OIE Reference Laboratory Reports Activities

Activities in 2015

This report has been submitted : 2016-01-19 16:41:26

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Rabbit haemorrhagic disease
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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	
Indirect diagnostic tests		Nationally	Internationally
RHDV Competition ELISA Yes	yes	2510	359
RHDV2 Competition ELISA	no	1261	262
RHDV Isotype ELISA	yes	1501	95
RHDV2Isotype ELISA	no	1501	95
EBHSV Competition ELISA	yes	1312	187
Direct diagnostic tests		Nationally	Internationally
RHDV Sandwich ELISA	yes	500	110
PCR RHDV	yes	174	1
EBHSV Sandwich ELISA	yes	418	1
PCR EBHSV	yes	59	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	1	78	5	☐Africa ☒Americas ☒Asia and Pacific ☒Europe ☐Middle East
EBHSV serological kit	c-ELISA	produced	7	10	2	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East
RHDV/EBHSV virological kit	MAbs sandwich ELISA	produced	26	5	4	☐Africa ☒Americas ☐Asia and Pacific ☒Europe ☐Middle East

4. Did your laboratory produce vaccines?

Yes

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?

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 MAbs	This method was employed and described in some papers (see dissemination). It was also included in the updated draft of the OIE Terrestrial Manual that is actually under evaluation by the OIE Commission for publication on 2016
RHDV2 serological isotype (IgA, IgM) ELISAs	Not yet published. Validation is tsill in course
RHDV2 virological sandwich ELISA based on sepcific MAbs	This method was employed and described in some papers (see dissemination). It was also included in the updated draft of the OIE Terrestrial Manual that is actually under evaluation by the OIE Commission for publication on 2016
PCR protocol for RHDV2	This method was employed and described in some papers (see dissemination). It was also included in the updated draft of the OIE Terrestrial Manual that is actually under evaluation by the OIE Commission for publication on 2016
RHDV2 Autovaccine	Not published N.B. 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
CHILE	February	1	0
AUSTRALIA	February	60	0
INDIA	May	2	0
BRAZIL	October	1	0
SPAIN	September	200	0
NORWAY	March	1	0
BENIN	November	2	0
SWEDEN	October	4	0
MALTA	June	2	0
THE NETHERLANDS	August	21	0
PORTUGAL	March	177	0
TUNISIA	June	10	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	To evaluate the performance of a kit strip test for RHDV/RHDVa/RHDV2	By using the test with different control samples and comparing the results with standard tests
SPAIN	To evaluate the efficacy of a new RHDV2 vaccine	By testing the sera of vaccinated rabbits with specific RHDV and RHDV2 serological tests
UNITED KINGDOM	To give information on the cross-protection induced by RHDV vaccines against heterologous strain (e.g. RHDV2)	By exchanging email messages
TUNISIA	To give consultancy for setting up PCR methods to detect RHDV/RHDV2	By giving protocols and practical information for performing PCR
PORTUGAL	To give consultancy for setting up PCR methods to detect RHDV/RHDV2	By giving protocols and practical information for performing PCR as well as positive control

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-ECALEP Emergence of highly pathogenic CAliciviruses in LEporidae through species jumps involving reservoir host introduction	3 years	The project aims at studying the emergence and re-emergence 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)
RHD ACCELERATOR	RHD Accelerator Platform Technology	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

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.ESTEVES PJ; ABRANTES J; BERTAGNOLI S; CAVADINI P; GAVIER-WIDÉN D; GUITTON J-S; LAVAZZA A; LEMAITRE E; LETTY J; LOPES AM; NEIMANIS AS; RUVOËN-CLOUET N; LE PENDU J; MARCHANDEAU S; LE GALL-RECULÉ G. Emergence of pathogenicity in lagoviruses: evolution from pre-existing non-pathogenic strains or through a species jump? PLoS Pathog 11(11): e1005087. doi:10.1371/journal.ppat.1005087
2.LAVAZZA A., CAVADINI P., BARBIERI I., TIZZANI P., PINHEIRO A., ABRANTES J., ESTEVES P.J., GRILLI G., GIOIA E., ZANONI MG., MENEGUZ PG., GUITTON J-S., MARCHANDEAU S., CHIARI M., CAPUCCI L. Susceptibility of the eastern cottontail (Sylvilagus floridanus) to European brown hare syndrome (EBHS) virus and sporadic occurrence of EBHS-like disease suggests an active role for the lagomorph in the disease's epidemiology. Veterinary Research (2015) 46:13 DOI 10.1186/s13567-015-0149-4
3. LAVAZZA, A.; TITTARELLI, C.; CERIOLI, M. The Use of Convalescent Sera in Immune-Electron Microscopy to

