicine Larissa-Greece 28-31/8/2018

TAVERNIER PAUL, CAPUCCI LORENZO, LAVAZZA ANTONIO Searching for lagoviruses in Flemish hares. 13th European Wildlife Disease Association Conference University of Thessaly, School of Health Sciences, Faculty of Veterinary Medicine Larissa-Greece 28-31/8/2018

c) National conferences: 1

ARMAROLI E, FONTANA R., LANZI A., MERIGGI F., BELTRAMI D., LABATE A., BRAGHIROLI S., LAVAZZA A. An extensive and articulated project on the European brown hare (*Lepus europaeus*) in the Lombard plain to study ecology, spatial dynamics, health aspects and provide management responses: first year of work. XI Congresso Italiano Teriologia, Università degli Studi di Firenze, Firenze, 20-22 giugno 2018

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 certified according to an International Standard?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
UNI CEI EN ISO/IEC 17025	CERTIFICATO DI ACCREDITAMENTO.pdf

16. Is your laboratory accredited by an international accreditation body?

Yes

Test for which your laboratory is accredited	Accreditation body
PCR	ILAC MRA, ACCREDIA
Serological Competitive RHDV-ELISA	ILAC MRA, ACCREDIA
Serological Competitive RHDV2-ELISA	ILAC MRA, ACCREDIA
Virological sandwich MAbs RHDV/EBHSV-ELISA	ILAC MRA, ACCREDIA
Immunohistochemistry	ILAC MRA, ACCREDIA
Electron Microscopy negative staining methods	ILAC MRA, ACCREDIA

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?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
86°OIE GENERAL SESSION	May 2018	Paris (France)	Member of the Italian delegation	none
13th European Wildlife Disease Association Conference	28-31/8/2018	Larissa-Greece	Presenting poster	Identification in European hare of new RHDV2 recombinant virus.

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

No

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

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:

During 2018 the laboratory has extended in field application of specific serological and virological test (cELISA and isotype_ELISAs and RT-PCR) towards the RHDV2.

More data were acquired, due to collaboration with member Countries on its spread, and antigenic, genomic and pathological (virulence) characteristics as well.

A technical support based mainly on diagnostic activity was given was given to different OIE member countries.

