OIE Reference Laboratory Reports Activities

Activities in 2017

This report has been submitted : 2017-12-21 15:32:58

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Classical swine fever
Address of laboratory:	Institut de Recerca i Tecnologia Agroalimentàries (IRTA) Centre de Recerca en Sanitat Animal (CReSA) Edifici CReSA Campus de la Universidad Autónoma de Barcelona Bellaterra 08193 (Barcelona) SPAIN
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Website:	http://www.cresa.cat/cresa3/default.asp
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Josep Maria Monfort (Responsable Oficial IRTA)
Name (including Title and Position) of OIE Reference Expert:	Dr. Llilianne Ganges (Responsable del Laboratorio de Referencia de la OIE para PPC e investigador Principal en Pestivirus
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
Seroneutralization Test (NPLA assay)	Yes	228	0
ELISA (IDEXX)		191	0
Direct diagnostic tests		Nationally	Internationally
qRT-PCR real time (Hoffmann et al., 2005)	Yes	163	0
RT-PCR (conventional) (Diaz de Arce et al., 1998)		10	18
RT-PCR (conventional) for E2 gene amplification and sequencing (Postel et al., 2012)		10	18
RT-PCR (conventional), Vilcek et al., 1994		39	0
RT-PCR (conventional) for E2 gene amplification and sequencing (Lowings et al., 1996)	Yes	28	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?

No

4. Did your laboratory produce vaccines?

No

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.)
qRT-PCR for detection of CSFV RNA specific for genotype 1.4	Classical Swine Fever Virus vs. Classical Swine Fever Virus: The Superinfection Exclusion Phenomenon in Experimentally Infected Wild Boar.Muñoz-González S, Pérez-Simó M, Colom-Cadena A, Cabezón O, Bohórquez JA, Rosell R, Pérez LJ, Marco I, Lavín S, Domingo M, Ganges L. PLoS One. 2016, 11(2):e0149469. doi: 10.1371
New E2-CD154 subunit Chimeric vaccine against CSFV	Efficacy of E2 glycoprotein fused to porcine CD154 as a novel chimeric subunit vaccine to prevent classical swine fever virus vertical transmission in pregnant sows.Muñoz-González S, Sordo Y, Pérez-Simó M, Suárez M, Canturri A, Rodriguez MP, Frías-Lepoureau MT, Domingo M, Estrada MP, Ganges L.Vet Microbiol. 2017 Jun;205:110-116. doi: 10.1016/j.vetmic.2017.05.003

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
CUBA	August	18	18

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
CUBA	- Advice on the optimization of molecular assays for CSFV diagnosis - Advice for evaluating the efficacy of vaccination in the country - Advice on the assessment of novel vaccine candidates at the experimental and field level -Advice for the correct monitoring of viral prevalence Training -Training on monitoring of infection caused by CSFV in domestic pigs	-Follow up in contact with governmental institution (CENSA): By email exchanges. - Meeting held in Cuba (December 2017) - Execution of a joint project for the improvement of the diagnosis and studies of pathogenesis and evolution of CSFV in Cuba funded by AECID and MINECO(Spanish government) -Training of a Cuban researcher (CIGB) in our center for five weeks(October 2017)
COLOMBIA	-Advice on the optimization of molecular and serological assays for CSFV diagnosis - Advisory in the establishment of a flux diagram in order to obtain faster and more accurate diagnosis considering the different epidemiological situations in the country	Training executed at the ICA (colombian institute of agriculture) facilities in Bogotá (August, 2017)
CHINA (PEOPLE'S REP. OF)	- External advisory for CSF control program and in CSFV research	-Visit to the Institute of Veterinary Drug control in Beijing, China. Participation in a CSF workshop and visit to the Shanghai veterinary research institute (October, 2017)
PERU	-Advisory for general recommendation for CSFV diagnostic	Videoconference (September 2017)

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
Evolution and pathogenesis studies of classical swine fever virus (CSFV) in an endemic situation. Program I.1: Research for and on development. The Spanish Agency for International Development Cooperation (AECID). Ministry of Foreign Affairs and Cooperation, Spain	2015-ongoing	To study the Evolution and pathogenesis of classical swine fever virus (CSFV) in Cuban endemic situation.	CENSA	CUBA

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: 6

African swine fever virus infection in Classical swine fever subclinically infected wild boars. Cabezón O, Muñoz-González S, Colom-Cadena A, Pérez-Simó M, Rosell R, Lavín S, Marco I, Fraile L, de la Riva PM, Rodríguez F, Domínguez J, Ganges L. BMC Vet Res. 2017 Aug 1;13(1):227. doi: 10.1186/s12917-017-1150-0.