Detect Non-Suspected/New Viral Agents. Viruses 2015, 7, 2683-2703
4.LOPES AM, CAPUCCI L, GAVIER-WIDÉN D, LE GALL-RECULÉ G, BROCCHI E, BARBIERI I, QUÉMÉNER A, LE PENDU J, GEOGHEGAN JL, HOLMES EC, ESTEVES PJ, ABRANTES J. Molecular evolution and antigenic variation of European brown hare syndrome virus (EBHSV). Virology. 2014 Nov;468-470:104-12. doi: 10.1016/j.virol.2014.08.002. Epub 2014 Aug 23.
5.POSAUTZ A., LONCARIC I., BEIGLBÖCK C., LUNDIN M., HOFFMANN D., KELEMEN ZS., LAVAZZA A., STALDER G.L., WALZER C., KÜBBER-HEISS A. Health screening of free-ranging European brown hares (Lepus europaeus) on the German north-sea island Pellworm. Acta Veterinaria Scandinavica (2015) 57:43 DOI 10.1186/s13028-015-0132-0

b) International conferences: 2
1.PEZZONI G., STERCOLI L., CAVADINI P., LAVAZZA A., BROCCHI E., CAPUCCI L. First expression in baculovirus of major capsid proteins belonging to two new lagoviruses. 10th International Congress for Veterinary Virology, 9th Annual Epizone Meeting : "Changing Viruses in a Changing World": August 31st - September 3rd 2015, Montpellier, France p 110-112. - 5 bib ref [Nr. Estr. 7026]
2.CAVADINI P., MOLINARI S., PEZZONI G., CHIARI M., BROCCHI E., LAVAZZA A., CAPUCCI L.Identification of a new non-pathogenic lagovirus in Lepus europeaus. 10th International Congress for Veterinary Virology, 9th Annual Epizone Meeting : "Changing Viruses in a Changing World": August 31st - September 3rd 2015, Montpellier, France . p 76-77. - 4 bib ref [Nr. Estr. 7025]

c) National conferences: 2
1.MOLINARI S., CAVADINI P., PEZZONI G., CHIARI M., BROCCHI E., LAVAZZA A., CAPUCCI L.. Identification of a new non-pathogenic lagovirus in brown hare (lepus europeaus) Società Italiana di Virologia (SIV). 13th Annual Congress of The Italian Society For Virology 14-16 September Orvieto. P. 35.
2.DONDO A., CARUSO C., CERRINA P., GIORGI I., PRATO R., MASOERO L., GRINDATO A., CAPUCCI L., CAVADINI P., DI BLASIO A., LAVAZZA A. Utilizzo di un protocollo diagnostico integrato per la prevenzione e gestione di focolai della malattia emorragica virale e della mixomatosi del coniglio. Società Italiana di Diagnostica di Laboratorio Veterinaria - XVI Congresso Nazionale S.I.Di.L.V. Montesilvano (PE), 30 Settembre - 2 Ottobre 2015, p 175

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	AUSTRALIA	1

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 20150928.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 EBHSV-ELISA	ILAC MRA, ACCREDIA
Virological sandwich MAbs RHDV/EBHSV-ELISA	ILAC MRA, ACCREDIA
Immunohistochemistry	ILAC MRA, ACCREDIA
EM METHODS	

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 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?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
83°OIE GENERAL SESSION	24-29/05/2015	Paris	Member of the Italian delegation	none

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[1]	No. participating laboratories	Region(s) of participating OIE Member Countries
Set up of diagnostic test (ELISA and PCR) for RHDV, RHDV2 and EBHSV by furnishing positive and negative control samples	2	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐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?

Yes

Kind of consultancy	Location	Subject (facultative)
Meeting (13/04/2015) with the OIE regional representative for the Middle East OIE and a delegation of the Abu Dhabi Food Control Authority (ADFCA) Animal Health Center for diagnostic and research in Abu Dhabi – UAE (Candidate center of an OIE Collaborating Center on camel diseases) for outlining a twinning project plan.	Brescia	Giving suggestions and expert advice for the establishment and development of an OIE Collaborating Center on camel diseases
Updating of the chapter on RHDV (2.06.02)for the OIE Terrestrial manual	Brescia	We have integrated in the chpater all the infromation and method regarding the new strain RHDV2. The chapter is actually under evaluation by the OIE Commission

25. Additional comments regarding your report:

During 2015 the laboratory has worked for further in field validation of specific serological and virological test (ELISAs 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 (in particular hares).
A support to the diagnosis of this new virus was given to diffrent OIE member countries.
The specific methods were included in the updated draft of the chapter for the OIE Terrestrial Manual