

WOAH Reference Laboratory Reports Activities 2025

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LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	African swine fever
*Address of laboratory:	No. 369 Nanjing Road, Qingdao, P.R.China
*Tel:	+8653213706428161
*E-mail address:	wuxiaodong@cahec.cn
Website:	
*Name (including Title) of Head of Laboratory (Responsible Official):	Xiaodong Wu, Prof. , PhD
*Name (including Title and Position) of WOA Reference Expert:	Xiaodong Wu Prof. , PhD, Deputy Director General of China Animal Health and Epidemiology Center
*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 WOA Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
c-ELISA	Yes	9772	0
Direct diagnostic tests			
Real-time PCR	Yes	31048	0
Virus isolation	Yes	20	0

TOR2: REFERENCE MATERIAL

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

No

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

No

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOA Members?

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 WOAHS Standards for the designated pathogen or disease?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
Triplex PCR for ASFV differential diagnosis	The OIE ASF Reference Laboratory Network' soverview of African swine fever diagnostic tests for field application. (2022) https://www.woah.org/en/document/oie-asf-reference-laboratory-networksoverview-of-african-swine-fever-diagnostic-tests-for-field-application/
A duplex real-time PCR assay for differentiation of genotypes I and II African swine fever viruses	Li X, Hu Y, Liu P, Zhu Z, Liu P, Chen C, Wu X. Development and application of a duplex real-time PCR assay for differentiation of genotypes I and II African swine fever viruses. <i>Transbound Emerg Dis.</i> 2022 Sep;69(5):2971-2979. doi: 10.1111/tbed.14459. Epub 2022 Jan 28. PMID: 35061937.
Real-time qPCR(modified)	GB-T 18648-2020 Diagnostic techniques for African swine fever
Fluorescent RAA	GB-T 18648-2020 Diagnostic techniques for African swine fever
High sensitivity fluorescence immunoassay	GB-T 18648-2020 Diagnostic techniques for African swine fever
Fluorescent immunochromatography test strip	Li C, He X, Yang Y, Gong W, Huang K, Zhang Y, Yang Y, Sun X, Ren W, Zhang Q, Wu X, Zou Z, Jin M. Rapid and visual detection of African swine fever virus antibody by using fluorescent immunochromatography test strip. <i>Talanta.</i> 2020 Nov 1;219:121284. doi: 10.1016/j.talanta.2020.121284. Epub 2020 Jun 13. PMID: 32887174.
Microfluidic-CFPA chip	Ye X, Li L, Li J, Wu X, Fang X, Kong J. Microfluidic-CFPA Chip for the Point-of-Care Detection of African Swine Fever Virus with a Median Time to Threshold in about 10 min. <i>ACS Sens.</i> 2019 Nov 22;4(11):3066-3071. doi: 10.1021/acssensors.9b01731. Epub 2019 Oct 24. PMID: 31602971.

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

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

TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

Yes

Name of the WOAHS Member Country receiving a technical consultancy	Purpose	How the advice was provided
INDONESIA PHILIPPINES	Present our practices in biosafety management and prevention	On the Tenth Meeting of the Standing Group of Experts on African Swine Fever for Asia and the Pacific, Thailand

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

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

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:

Global Distribution and Genetic Characterization of African swine fever virus, sourced from WAHIS, EMPRES-i, Published research paper, international meetings, etc.

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:

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Global Distribution and Genetic Characterization of African swine fever virus, disseminated by MARA website, CAHEC website, Research paper, international/national meetings, Wechat official account.

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:

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1. Ge Shengqiang, Sha Zhou, Cui Jin, et al. *Current Status of Research on Efficacy Evaluation of African Swine Fever Attenuated Vaccine and Considerations*. *China Animal Health Inspection*. 2025, 42(2): 23-28. (Academic Journals of China)
2. Ge Shengqiang, Lv Yan, Zuo Yuanyuan, et al. *The challenge in the research of African swine fever genotype I and II recombinant virus vaccine*. *China Animal Health Inspection*. 2025, 42(3): 72-76. (Academic Journals of China)
3. Ge Shengqiang, Zuo Yuanyuan, Song Fangfang, et al. *Confusion and Reflection on Research of ASF Attenuated Vaccine*. *China Animal Health Inspection*. 2025, 42(5): 78-85. (Academic Journals of China)
4. Ge Shengqiang, Zuo Yuanyuan, Chang Xing, et al. *Comparative Analysis of Pathogenicity Between African Swine Fever Virus Genotype I/II Recombinant Strains and Highly Virulent Strains of Other Genotypes*. *China Animal Health Inspection*. 2025, 42(8): 72-77. (Academic Journals of China)
5. Xuefei Chu, Shengqiang Ge, Yingchao Li, et al. *ASFV infection induces lipid metabolic disturbances and promotes viral replication*. *Frontiers in Microbiology*. 2025 Jan 7:15:1532678.doi: 10.3389/fmicb.2024.1532678. eCollection 2024.
6. Xuefei Chu, Shengqiang Ge, Bingrong Wu, et al. *ASFV p30 interacts with CCAR2 and MATR3 to promote ASFV replication*. *Vet Microbiol*. 2025 Mar:302:110416.doi: 10.1016/j.vetmic.2025.110416. Epub 2025 Feb 4.

b) International conferences:

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1. *The Tenth Meeting of the Standing Group of Experts on African Swine Fever for Asia and the Pacific (WOAH, Jun 2025)*
2. *WOAH Asia Regional Workshop on Swine Disease Control (WOAH, Jul 2025)*
3. *The Trilateral Workshop on Preparedness and Resilience of Foot and Mouth Disease (WOAH, Jul 2025)*
4. *WOAH regional Hands-on Training on African Swine Fever (ASF) in Asia and the Pacific (WOAH, Aug 2025)*
5. *2025-01 ASF RL Network Meeting (WOAH, Feb, 2025)*
6. *2025-02 ASF RL Network Meeting (WOAH, May, 2025)*
7. *2025-02 ASF RL Network Meeting (WOAH, Aug, 2025)*
8. *2025-02 ASF RL Network Meeting (WOAH, Nov, 2025)*

c) National conferences:

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1. *National Symposium on Surveillance and Targeted Investigation of Exotic Animal Diseases (Mar 2025)*
2. *Training Workshop on Comprehensive Prevention and Control Strategies for Exotic Animal Diseases (Jun 2025)*
3. *National Conference on Assessment of the Epidemiological Situation and Control Strategies for Exotic Animal Diseases (Nov 2025)*
4. *2025-01 National African Swine Fever Laboratories Workshop (CADC, Jan, 2025)*
5. *2025-02 National African Swine Fever Laboratories Workshop (CADC, Jul, 2025)*
6. *2025-03 National African Swine Fever Laboratories Workshop (CADC, Dec, 2025)*

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

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<http://www.cahec.cn>

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 : 0
b) Seminars : 0
c) Hands-on training courses: 1
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
C	CHINA (PEOPLE'S REP. OF)	7

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO/IEC 17025	JPG	ISO 17025.jpg

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Real-time qPCR	China National Accreditation Service for Conformity Assessment (ilac-MRA , APLAC-MRA)
ELISA	China National Accreditation Service for Conformity Assessment (ilac-MRA , APLAC-MRA)
ASFV isolation	China National Accreditation Service for Conformity Assessment (ilac-MRA , APLAC-MRA)

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

Yes

The experiments related to ASFV are carried out in ABSL-3 laboratory(CNAS BL0008,CNAS-CL 05:2009).

TOR9: SCIENTIFIC MEETINGS

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

Yes

National/ International	Title of event	Co-organiser	Date	location	No. Participants
International	WOAH regional Hands-on Training on African Swine Fever(ASF) in Asia and the Pacific	/	2025-08-24	Qingdao, China	8
National	National Symposium on Surveillance and Targeted Investigation of Exotic Animal Diseases	/	2025-03-12	Qingdao, China	45
National	National Conference on Assessment of the Epidemiological Situation and Control Strategies for Exotic Animal Diseases	/	2025-10-21	Yanji, China	43

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

Yes

Title of event	Date	location	Role (speaker, presenting poster, short communications)	Title of the work presented
The Tenth Meeting of the Standing Group	2025-06-09	Thailand	Speaker	01-Outbreak Response and Management; 02-ASF Recovery and Restocking ;03-Biosecurity

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				for Prevention of ASF
WOAH Asia Regional Workshop on Swine Disease Control	2025-07-14	China	Speaker	Combating ASFV in China Monitoring, control and management
East Asia CVO meeting / Sub-Regional Workshop on Controlling Transboundary Animal Diseases in East Asia	2025-07-21	Japan	Speaker	ASF situation and prevention and control measures update in China
2025-01 ASF RL Network Meeting	2025-02-24	Online	Participant	/
2025-02 ASF RL Network Meeting	2025-05-12	Online	Participant	/
2025-03 ASF RL Network Meeting	2025-08-18	Online	Participant	/
2025-04 ASF RL Network Meeting	2025-11-18	Online	Participant	/
2025-01 National African Swine Fever Laboratories Network Workshop	2025-01-06	Online	Speaker	ASF Surveillance Report of National Reference Laboratory
2025-02 National African Swine Fever Laboratories Network Workshop	2025-07-10	Online	Speaker	ASF Surveillance Report of National Reference Laboratory
2025-03 National African Swine Fever Laboratories Network Workshop	2025-12-08	Online	Speaker	ASF Surveillance Report of National Reference Laboratory

TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES

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

Yes

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

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
African swine fever	PARTICIPANT	1	

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

No

26. Did your laboratory collaborate with other WOAHP 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 WOAHP Reference Laboratories
EU project 862874- VACDIVA	Providing three safe and effective pilot vaccines for wild boars and domestic pigs	WOAHP ASF Reference Laboratory, Universidad Complutense de Madrid
Addressing African swine fever Protocols and Guidelines For Laboratory Diagnosis	Developing new tests and review existing protocols for ASF diagnosis.	WOAHP ASF Reference Laboratory, CSIRO, Australian Centre for Disease Preparedness, Geelong, Victoria, Australia; WOAHP ASF Reference Laboratory, Onderstepoort Veterinary Institute, Agricultural Research Council, Onderstepoort, South Africa

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

Yes

Purpose for inter-laboratory	Role of your reference laboratory	No. participating laboratories	Name of the test	WOAHP Member Countries

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test comparisons1	(organizer/participant)			
Validation of ASFV Nucleic Acid Detection	Organizer/Participant	34	Proficiency Testing for ASFV Nucleic Acid Detection	CHINA (PEOPLE'S REP. OF),

TOR12: EXPERT CONSULTANTS

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

Yes

Kind of consultancy	Location	Subject (facultative)
Responding to specific technical queries from WOAHP	Online	Reviewed and Provided comments on the Proposals for the Regional Commission meeting
Responding to specific technical queries from WOAHP	Online	Reviewed and Provided comments on the WOAHP Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (Terrestrial Manual)
Responding to specific technical queries from WOAHP	Online	Reviewed and Provided comments on the 3rd Global Coordination Committee for ASF

29. Additional comments regarding your report:

No