

# OIE Reference Laboratory Reports Activities

## *Activities in 2014*

**This report has been submitted : 2015-01-24 09:47:06**

<b>Name of disease (or topic) for which you are a designated OIE Reference Laboratory:</b>	Rabbit haemorrhagic disease
<b>Address of laboratory:</b>	Via A. Bianchi No. 7/9 25124 Brescia ITALY
<b>Tel.:</b>	+39-30 229 06 17
<b>Fax:</b>	+39-30 229 05 59
<b>E-mail address:</b>	lorenzo.capucci@izsler.it
<b>Website:</b>	
<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	Prof Stefano Cinotti General Director IZSLER
<b>Name (including Title and Position) of OIE Reference Expert:</b>	Lorenzo Capucci - Biologist Head of Proteomic Unit
<b>Which of the following defines your laboratory? Check all that apply:</b>	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	2573	156
RHDV2 Competition ELISA	No	1120	209
RHDV Isotype ELISA	Yes	1120	73
RHSV2 Isotype ELISA	No	18	55
EBHSV Competition ELISA	Yes	1080	
Direct diagnostic tests		Nationally	Internationally
RHDV Sandwich ELISA	Yes	342	5
PCR RHDV	Yes	88	0
EBHSV Sandwich ELISA	Yes	421	0
PCR EBHSV	Yes	155	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	ELISA	produced	11 kit	4 kit	2	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
EBHSV serological kit	ELISA	produced	9 kits	15 kits	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
RHDV/EBHSV virological kit	ELISA	produced	24 kits	8 kits	4	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input 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
EBHSV autovaccine	10000 doses (1ml each)	200 doses (1ml each)	GERMANY

***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?

Yes

Name of the new test or diagnostic method or vaccine developed	Description and References (Publication, website, etc.)
RHDV2 serological cELISA based on specific MAb	Not yet published - validation is still in the course
RHDV2 virological sandwich ELISA based on specific MAb	Not yet published - validation is still in the course
RHDV2 Autovaccine	Not yet published - Registration of RHDV2 commercial vaccines by private companies is in due course

***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
SWEDEN	May	1 rabbit serum	0
SPAIN	June	2 livers from European Brown Hare	0
NORWAY	July	2 spleens and 3 sera from rabbits	0
DENMARK	July	2 rabbit sera	0
SPAIN	September	89 rabbit sera	0
SWEDEN	September	2 rabbit sera	0
SWEDEN	October	6 rabbit sera	0
SPAIN	December	120 sera	0
MALTA	December	3 rabbit livers	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
SPAIN	Interpretation of serological results in vaccinated rabbits	remote assistance
NORWAY	Virological, serological and epidemiological support on the first outbreak of RHD in the country.	remote assistance
SPAIN	Diagnosis of RHDV2 infection in hares	Diagnostic activity at IZSLER and remote assistance
AUSTRIA	Interpretation of serological results for EBHSV in wild hares	Remote assistance
GERMANY	Comparison of data regarding RHDV2 isolates in the respective countries	Remote assistance
UNITED KINGDOM	Hypothesis on possible way of introduction / diffusion RHDV2 in UK	Remote assistance
SPAIN	Impact of RHDV2 in wild rabbits	Remote assistance
THE NETHERLANDS	Sampling and testing of wild rabbit sera for RHD surveillance	Remote assistance
SWEDEN	Suggestions for the use of different MAbs for immuno-histochemical detection of RHDV	Remote assistance and MAbs purchase

***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)
ANIHWA project: Emergence of highly pathogenic CALiciviruses in Leporidae through species jumps involving reservoir host introduction	3 years	search for new lagovirus nonpathogenic in most species of lagomorphs and comparison with RHDV and EBHSV by antigenic and genetic studies	ANSES, Institut national de la santé et de la recherche médicale, Office National de la Chasse et de la Faune Sauvage, Ecole Nationale Vétérinaire de Toulouse, SVA, Research Centre in Biodiversity and Genetic Resources
RHD Accelerator	3 years	Production of RHDV escape mutant in vivo by the use of neutralizing MAb to obtain RHDV mutants able to overcome immunity to existing RHDV strains in Australia	Division of Ecosystem Sciences, Commonwealth Scientific and Industrial Research Organisation, Canberra ACT 2601, Australia
Detection of anti-EBHSV antibodies in captive and wild hare populations	2 years	Serological diagnosis of EBHS in wild and captive hares and study of specific immune profile after vaccination for EBHS in captive hares	Zoo and Wildlife Medicine Research Institute of Wildlife Ecology University of Veterinary Medicine di Vienna

