

WOAH Reference Laboratory Reports Activities 2024

This report has been submitted: 31 janvier 2025 11:57

LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Classical swine fever
*Address of laboratory:	Institute of Agrifood Research and Technology (IRTA), Centre de Recerca en Sanitat Animal (CRESA), Edifici CRESA Campus de la Universitat Autònoma de Barcelona, Bellaterra 08193 (Barcelona) SPAIN
*Tel:	+34-934 67 40 40 ext. 1786
*E-mail address:	llilianne.ganges@irta.cat
Website:	https://www.irta.cat/ca/produccio-animal/sanitat-animal/ https://www.irta.cat/es/centre/irta-cresa/
*Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Josep Usall, General Director at IRTA
*Name (including Title and Position) of WOAH Reference Expert:	Dr. Lilianne Ganges, Head in the CSF WOAH Reference Laboratory, Principal investigator at IRTA-CReSA,
*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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
ELISA: Classical swine fever virus (CSFV) Antibody test Kit (IDEXX)	Yes	2040	0

Lilianne Ganges - -

Seroneutralization (NPLA Test)	Yes	1002	0
Direct diagnostic tests		Nationally	Internationally
RT-qPCR for CSFV RNA detection (Hoffmann et al., 2005)	Yes	5045	0
Conventional RT-PCR (Vilcek et al., 1994)	Yes	9	0
Duplex ASF/CSF RT-qPCR	No	45	0
Virus Isolation	Yes	56	0

TOR2: REFERENCE MATERIAL

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

No

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

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOA?H Member Countries	Country of recipients
Reference RNA	RT-qPCR for CSFV specific RNA detection (Hoffmann et al., 2005)	Produced and Provided	0	5 samples of 0,8 mL each	1	PARAGUAY,
Reference inactivated porcine sera	RT-qPCR for CSFV specific RNA detection (Hoffmann et al., 2005)	Produced and Provided	0	2 samples of 5 mL each	1	PARAGUAY,
Tonsil inactivated (tissue macerated)	RT-qPCR for CSFV specific RNA detection (Hoffmann et al., 2005)	Produced and Provided	0	2 samples of 5 mL each	1	PARAGUAY,
CSFV inactivated	RT-qPCR for CSFV specific RNA detection (Hoffmann et al., 2005)	Produced and Provided	0	1 sample, 5 mL	1	PARAGUAY,
Primers and Taqman probe for CSFV and ASFV detection	Duplex ASF/CSF RT-qPCR	Provided	0	Two primers sets, 0,1 mL each and Two Taqman Probe, 0,02 mL each	3	CUBA, ECUADOR, PARAGUAY,
Monospecific polyclonal	Seroneutralization (NPLA Test) and	Produced and				

Lilianne Ganges - -

antibody against CSFV	viral isolation-CSFV identification	Provided	0	5 mL	1	ECUADOR,
Tonsil inactivated (tissue macerated)	RT-qPCR for CSFV specific RNA detection (Hoffmann et al., 2005)	Produced and Provided	0	15 samples of 1 mL each	1	CUBA,
Reference inactivated porcine sera	Seroneutralization (NPLA Test) and ELISA	Produced and Provided	0	5 samples of 1 mL each	1	CUBA,
Reference RNA	RT-qPCR for CSFV RNA detection (Hoffmann et al., 2005)	Produced and Provided	0	5 samples of 0,1 mL each	1	CUBA,

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOA H Members?

Not applicable

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

Yes

7. Did your laboratory validate diagnostic methods according to WOA H Standards for the designated pathogen or disease?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
a new loop-mediated isothermal amplification test for the sensitive, rapid, and economic detection of different genotypes of Classical swine fever virus	Development of a new loop-mediated isothermal amplification test for the sensitive, rapid, and economic detection of different genotypes of Classical swine fever virus. Bohórquez JA, Muñoz-Aguilera A, Lanka S, Coronado L, Rosell R, Alberch M, Maddox CW, Ganges L. Front Cell Infect Microbiol. 2024 Apr 15;14:1372166. doi: 10.3389/fcimb.2024.1372166.

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

Yes

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

Yes

Name of the new vaccine developed	Description and References (Publication, website, etc.)
FlagT4G Vaccine Prevents CSFV Transplacental Transmission	FlagT4G Vaccine Prevents Transplacental Transmission of Highly Virulent Classical Swine Fever Virus after Single Vaccination in Pregnant Sows. Coronado L, Muñoz-Aguilera A, Cantero G, Martínez P, Alberch M, Rosell R, Gladue DP, Borca MV, Ganges L. Vaccines (Basel). 2024 Jul 23;12(8):832. doi: 10.3390/vaccines12080832.

TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOA Member?

Yes

Name of the WOA Member Country receiving a technical consultancy	Purpose	How the advice was provided
ECUADOR	Seroneutralization (NPLA Test), Virus Isolation, RT-qPCR, evaluation of CSFV vaccine potency test and vaccination program in the country	In Loco
PARAGUAY	RT-qPCR	In loco
CUBA	test validation under ISO17025, Seroneutralization (NPLA Test), Virus Isolation, RT-qPCR, evaluation of CSFV vaccine potency test and vaccination program in the country	In Loco
COLOMBIA	Seroneutralization (NPLA Test), Virus Isolation,	Online
ARGENTINA BRAZIL CHILE COLOMBIA COSTA RICA CUBA DOMINICAN (REP.) ECUADOR EL SALVADOR GUATEMALA HONDURAS NICARAGUA PANAMA PERU URUGUAY	Secondary Reference Materials Preparation WOA standards	In Loco

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOA Members other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	WOA Member Countries involved other than your country
		Strengthen the cooperation between National and International Reference Laboratories in the field of Epizootic diseases. - facilitate and coordinate scientific research applied to "Epizootic Disease Diagnosis and Control"	L'Agence nationale chargée de la sécurité sanitaire de l'alimentation, de l'environnement et du travail (ANSES), France - Animal and Plant Health Agency (APHA), UK - Centre de Recerca en Sanitat Animal (IRTA-CReSA), Spain - Wageningen Bioveterinary Research (WBVR), Netherlands	

Lilianne Ganges - -

European Research group: EPIZONE: Epizootic Disease Diagnosis and Control"	Indefinite	-develop and support strategies for durable cooperation, particularly to inform about opportunities for further funding - develop, share and upgrade common research tools and platforms for joint research projects - develop common research methods, standards and protocols - share data and information among partners and better facilitate public access to selected information on epizootic diseases	-Technical University of Denmark, National Veterinary Institute (DTU Vet), Denmark - Friedrich Loeffler Institute (FLI), Germany - Institute for Animal Health (IAH) UK - Institute of Virology and Immunology (IVI), Switzerland - Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna Brescia (IZSLER), Italy - Istituto Zooprofilattico Sperimentale delle Venezie (IZS-Ve), Italy - National Research Institute of Veterinary Virology and Microbiology (NRIVaMR), Russia - National Veterinary Research Institute (NVRI), Poland - Statens Veterinärmedicinska Anstalt (SVA), Sweden - Veterinary and Agrochemical Research centre, VARCODA-CERVA (VAR), Belgium - Emerging Pathogens Institute, University of Florida (EPI), USA	BELGIUM DENMARK FRANCE GERMANY ITALY POLAND SPAIN SWEDEN SWITZERLAND UNITED KINGDOM
CSFV virulent factors	2017-2028	Update on CSFV pathogenesis for disease control	Institute of Virology and Immunology, (IVI)	SWITZERLAND
CSFV diagnosis and vaccine control	2020-2028	CSFV diagnosis and vaccine developments for control	ARS, USDA	UNITED STATES OF AMERICA
CSFV and ASFV diagnosis	2020-2024	Improve CSFV and ASFV diagnostic tools for CSFV and ASFV early detection	University of Illinois, USDA	UNITED STATES OF AMERICA
CSFV vaccine design and development	2023-2026	Improve CSFV vaccines for CSFV control	CIGB	CUBA

