

WOAH Reference Laboratory Reports Activities 2024

This report has been submitted: 19 février 2025 10:14

LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	Spring viraemia of carp
*Address of laboratory:	1011 of Fuqiang Road, Futianqu, Shenzhen, Guangdong Province, 518045, P. R. China
*Tel:	+86-755 25 58 84 10
*E-mail address:	709274714@qq.com
Website:	
*Name (including Title) of Head of Laboratory (Responsible Official):	Tikang Lu/Director
*Name (including Title and Position) of WOA Reference Expert:	Hong Liu/professor
*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	
Indirect diagnostic tests		Nationally	Internationally
Cell culture (EPC, GCO, FHM)	Yes	97	0
Direct diagnostic tests		Nationally	Internationally
Conventional RT-PCR	Yes	157	0
Real-time RT-PCR	No	168	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?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOA Member Countries	Country of recipients
https://report-lr-cc.woah.org/	virus isolation	EPC	150 mL	0	1	CHINA (PEOPLE'S REP. OF),
virus suspension	virus isolation	SVCV	175 mg	0	1	CHINA (PEOPLE'S REP. OF),

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOA 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 WOA Standards for the designated pathogen or disease?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
high-throughput liquid chip assay	in review
eDNA concentration and validation in the imported aquatic animals	draft
validation on microfluidic test on SVCV	draft
quantum dot-based fluorescence immunoassay method	Kang w, Liao L S, Fang Y. et al., 2024. Establishment of a highly sensitive quantum dot-based fluorescence immunoassay method for on-site diagnosis of spring viremia of carp virus. Animal Husbandry & Veterinary Medicine, 56(8):91-96

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

No

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

No

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?

No

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)	WOAH Member Countries involved other than your country
Study on the genome of SVCV isolated in the world	2023~	Study on the molecular biology of SVCV	CEFAS	UNITED KINGDOM

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

Yes

Research need : 1

Please type the Research need: eDNA test on SVCV in practical cases, such as the biosecurity system of free compartment or free zone, or imported high value koi or early warning system

Relevance for WOA Disease Control, Standard Setting,

Relevance for the Code or Manual Manual,

Field Epidemiology and Surveillance, Diagnostics,

Animal Category Aquatic,

Disease:

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: Aquatic Manual chapter 2.3.9 - Infection with Spring viraemia of carp virus

Notes:

Answer:

Research need : 2

Please type the Research need: Study on the phylogenetic analysis of spring viraemia of carp virus based on the viral genome and the patent host hidden in the genome sequence

Relevance for WOA Disease Control, Capacity Building,

Relevance for the Code or Manual Manual,

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Field Epidemiology and Surveillance,

Animal Category Aquatic,

Disease:

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: Aquatic Manual chapter 2.3.9 - Infection with Spring viraemia of carp virus

Notes:

Answer:

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 status of the infection of SVCV is as follows (WOAH WAHIS):

- Czech Republic, present in domestic fish in 2023
- Korea (Rep. of) present in some areas in domestic fish in Jan-Jun 2023
- Netherlands, present in both domestic and wild fish from 2023-2024
- United States of America, present in some areas in wild fish from 2023-2024
- Canada, present in limited areas in wild fish from 2023-2024
- P. R. China, present in limited areas in domestic fish from 2023-2024

The phylogenetic analysis showed that the dominant SVCV isolates in Serbia belong to the SVCV d genogroup, with only one isolate belonging to genogroup SVCV b. The SVCV strains circulating in Serbia exhibited high homogeneity, as several isolates shared 100% similarity within these genogroups. Most Serbian isolates belonged to SVCV d1 and d2 subgroups, with one isolate notably different and included in a new subgroup SVCV d5. (Radosavljevic V, Cuenca A, Wood G, Glisic D, Maksimovic-Zoric J, Stone D. Phylogenetic analysis of spring viraemia of carp virus isolated in Serbia. J Fish Dis. 2023 Dec;46(12):1343-1355. doi: 10.1111/jfd.13852. Epub 2023 Aug 27. PMID: 37635442.)

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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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:

2

The status report of important aquatic animal diseases in P. R. China, published by China Agriculture Press, 2024

The epidemiological analysis report of important aquatic animal disease in P. R. China, published by China Agriculture Press, 2023

b) International conferences:

2

Aquatic animal health standard commission meeting of the World Organization of Animal Health, Feb., 2024 Paris

Aquatic animal health standard commission meeting of the World Organization of Animal Health, Sep., 2024 Paris

c) National conferences:

4

1. Workshop of aquatic animal quarantine and inspection, Haikou, Jan. 5th, 2024

2. Training on improve the biosecurity system in the specific pathogen free farms, Xining, May. 8-9th, 2024

3. Training on improve the detection ability on important aquatic animal diseases, Suchou, Sep. 29th, 2024

4. Annual meeting on domestic aquatic animal health prevention and control, Weihai, Nov. 25-26th, 2024

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

0

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

No

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	PDF	ISO 17025 Certificate and the items approved.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Virus isolation	China National Accreditation Service for Conformity Assessment (CNAS)
Conventional RT-PCR	China National Accreditation Service for Conformity Assessment (CNAS)
real-time RT-PCR	China National Accreditation Service for Conformity Assessment (CNAS)

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

Yes

Have a series of protocols or procedures to maintain the biorisk management system; Apply for the accreditation of Bio-safety 2 and have a annual audit; Have all the necessary facilities or instruments to meet the requirement of Bio-safety 2 accreditation;

TOR9: SCIENTIFIC MEETINGS

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

No

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

No

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

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
Infeciton with spring viraemia of carp virus	Participant	2	2

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

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pathogen during the past 2 years?

No

because of the difficulty of transportation and import issues of samples

26. Did your laboratory collaborate with other WOA 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 WOA Reference Laboratories
Study on the molecular biology of SVCV based on the virus genome sequenced	Molecular epidemiology	the Centre for Environment, Fisheries and Aquaculture Science (CEFAS), UK The western fishery Institute, USA

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
To confirm the ability of the laboratory who will join the active surveillance program at different leves or test on the fry of aquatic animals	organizer	42	virus isolation and identification with conventional RT-PCR or realtime RT-PCR	CHINA (PEOPLE'S REP. OF),
To compare the diagnostic sensitivity of real-time RT-PCR on SVCV	organizer	10	real-time RT-PCR	CHINA (PEOPLE'S REP. OF),

TOR12: EXPERT CONSULTANTS

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

Yes

Kind of consultancy	Location	Subject (facultative)
WOAH Commission meeting in Feb. 2024	Paris, France	review and update of WOA Standards
WOAH Commission meeting in Sep. 2024	Paris, France	review and update of WOA Standards
WOAH ad hoc group meeting	virtual meeting	assessment of susceptible spe
WOAH ad hoc group meeting	virtual meeting	assessment of susceptible species of fish diseases (EUS)

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29. Additional comments regarding your report:

No