**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

1. CAMARDA A, PUGLIESE N; CAVADINI P; CIRCELLA E; CAPUCCI L; CAROLI A; LEGRETTO M; MALLIA E; LAVAZZA A  
Detection of the new emerging rabbit hemorrhagic disease type 2 virus (RHDV2) in Sicily from rabbit (*Oryctolagus cuniculus*) and Italian hare (*Lepus corsicanus*) *Research in Veterinary Science* <http://dx.doi.org/doi:10.1016/j.rvsc.2014.10.008>

2. CHIARI M, FERRARI N., GIARDIELLO D, AVISANI D, ZANONI M., ALBORALI LG, GUBERTI V, CAPUCCI L, LAVAZZA A  
European Brown Hare Syndrome (EBHS): effect of density and the temporal dynamics of infection in wild European brown hares (*Lepus europaeus*). *European Journal Wildlife Diseases* DOI 10.1007/s10344-014-0856-6

3. LOPES AM, CAPUCCI L, GAVIER-WIDÉN D, LE GALL-RECLÉ G, BROCCHI E, BARBIERI I, QUÉMÉNER A, LE PENDU J, GEOGHEGAN JL, HOLMES EC, ESTEVES PJ, ABRANTES J12. Molecular evolution and antigenic variation of European brown hare syndrome virus (EBHSV). *Virology*. 2014 Aug 22;468-470C:104-112. doi: 10.1016/j.virol.2014.08.002. [Epub ahead of print]

4. PINHEIRO A, MELO-FERREIRA J, ABRANTES J, MARTINELLI N, LAVAZZA A, ALVES PC, GORTÁZAR C, ESTEVES PJ.  
Sequencing of *Sylvilagus* VDJ genes reveals a new VHa allelic lineage and shows that ancient VH lineages were retained differently in leporids. *Immunogenetics*. 2014 Sep 30. [Epub ahead of print]

5. MUTZE GJ, SINCLAIR RG, PEACOCK DE, CAPUCCI L, KOWALINSKI J  
Is increased juvenile infection the key to recovery of wild rabbit populations from the impact of rabbit haemorrhagic disease? *European Journal of Wildlife*

Research 2014,60, 489 - 499

b) International conferences: 0

c) National conferences: 2

1 CAPUCCI LORENZO, PATRIZIA CAVADINI, GIULIANA BOTTI, EMILIANA BROCCHI, ANTONIO LAVAZZA Diagnosi di laboratorio della rabbit haemorrhagic disease (RHD) causata dall'RHDV2 in Delogu R, Falcone E, Monini M, Ruggeri FM, Di Martino B, Marsilio F, Monaco F, Savini G (Ed.). V Workshop Nazionale di Virologia Veterinaria. Teramo, 26-27 giugno 2014. Riassunti. Roma: Istituto Superiore di Sanità; 2014 (ISTISAN Congressi 14/C3), p24

2. CAPUCCI LORENZO, PATRIZIA CAVADINI, GIULIANA BOTTI, EMILIANA BROCCHI, ANTONIO LAVAZZA Epidemiologia della rabbit haemorrhagic disease causata dall'RHDV tipo 2 ed evoluzione del virus in Delogu R, Falcone E, Monini M, Ruggeri FM, Di Martino B, Marsilio F, Monaco F, Savini G (Ed.). V Workshop Nazionale di Virologia Veterinaria. Teramo, 26-27 giugno 2014. Riassunti. Roma: Istituto Superiore di Sanità; 2014 (ISTISAN Congressi 14/C3), p25

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?

Yes

a) Technical visits: 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	PORTUGAL	2

**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_ACCREDITAMENTO_2014.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 ELISA	ILAC MRA, ACCREDIA
Immunohistochemistry	ILAC MRA, ACCREDIA
EM METHODS	ILAC MRA, ACCREDIA

17. Does your laboratory maintain a “biorisk management system” for the pathogen and the disease concerned?

No

(See *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2014, Chapter 1.1.3a*)

### **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?

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?

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 <sup>1</sup>	No. participating laboratories	Region(s) of participating OIE Member Countries
Set up of diagnostic test (PCR) by furnishing positive and negative control samples	3	<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:

During 2014 the laboratory has worked for the internal validation of specific serological and virological test (ELISA and RT-PCR) towards the RHDV2, the new RHDV variant emerged in France in 2010.

More data were acquired on its diffusion, pathological characteristics and capacity to infect other species than rabbits.

A support to the diagnosis of this new virus was given to different OIE member countries.