

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:	Infectious haematopoietic necrosis
*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, hongliu_gacc@sina.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	141	0
Direct diagnostic tests		Nationally	Internationally
Conventional RT-PCR	Yes	254	0
Real-time RT-PCR	No	359	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
cell line	virus isolation	EPC	150 mL	0	1	CHINA (PEOPLE'S REP. OF),
virus suspension	virus isolation, conventional RT-PCR real-time RT-PCR RAA	IHN	180 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

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	drafted and will be submitted soon
validation on microfluidic test on IHN	drafted and will be submitted soon

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

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 IHN isolated in the world	2023~	Study on the molecular biology of IHN	The western fishery institute, USA	UNITED STATES OF AMERICA

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 IHN in practical cases, such as the biosecurity system of free compartment or free zone, or imported broodstock or eyed-eggs, or early warning system

Relevance for WOA Disease Control, Capacity Building, Standard Setting,

Relevance for the Code or Manual Manual,

Field 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 2.3.5- Infection with infectious haematopoietic necrosis 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 IHN is as follows (WOAH WAHIS):

--Austria, present in domestic fish in 2023

--Belgium, present in some areas in domestic fish in 2023-2024

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- Canada, suspect in some areas in domestic fish in 2023-2024 and in wild fish in 2023
 - Denmark, present in domestic fish in 2023
 - France, present in some areas in domestic fish in 2023
 - Georgia, present in some areas in domestic fish in 2023-2024
 - Germany, present in some areas in domestic fish in 2023-2024
 - Italy, present in some areas in domestic fish in 2023-2024
 - Japan, present in some areas in domestic fish in 2023
 - Netherlands, present in domestic fish in 2023-2024
 - North Macedonia, present in some areas in domestic fish in 2023
- Switzerland, present in domestic fish in 2023 and suspect in domestic in limited area in 2024
- United States of America, present in some areas in domestic and wild fish in 2023-2024

NO new cases or epidemiological information reported in the literatures in 2023-2024.

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:

12 positive cases of IHN virus were detected in 114 samples taken from 11 provinces in the domestic active surveillance program in P. R. China in 2023 (published in the 2024 analysis of major aquatic animal diseases in China, China Agriculture Press)

The status of the infection of IHN virus is as follows (WOAH WAHIS):

- Austria, present in domestic fish in 2023
- Belgium, present in some areas in domestic fish in 2023-2024
- Canada, suspect in some areas in domestic fish in 2023-2024 and in wild fish in 2023
 - Denmark, present in domestic fish in 2023
 - France, present in some areas in domestic fish in 2023
 - Georgia, present in some areas in domestic fish in 2023-2024
 - Germany, present in some areas in domestic fish in 2023-2024
 - Italy, present in some areas in domestic fish in 2023-2024
 - Japan, present in some areas in domestic fish in 2023
 - Netherlands, present in domestic fish in 2023-2024
 - North Macedonia, present in some areas in domestic fish in 2023
- Switzerland, present in domestic fish in 2023 and suspect in domestic in limited area in 2024
- United States of America, present in some areas in domestic and wild fish in 2023-2024

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:

1

Yu Chen, Shuai Gao, Hao Xu, Songqi Zhu, Guixiang Tong, Xiaoyu Chen, Xinxian Wei, Hong Liu, Xiaocong Zheng, 2024. The development and initial evaluation of a multiplex RT-PCR and high-throughput liquid chip assay for the simultaneous detection of five salmonid virus

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diseases. *Aquaculture Reports* 36: 102163

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
Infection with Infectious haematopoietic necrosis virus	Participant	10	2

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

We have a plan for next year.

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
Study on the molecular biology of IHN 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 WOAHP Reference Laboratories for the same pathogen during the past 2 years?

Yes

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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 levels or test on the fry of aquatic animals	organizer	39	virus isolation and identification with conventional RT-PCR or realtime RT-PCR	CHINA (PEOPLE'S REP. OF),
Compare the diagnostic sensitivity of real-time RT-PCR on IHN	organizer	10	realtime RT-PCR	CHINA (PEOPLE'S REP. OF),

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No