Efficacy of E2 glycoprotein fused to porcine CD154 as a novel chimeric subunit vaccine to prevent classical swine fever virus vertical transmission in pregnant sows. Muñoz-González S, Sordo Y, Pérez-Simó M, Suárez M, Canturri A, Rodriguez MP, Frías-Lepoureau MT, Domingo M, Estrada MP, Ganges L. Vet Microbiol. 2017 Jun;205:110-116. doi: 10.1016/j.vetmic.2017.05.003. Epub 2017 May 4.

A bivalent dendrimeric peptide bearing a T-cell epitope from foot-and-mouth disease virus protein 3A improves humoral response against classical swine fever virus. Bohórquez JA, Defaus S, Muñoz-González S, Perez-Simó M, Rosell R, Fraile L, Sobrino F, Andreu D, Ganges L. Virus Res. 2017 Jun 15;238:8-12. doi: 10.1016/j.virusres.2017.05.020. Epub 2017 May 30.

Novel poly-uridine insertion in the 3'UTR and E2 amino acid substitutions in a low virulent classical swine fever virus. Coronado L, Liniger M, Muñoz-González S, Postel A, Pérez LJ, Pérez-Simó M, Perera CL, Frías-Lepoureau MT, Rosell R, Grundhoff A, Indenbirken D, Alawi M, Fischer N, Becher P, Ruggli N, Ganges L. Vet Microbiol. 2017 Mar;201:103-112. doi: 10.1016/j.vetmic.2017.01.013. Epub 2017 Jan 17.

Pre-Clinical Evaluation of a Real-Time PCR Assay on a Portable Instrument as a Possible Field Diagnostic Tool: Experiences from the Testing of Clinical Samples for African and Classical Swine Fever Viruses. Liu L, Luo Y, Accensi F, Ganges L, Rodríguez F, Shan H, Ståhl K, Qiu HJ, Belák S. Transbound Emerg Dis. 2017 Oct;64(5):e31-e35. doi: 10.1111/tbed.12538. Epub 2016 Jun 16.

Post-Natal Persistent Infection With Classical Swine Fever Virus in Wild Boar: A Strategy for Viral Maintenance?. Cabezón O, Colom-Cadena A, Muñoz-González S, Pérez-Simó M, Bohórquez JA, Rosell R, Marco I, Domingo M, Lavín S, Ganges L. Transbound Emerg Dis. 2017 Apr;64(2):651-655. doi: 10.1111/tbed.12395. Epub 2015 Jul 31.

b) International conferences: 3

c) National conferences: 1

d) Other:
(Provide website address or link to appropriate information) 1
http://www.cresa.cat/cresa3/default.asp?mod=strmenu01&anio=2016&sub=noticia386

http://www.cresa.cat/cresa3/default.asp?mod=strmenu01&anio=2015&sub=noticia343

http://www.cresa.cat/cresa3/default.asp?mod=strmenu01&anio=2014&sub=noticia319

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: 3
b) Seminars: 2
c) Hands-on training courses: 1
d) Internships (>1 month): 1

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	Colombia	>15
a	China	>10
a	Cuba	>8
b	Colombia	>15
b	China	>10
c	Colombia	14
d	Cuba	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)
ISO17025	900_LE1557_ISO17025_CRESA2017.pdf

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

Yes

Test for which your laboratory is accredited	Accreditation body
Seroneutralization test	ENAC
qRT-PCR (Hoffmann et al., 2005)	ENAC
Conventional RT-PCR	ENAC
Virus isolation test	ENAC

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
2017 Symposium of Prevention and control strategies for CSF	11 (10/2017)	Beijing, China	Speaker	Classical Swine Fever in Endemic Situations: Persistent infection and its Relationship with the Superinfection Exclusion Phenomenon at the organism level in swine

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?

Yes

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?

Yes

Title of the project or contract	Scope	Name(s) of relevant OIE Reference Laboratories
Molecular, antigenic characterization and pathogenesis of a low virulent classical swine fever virus isolated from an endemic situation	viral evolution and pathogenesis	EU and OIE Reference Laboratory for Classical Swine Fever, TiHo Hannover, Germany

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
Inter-laboratory test comparisons for the harmonization and homogeneity of CSFV diagnosis in Europe	47	☐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?

No

25. Additional comments regarding your report: