WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 27 avril 2023 14:24

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Classical swine fever
Address of laboratory:	China Institute of Veterinary Drug Control (IVDC)/Center for Veterinary Drug Evaluation (CVDE) Department of Swine Viral Biologics Inspection No.8 Zhongguancun South Street Haidian District Beijing 100081 CHINA (PEOPLES REP. OF)
Tel.:	86-010 612 55 400
E-mail address:	wq551@vip.sina.com
Website:	http://www.ivdc.org.cn/
Name (including Title) of Head of Laboratory (Responsible Official):	Prof. Li Ming, General Director of IVDC and CVDE
Name (including Title and Position) of WOAH Reference Expert:	Prof. Qin Wang Designated expert, OIE Reference Laboratoryfor Classical Swine Fever at IVDC
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
Indirect ELISA Kit to Detect Antibody against Classical Swine Fever Virus	Yes	0	0

Blocking ELISA Kit to Detect the Antibody against Classical Swine Fever Virus	Yes	7637	0
Fluorescent antibody virus neutralization test(CSFV)	Yes	15	0
Direct diagnostic tests		Nationally	Internationally
Reverse-transcription quantitative polymerase chain reaction (CSFV)	Yes	459	0
Reverse-transcription nest polymerase chain reaction (CSFV)	Yes	14	0
Genetic Typing (CSFV phylogenetic analysis)	Yes	14	0
Virus isolation (CSFV)	Yes	0	0
Fluorescent antibody test (CSFV)	Yes	0	0

TOR2: REFERENCE MATERIAL

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

No

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

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOAH MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
CSFV RT-nPCR kit (24 reactions/kit)	Detection of CSFV nucleic acid	Produced/provide	34 kits	0	1	Asia and Pacific
National Reference Positive Serum of C-strain vaccine for Vaccine Detection (1ml/Ampoule)	Positive control for enzyme-linked immunosorbent assay (ELISA) for vaccine antibody detection	Produced/provide	368ml	0	1	Asia and Pacific
National Reference Strong Positive Serum of CSFV for Detection (1ml/Ampoule)	FAVN/NPLA/ELISA for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	101ml	0	1	Asia and Pacific
Reference weak Positive Serum 1 of CSFV for detection (1ml/Ampoule)	FAVN/NPLA/ELISA for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	17ml	0	1	Asia and Pacific
	FAVN/NPLA/ELISA					

Reference weak Positive Serum 2 of CSFV for detection (1ml/Ampoule)	for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	24ml	0	1	Asia and Pacific
Reference negative Serum of CSFV for detection (1ml/Ampoule)	FAVN/NPLA/ELISA for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	76ml	0	1	Asia and Pacific
National Reference strong Positive Serum of CSFV (Rabbit Neutralization Test, 1:847±1	FAVN/NPLA/ELISA for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	56ml	0	1	Asia and Pacific
National Reference weak Positive Serum of CSFV (Rabbit Neutralization Test, 1:8.5±1.3	FAVN/NPLA/ELISA for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	13ml	0	1	Asia and Pacific
National Reference weak Positive Serum of CSFV (Rabbit Neutralization Test, 1:9.6±1	FAVN/NPLA/ELISA for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	9ml	0	1	Asia and Pacific
National Reference negative Serum of CSFV (1ml 0.5ml/Ampoule)	FAVN/NPLA/ELISA for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	6ml	0	1	Asia and Pacific
National Reference negative Serum of CSFV (1ml 0.5ml/Ampoule)	FAVN/NPLA/ELISA for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	15.5ml	0	1	Asia and Pacific
National Reference Positive Serum of CSFV	Cellular neutralization test	Produced/provide	15ml	0	1	Asia and Pacific
CSFV E2 monoclonal antibody (1C8)	FAVN/NPLA/ELISA for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	25.5ml	0	1	Asia and Pacific
	FAVN/NPLA/ELISA					

Reference Positive Serum of ASFV (0.5 ml /Ampoule)	for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	2ml	0	1	Asia and Pacific
Reference Positive Serum of ASFV (CD2v deletion)	ELISA for antibody detection, virus isolation, FAT, IPT for antigen detection	Produced/provide	7ml	0	1	Asia and Pacific
Reference Positive Serum of ASFV (lyophilized)	FAVN/NPLA/ELISA for antibody detection, virus Isolation, FAT, IPT for antigen detection	Produced/provide	110ml	0	1	Asia and Pacific
Reference Positive Serum of PRV	Detection for extraneous agents of C-strain vaccine	Produced/provide	437ml	0	1	Asia and Pacific
Reference Positive Serum of PCV II	Detection for extraneous agents of C-strain vaccine	Produced/provide	13.5ml	0	1	Asia and Pacific
Reference Positive Serum of PCV II(lyophilized)	Detection for extraneous agents of C-strain vaccine	Produced/provide	36.5ml	0	1	Asia and Pacific

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH Members?

No

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 WOAH Standards for the designated pathogen or disease?

Yes

NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
A multiplex real-time PCR assay for detection of CSFV, ASFV and APPV.	Xiang-peng SONG1, Ying-ju XIA1, Lu XU, Jun-jie ZHAO, Zhen WANG, Qi-zu ZHAO, Ye- bing LIU, Qian-yi ZHANG*, Qin WANG*. A multiplex real-time PCR assay for simultaneous detection of classical swine fever virus, African swine fever virus and atypical porcine pestivirus, Journal of Integrative Agriculture, 2022, https://doi.org/10.1016/j.jia.2022.08.115.
A quadruple PCR-based gene microarray for detection of vaccine and wild-type CSFV, ASFV and APPV.	 XIA Ying-ju1, XU Lu1, ZHAO Jun-jie, LI Yuan-xi, Wu Rui-zhi, Song Xiang-peng, ZHAO Qi-zu, LIU Ye-bing, WANG Qin, ZHANG Qian-yi*. Development of a quadruple PCR-based gene microarray for detection of vaccine and wild-type classical swine fever virus, African swine fever virus and atypical porcine pestivirus. Virol J. 2022 Nov 29;19(1):201. DOI: 10.1186/s12985-022-01933-9

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

Yes

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

Yes

NAME OF THE NEW VACCINE DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
C-strain-PK vaccine	Comparative efficacy evaluation of different CSF vaccines in pigs with CSF maternally derived antibodies. NingChen, QinWang, Yulong Hu,Yanyong Sun, Junping Li, Huawei Wu, Lu Xu, Huanhuan Liu, Chenghuai Yang, Xiaochun Chen, Yong Deng, Yingju Xia, Qianyi Zhang, Shi Cheng, Aihua Fan, Guanghua Chen. Veterinary Microbiology, Volume 273, October 2022, 109541

TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

Yes

NAME OF THE WOAH MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
PHILIPPINES	Diagnosis, Epidemiology, Molecular Characterization and Control of CSF and ASF in Southern Philippines	email

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOAH Members other than the own? No

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:

The annual reports of the antigen and antibody surveillance and situation of CSFV from Key provinces in pig farms, slaughterhouses and CNAS certified laboratories in mainland China, update to CSFinfo database developed by CSFRL in IVDC.

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:

1. The annual surveillance report was submitted to Ministry of Agriculture and Rural Affairs with epizootiological data was WOAH Reference Laboratory Reports Activities 2022

processed and analysed.

2. Peer-reviewed research papers were published in academic journals.

3. Attend academic meetings and give presentations.

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:

3

1. SONG Xiang-peng*, XIA Ying-ju*, XU Lu, ZHAO Jun-jie, WANG Zhen, ZHAO Qi-zu, LIU Ye-bing, ZHANG Qian-yi, WANG Qin. A multiplex real-time PCR assay for simultaneous detection of classical swine fever virus, African swine fever virus and atypical porcine pestivirus. Journal of Integrative Agriculture.2022. Doi:10.1016/j.jia.2022.08.115

2. Xia YJ, Xu L, Zhao JJ, Li YX, Wu RZ, Song XP, Zhao QZ, Liu YB, Wang Q, Zhang QY. Development of a quadruple PCR-based gene microarray for detection of vaccine and wild-type classical swine fever virus, African swine fever virus and atypical porcine pestivirus. Virol J. 2022 Nov 29;19(1):201. doi: 10.1186/s12985-022-01933-9. PMID: 36447230; PMCID: PMC9708128.

3. NingChen, QinWang, Yulong Hu, Yanyong Sun, Junping Li, Huawei Wu, Lu Xu, Huanhuan Liu, Chenghuai Yang, Xiaochun Chen, Yong Deng, Yingju Xia, Qianyi Zhang, Shi Cheng, Aihua Fan, Guanghua Chen. Comparative efficacy evaluation of different CSF vaccines in pigs with CSF maternally derived antibodies. Veterinary Microbiology, Volume 273, October 2022, 109541

b) International conferences:

2

1. 2022 Seminar on Standardization Cooperation for Belt and Road Countries, 21th July 2022, Beijing, China .for Quarantine officials in developing countries.