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

Yes

Research need : 1

Please type the Research need: 1-) Research is needed to establish endpoint criteria (ethics and animal welfare) to be applied in CSFV vaccine potency test conducted with domestic pigs. Within chapter 3.9.3 it is established that the animals after the CSFV challenge (using high virulence strain, and with high CSFV doses) reproduce the acute form of CSF. For this type of test, the endpoint criteria to avoid animal suffering are not included

Relevance for WOA: Standard Setting, Animal Welfare,

Lilianne Ganges - -

Relevance for the Code or Manual Manual,

Field Diagnostics, Vaccines,

Animal Category Terrestrial,

Disease:

Classical swine fever

Kind of disease (Zoonosis, Transboundary diseases) Transboundary diseases,

If any, please specify relevance for Codes or Manual, chapter and title

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

Answer: Terrestrial Manual Chapter 3.9.3

Notes:

Answer: Research in the search for alternative methods that avoid or reduce the use of live animals in vaccine potency test for CSF vaccine

Research need : 2

Please type the Research need: Alternative methods that can be used in vaccine potency test to eliminate animal experimentation

Relevance for WOA Standard Setting, Animal Welfare,

Relevance for the Code or Manual Manual,

Field Diagnostics, Vaccines,

Animal Category Terrestrial,

Disease:

Classical swine fever

Kind of disease (Zoonosis, Transboundary diseases) Transboundary diseases,

If any, please specify relevance for Codes or Manual, chapter and title

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

Answer: Terrestrial Manual Chapter 3.9.3

Notes:

Answer: Research in the search for alternative methods that avoid the use of live viruses in methods for determining neutralizing antibodies (NPLA for CSFV) among others test using live viruses. In many countries, the application of this type of assay for the monitoring and surveillance of CSFV is complicated, since they do not have level 3 laboratories for biocontainment.

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:

Development of new vaccines strategies, vaccine efficacy and potency tests, as well as development and transfer of CSFV

WOAH Reference Laboratory Reports Activities 2024

Lilianne Ganges - -

diagnostic methods (including new rapid,
sensitive and economical tests) and reference materials preparation

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:

Data supporting the evolution of CSFV and related virulence factors. Interaction of CSFV with the host, determining the host gene expression fingerprint. Development of new DIVA molecular and serological diagnostic methods and their applications

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:

5

1- *Evolutionary-Related High- and Low-Virulent Classical Swine Fever Virus Isolates Reveal Viral Determinants of Virulence.*

Hinojosa Y, Liniger M, García-Nicolás O, Gerber M, Rajaratnam A, Muñoz-González S, Coronado L, Frías MT, Perera CL, Ganges L, Ruggli N.

Viruses. 2024 Jan 19;16(1):147. doi: 10.3390/v16010147.

2- *Development of a new loop-mediated isothermal amplification test for the sensitive, rapid, and economic detection of different genotypes of Classical swine fever virus.*

Bohórquez JA, Muñoz-Aguilera A, Lanka S, Coronado L, Rosell R, Alberch M, Maddox CW, Ganges L.

Front Cell Infect Microbiol. 2024 Apr 15;14:1372166. doi: 10.3389/fcimb.2024.1372166.

3- *Serological Investigation for Brucella ceti in Cetaceans from the Northwestern Mediterranean Sea.*

Martino L, Cuvertoret-Sanz M, Wilkinson S, Allepuz A, Perlas A, Ganges L, Pérez L, Domingo M.

Animals (Basel). 2024 Aug 20;14(16):2417. doi: 10.3390/ani14162417.

4- *Insights into genetic determinants of piglet survival during a PRRSV outbreak.*

Tarrés J, Jové-Juncà T, Hernández-Banqué C, González-Rodríguez O, Ganges L, Gol S, Díaz M, Reixach J, Pena RN, Quintanilla R, Ballester M.

Vet Res. 2024 Dec 18;55(1):160. doi: 10.1186/s13567-024-01421-8.

5- *FlagT4G Vaccine Prevents Transplacental Transmission of Highly Virulent Classical Swine Fever Virus after Single Vaccination in Pregnant Sows.*

Coronado L, Muñoz-Aguilera A, Cantero G, Martínez P, Alberch M, Rosell R, Gladue DP, Borca MV, Ganges L.

Vaccines (Basel). 2024 Jul 23;12(8):832. doi: 10.3390/vaccines12080832.

b) International conferences:

13

1- *FlagT4G vaccine confers protection against transplacental transmission of highly virulent classical swine fever virus after single vaccination in pregnant sows. Presentación oral.* Liani Coronado, Adriana Muñoz, Guillermo Cantero, Patricia Martínez, Douglas P.

Lilianne Ganges - -

Gladue, Manuel V. Borca and Lilianne Ganges. EPIZONE 2024, Uppsala, Suecia.

2- Immune checkpoint activation with metabolism and immune disfunctions during lethal classical swine fever virus infection.

Presentación oral. Liani Coronado, Miaomiao Wang, Jose Bohórquez, Adriana Muñoz, Mònica Alberch, Patricia Martínez, Nicolas Ruggli, Yulixaxis Ramayo-Caldas and Lilianne Ganges. Viruses 2024, Barcelona, España.

3- Differential gene expression signatures between high and low pathogenic classical swine fever viruses using porcine bone marrow-derived antigen presenting cells. Póster. Liani Coronado, Miaomiao Wang, José Bohórquez, Adriana Muñoz, Mònica Alberch, Patricia Martínez, Nicolas Ruggli, Yulixaxis Raayo-Caldas, Lilianne Ganges. EPIZONE 2024, Uppsala, Suecia.

4- PrimeStore® MTM Molecular Transport Medium method for Classical swine fever virus inactivation: Facilitating biosafety and molecular diagnosis. Poster. Adriana Muñoz, Xavier Abad, Cristina Riquelme, Iván Muñoz, Liani Coronado, Rosa Rosell, Christopher Helm, Jerry Torrison, Patricia Martínez, Lilianne Ganges. EPIZONE 2024, Uppsala, Suecia.

5- Detection of ASFV infection in clinical, environmental and non-invasive samples collected from pigs infected with different infectious doses. Poster. Adriana Muñoz, Liani Coronado, Mònica Alberch, Cristina Riquelme, Patricia Martínez, Àlex Cobos, Iván Muñoz, Fernando Rodríguez, Lilianne Ganges. EPIZONE 2024, Uppsala, Suecia.

6- Differential gene expression signatures between high and low pathogenic CSFV using porcine bone marrow-derived antigen presenting cells. Poster. Liani Coronado, Miaomiao Wang, José Alejandro Bohórquez, Adriana Muñoz-Aguilera, Mònica Alberch, Patricia Martínez, Nicolas Ruggli, Yulixaxis Ramayo-Caldas, Lilianne Ganges. EPIZONE 2024, Uppsala, Suecia.

7-El papel de los laboratorios de referencia en la homogeneización y estandarización de los procedimientos diagnósticos. REGIONAL TRAINING COURSE ON THE PRODUCTION OF SECONDARY REFERENCE MATERIALS. IAEA-FAO, Paraguay, Agosto, 2024. Lilianne Ganges

8- Materiales de referencia (MR) como parte esencial de los sistemas de control de calidad para el diagnóstico. REGIONAL TRAINING COURSE ON THE PRODUCTION OF SECONDARY REFERENCE MATERIALS. Joint FAO /IAEA, Paraguay, agosto 2024. Lilianne Ganges

9-PPC: Pautas para el diagnóstico de laboratorio, muestreo, análisis e interpretación de resultados. THE PRODUCTION OF SECONDARY REFERENCE MATERIALS. Joint FAO /IAEA centre, Paraguay, agosto 2024. Lilianne Ganges

10-Desafíos para el control de la Peste porcina clásica. THE PRODUCTION OF SECONDARY REFERENCE MATERIALS. Joint FAO /IAEA, Paraguay, agosto 2024. Lilianne Ganges

11- Validación y Acreditación de técnicas de diagnóstico por PCR. RLA5085 "Strengthening the capacity of official laboratories for monitoring and responding to outbreaks of priority animal and zoonotic diseases (ARCAL CLXXIV)" Joint FAO-IAEA. CENSA, Mayabeque, Cuba Octubre 2024. Lilianne Ganges

12- Materiales de referencia (MR) como parte esencial de los sistemas de control de calidad para el diagnóstico. "Strengthening the capacity of official laboratories for monitoring and responding to outbreaks of priority animal and zoonotic diseases (ARCAL CLXXIV)" Joint FAO-IAEA. CENSA, Mayabeque, Cuba Octubre 2024. Lilianne Ganges

13- Peste Porcina clásica: asuntos pendientes y desafíos actuales para el control. Agrocalidad, Ecuador, Septiembre 2024. Lilianne Ganges

c) National conferences:

4

1. FlagT4G vaccine confers protection against transplacental transmission of highly virulent classical swine fever virus. Presentación oral. Liani Coronado, Adriana Muñoz, Patricia Martínez, Mònica Alberch, Douglas P. Gladue, Manuel V. Borca and Lilianne Ganges. SEV 2024, Santiago de Compostela, España.

2- Gene expression signatures related with the severity of disease after classical swine fever infection. Presentación oral. Liani Coronado, Miaomiao Wang, José Bohórquez, Adriana Muñoz, Mònica Alberch, Patricia Martínez, Nicolas Ruggli, Lilianne Ganges. SEV 2024, Santiago de Compostela, España.

3- Detection of ASFV infection in pigs using clinical, environmental, and non-invasive samples through the application of a minimal equipment colorimetric LAMP versus qPCR. Presentación oral. Adriana Muñoz, Liani Coronado, Monica Alberch, Cristina Riquelme, Patricia Martínez, Iván Muñoz, Àlex Cobos and Lilianne Ganges. SEV 2024, Santiago de Compostela, España.

4- Presentación de IRTA-CReSA como laboratorio reconocido por la OMSA (OIE) de referencia mundial para PPC. Reunión Anual de

Lilianne Ganges - -

Laboratorios de Sanidad Animal – 2024, Laboratorio Central de Veterinaria (LCV), Algete, Madrid, Ministerio de Agricultura, Pesca y Alimentación, 26-27 Noviembre, 2024. Lilianne Ganges

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

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

a) Technical visit : 2

b) Seminars : 1

c) Hands-on training courses: 2

d) Internships (>1 month) 4

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	CUBA	10
A	ECUADOR	15
B	PARAGUAY	31
C	CUBA	1
C	PARAGUAY	1
D	COLOMBIA	1
D	CUBA	1
D	MEXICO	2

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025	ENAC ISO17025 accreditation (PDF)	Acreditacion ISO17025. 900_LE1557.pdf
ISO 9001	AENOR ISO 9001 (PDF)	AENOR-ISO-9001-ER-0591-hasta-2024.pdf
ISO 9001	IQNet (PDF)	Certificat-IQNet-ISO-9001-ER-591.pdf
GLP According to Directive 2004/9/CE	GLP Directive 2004/9/CE (PDF)	Certificado BPL- IRTA-CReSA. BPLI-2311-001-Cat.pdf

Lilianne Ganges - -

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Seroneutralization test (NPLA) for CSFV antibody detection and and differentiation with other Pestiviruses (IT-A4 ESE 005)	ENAC
qRT-PCR (Hoffmann et al., 2005) for CSFV RNA diagnosis (IT-A4-EPCR 132)	ENAC
Conventional RT-PCR for Pestivirus detection (IT-A4-EPCR 232)	ENAC
Virus isolation test (CSFV) (IT-A4-EVI 019) EN	ENAC
ELISA for CSFV antibody detection (IT-A4-EELS 008)	ENAC
Simultaneous detection of the Classical Swine Fever virus and African swine fever by Duplex real-time RT-PCR (IT-A4-EPCR 053)	ENAC

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

Yes

There is a generic biological risk management for the facility also associated with preventive and corrective maintenance and there is also a biological risk management associated with each research project or experimental activity. This is achieved through the internal IRTA Biosafety Committee that oversees the contracts and research projects and through the National Biosafety Commission, which is responsible for validating all activities where, apart from the wild virus, work is done with genetically modified organisms. The centre has the A/ES/16/I-06 registration which authorizes it to work with pathogens of hazard group 3, whether wild or genetically modified. This risk management is embedded in the center's quality management, which follows ISO9001 and also the principles of Good Laboratory Practices regarding the control of critical laboratory and barrier equipment.

TOR9: SCIENTIFIC MEETINGS

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

No

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

Yes

Title of event	Date	location	Role (speaker, presenting poster, short communications)	Title of the work presented
REGIONAL TRAINING COURSE ON THE PRODUCTION OF SECONDARY REFERENCE MATERIALS ACORDING WOAH STANDARDS. Strengthening the capacity of official laboratories for monitoring and responding to outbreaks	2024-08-04	San Lorenzo, Paraguay	Speaker	1-) Research developments and the current global situation regarding CSF and ASF. 2-) The diagnostic pipelines for ASF/CSF 3-) Reference materials (RM) as an essential part of control

Lilianne Ganges - -

of priority animal and zoonotic diseases (ARCAL CLXXIV). RLA5085, Organized by FAO/IAEA Joint Center				systems
------------------------------------------------------------------------------------------------------	--	--	--	---------

TOR10: NETWORK WITH WOAHA REFERENCE LABORATORIES

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

Yes

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

No

25. Did you organise or participate in inter-laboratory proficiency tests with WOAHA Reference Laboratories designated for the same pathogen during the past 2 years?

Yes

Purpose of the proficiency test:	Role of your Reference Laboratory (organiser/ participant)	No. participating Laboratories	Participating WOAHA Ref. Labs/ organising WOAHA Ref Lab
Harmonization of CSF diagnosis in molecular techniques by RT-PCR, RT-qPCR, virus isolation, nucleic acid sequencing, and serology (ELISA and serum neutralization assay (NPLA))	Participant	27 national reference laboratory and 12 laboratories from associated countries	CSF Reference Laboratory, Hannover, Germany (Organising) CSF Reference Laboratory, Winnipeg, Canada (Participant) CSF Reference Laboratory in UK (Participant) CSF Reference Laboratory UK, Participant CSF Reference Laboratory IRTA-CReSA, Spain (Participant)

26. Did your laboratory collaborate with other WOAHA 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 WOAHA Reference Laboratories
Development of new diagnostic tools,	Development of new diagnostic tools,	CSF WOAHA reference laboratory of Canadian Food Inspection Agency's (CFIA) National Centre for Foreign Animal Disease (NCFAD) in Winnipeg, Manitoba
CSFV tropism and pathogenesis	CSFV tropism and pathogenesis	CSF Reference laboratory Hannover, Germany.

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAHA Reference Laboratories for the same pathogen during the past 2 years?

Yes

--	--	--	--	--

Lilianne Ganges - -

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
Harmonization of CSF diagnosis in molecular techniques by RT-PCR, RT-qPCR, sequencing, and serology (ELISA and serum neutralization assay (NPLA))	Organizer	2	ELISA and RT-qPCR	COLOMBIA, CUBA,

TOR12: EXPERT CONSULTANTS

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

Yes

Kind of consultancy	Location	Subject (facultative)
Revision and update the WOA Manual, Classical swine fever virus (infection with classical swine fever virus Chapter 3.9.3	Remote	Revision and update the WOA Manual: Chapter 3.9.3
Ad hoc Group on the evaluation of CSF status 2024	Remote	CSF status 2024

29. Additional comments regarding your report:

Yes

Continue to count on the support of the WOA to carry out inter-laboratory trials with the member countries of the different regions (Americas, Asia, etc.) this will reinforce the organization and coordination tasks to be able to carry them out.