Wang Qin (Key Speaker), Animal disease prevention and control and technical standardization

2. 2022 Seminar on Standardization Cooperation for Belt and Road Countries,31th August 2022, Beijing, China for Quarantine officials in Botswana, Cambodia, Colombia, Ethiopia, Indonesia, Malawi, Myanmar, North Macedonia, Sri Lanka, Tunisia, Turkey, Fiji. Wang Qin (Key Speaker), Animal disease prevention and control and technical standardization.

c) National conferences:

1

1. The 9th Veterinary Congress of the Chinese Veterinary Medical Association,2-4th September 2022, Qingdao, China. Wang Qin (Key Speaker), Achievements on CSF diagnostic techniques in China

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

2

1. Submitted 2021 annual report of CSF Research Achievements of OIE/NCSFRL at IVDC to the Animal Husbandry and Veterinary Bureau of the Ministry of Agriculture and Rural Affairs of China(MARA).

2. Submitted 2021 annual surveillance report of CSF in key areas in China to the Animal Husbandry and Veterinary Bureau of MARA.

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

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

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
b	Botswana, Cambodia, Colombia, Ethiopia, Indonesia, Malawi, Myanmar, North Macedonia, Sri Lanka, Tunisia, Turkey, Fiji.	30

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ABSL-3 CNAS certificates	JPG	ABSL-3 CNAS certificates.jpg
ISO17025 certivicates	JPG	ISO17025 certivicates.jpg

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Sampling, storage and transportation of CSFV samples CNAS	CNAS
Handling CSFV tissue samples	CNAS
CSF viral RNA extraction	CNAS
Isolation of CSFV in cell culture	CNAS
CSFV TCID50 test	CNAS
Fluorescent antibody test for CSFV antigen detection	CNAS
Immunoperoxidase test for CSFV antigen detection	CNAS
Reverse-transcription nest polymerase chain reaction (CSFV)	CNAS
Reverse-transcription quantitative polymerase chain reaction (CSFV)	CNAS
Indirect ELISA Kit to Detect Antibody against Classical Swine Fever	CNAS
Blocking ELISA Kit to Detect the Antibody against Classical Swine Fever Virus	CNAS
Antibody virus neutralization test (rabbit)	CNAS
Florescent antibody virus neutralization test	CNAS
ASFV virus isolation viral isolation in porcine leukocytes and hemadsorption	CNAS

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

Yes

We have biosafety and biosecurity risk management systems which are in compliance with Chinese and international regulations and continually reviewed and improved through application. In addition, we have established Risk Assessment Report for Classical Swine Fever and Risk Assessment Report for African Swine Fever, which are also reviewed and updated regularly.

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 (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
2022 Seminar on Standardization Cooperation for Belt and Road Countries	2022-07-21	Beijing,China	Key Speaker (Wang Qin)	Animal disease prevention and control and technical standardization
2022 Seminar on Standardization Cooperation for Belt and Road Countries	2022-08-31	Beijing, China	Key Speaker (Wang Qin)	Animal disease prevention and control and technical standardization
The 9th Veterinary Congress of the Chinese Veterinary Medical Association	2022-09-03	Qingdao, China	Key Speaker (Wang Qin)	Achievements on CSF diagnostic techniques in China

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

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

24. Are you a member of a network of WOAH Reference Laboratories designated for the same pathogen?

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOAH REF. LABS/ ORGANISING WOAH REF. LAB.
Participant determining laboratory's capability to conduct diagnostic tests for CSF. My lab is participating CSF inter- laboratory proficiency tests 2022 organised by OIE/EU Ref Lab for CSF from TiHo Hannover Germany.	participant	1	CSF ref lab in Beijing

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen?

Yes			
PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOAH REF. LABS/ ORGANISING WOAH REF. LAB.
Participant determining laboratory's capability to conduct diagnostic tests for CSF. My lab is participating CSF inter- laboratory proficiency tests 2022 organised by OIE/EU Ref Lab for CSF from TiHo Hannover Germany.	participant	1	CSF ref lab in Beijing

26. Did your laboratory collaborate with other WOAH Reference Laboratories for the same disease on scientific research projects for the

diagnosis or control of the pathogen of interest?

No

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

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Purpose for inter-laboratory test comparisons1	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Region(s) of participating WOAH Member Countries
Participant determining laboratory's capability to conduct diagnostic tests for CSF. My lab is participating CSF inter-laboratory proficiency tests 2022 organised by OIE/EU Ref Lab for CSF from TiHo Hannover Germany.	participant	1	Asia and Pacific

TOR12: EXPERT CONSULTANTS

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

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
Review and advice	China	Review the chapter on classical swine fever (3.09.03) the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals
Translation	China	Translation of OIE Terrestrial Manuel 2022 Chapter 3.9.3 Classical Swine Fever in Chinese entrusted by China Animal Health and Epidemiology Centre.

29. Additional comments regarding your report:

Qin Wang - Classical swine fever - undefined