

# WOAH Reference Laboratory Reports Activities 2024

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## LABORATORY INFORMATION

<b>*Name of disease (or topic) for which you are a designated WOA Reference Laboratory:</b>	Infectious hypodermal and haematopoietic necrosis
<b>*Address of laboratory:</b>	Yellow Sea Fisheries Research Institute Chinese Academy of Fishery Sciences , #106 Nanjing Road, Qingdao, Shandong 266071 PR China
<b>*Tel:</b>	+86 532 858 230 62
<b>*E-mail address:</b>	yangbing@ysfri.ac.cn
<b>Website:</b>	
<b>*Name (including Title) of Head of Laboratory (Responsible Official):</b>	Dr. Qingli Zhang, Senior Researcher
<b>*Name (including Title and Position) of WOA Reference Expert:</b>	Bing Yang, Senior Researcher
<b>*Which of the following defines your laboratory? Check all that apply:</b>	Academic institution

## 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
PCR	Yes	242	0
Real-time PCR	Yes	1835	0
Histopathology	Yes	80	0
Direct diagnostic tests		Nationally	Internationally

## 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
IHHNV nucleic acid	Real-time PCR	provide	10 <sup>5</sup> reaction	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?

No

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

No

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?

Yes

Name of the WOA Member Country receiving a technical consultancy	Purpose	How the advice was provided
CHINA (PEOPLE'S REP. OF)	GCP/GLO/352/NOR: 'Responsible use of fisheries and aquaculture resources for sustainable development' – Component 3: Enhance partner countries and aquaculture stakeholders capacities to improve health of	2024 workshop on Aquaculture Biosecurity and Antimicrobial Resistance (AMR) 13-18 May, 2024 Qingdao, China

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	aquatic animals and plants through the PMP/AB	
CHINA (PEOPLE'S REP. OF)	Three FAO Reference Centers of China will be able to work closely to promote the development of sustainable fisheries and aquaculture.	Official visit by Assistant Director General of the Food and Agriculture Organization of the United Nations (FAO) 25 October, 2024, Qingdao, China
THAILAND	Comments regarding a request from a WOA Member on an issue with the specificity of the molecular methods given in Chapter 2.2.5. 'Infection with infectious hypodermal and haematopoietic necrosis virus (IHHNV)': the lack of specificity can make it difficult to clearly differentiate between IHHNV genetic sequences and endogenous viral elements (EVEs) within the genome of <i>P. monodon</i> and <i>P. vannamei</i> shrimp.	Method validation testing on shrimp species ( <i>Penaeus vannamei</i> , <i>P. monodon</i> and <i>P. japonicus</i> ) in 2025.

## TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

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

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 surveillance area for IHHN involved in 7 provinces of China. The major surveillance target species were shrimp. In total, IHHNV was detected of samples with an average (within batch) positive rate of 38.7%.

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:

We submitted the data to Bureau of Fisheries, Ministry of Agriculture and Rural Affairs, P.R. China.

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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

(1) Wang Meifeng, Wang Xiuhua, Li Chen, Lü Ruoxuan, Yang Bing\*. Overview of Researches on Environmental DNA of Aquatic Animals and Its Application in Researches on Relevant Disease Transmission. *China Animal Health Inspection*. 2024 41(1):87-94

(2) Lian Xinyu, Wang Xiuhua, Li Chen, Zhang Qingli, Gou Ziyue2, LÜ Ruoxuan2, Yang Bing\*. Optimization of DNA Elution Method of Infectious Hypodermic and Hematopoietic Necrosis Virus Preserved by FTA Card. *Progress in Fishery Sciences*. 2024 45(3): 193-202

b) International conferences:

3

(1) Qingli Zhang and Bing Yang. 2024 workshop on Aquaculture Biosecurity and Antimicrobial Resistance (AMR). 13-18 May, 2024 Qingdao, China

(2) Qingli Zhang and Bing Yang. 2024 Hong Kong-Zhuhai-Macao Marine Industry Development Forum & China-ASEAN Mariculture Industry Development Forum. 4-8 March, 2024 Zhuhai, China

(3) Qingli Zhang and Bing Yang. 2024 "Belt and Road" International Training Workshop on Mariculture Technologies. 22 October-5 November, 2024 Qingdao, China

c) National conferences:

2

(1) Qingli Zhang and Bing Yang. Report for IHHNV testing in the National Laboratory Proficiency Testing 2024. Ministry of Agriculture and Rural Affairs, PRC. 10 October, 2024 Suzhou, China

(2) Bing Yang. Comments on the report of the Aquatic Animal Health Standards. Session of WOAHA Aquatic Animal Health Code and WOAHA Manual of Diagnostic Tests for Aquatic Animals. Introduction of WOAHA reference laboratory on WSD and IHHN. 7 May 2024 and 18 November 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 WOAHA Members?

Yes

a) Technical visit : 0

b) Seminars : 1

c) Hands-on training courses: 1

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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	ITALY	60
B	INDONESIA	19

## 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	4. CNAS认可证书(中英文)(有效期:2024-03-05至2030-03-04).pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Infectious hypodermal and hematopoietic virus: Polymerase chain reaction (PCR) method for infectious hypodermal and hematopoietic necrosis virus (IHHNV) GB/T 25878-2010 Manual of Diagnostic Tests for Aquatic Animals (WOAH, 2024) Chapter 2.2.5 Infectious hypodermal and hematopoietic necrosis	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

P2 laboratory certification and laboratory related management system

## TOR9: SCIENTIFIC MEETINGS

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

Yes

National/ International	Title of event	Co-organiser	Date	Location	No. Participants
International	2024 workshop on Aquaculture Biosecurity and Antimicrobial Resistance (AMR)	FAO, WOAH, NACA and China	2024-05-12	Qingdao, China	60

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

No

## TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

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

Yes

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

No

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

No

No

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?

No

## 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 <sup>1</sup>	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
To participate in Asia-Pacific Laboratory Proficiency Testing Program	Participant	11	Asia and Pacific Laboratory Proficiency Testing Program	AUSTRALIA,
To organize National Testing Programme for Aquatic Animal Disease Laboratories in Aquatic Animal Epidemic Prevention System of China. To provide testing standards and samples for IHNV, and to analyze the results from the inter laboratory test comparisons	Organiser	142	National Testing Programme for Aquatic Animal Disease Laboratories in Aquatic Animal Epidemic Prevention System of China	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)

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Comments regarding a request from a WOA Member on an issue with the specificity of the molecular methods given in Chapter 2.2.5. 'Infection with infectious hypodermal and haematopoietic necrosis virus (IHHNV)': the lack of specificity can make it difficult to clearly differentiate between IHHNV genetic sequences and endogenous viral elements (EVEs) within the genome of <i>P. monodon</i> and <i>P. vannamei</i> shrimp.	WOAH (Paris, France); Qingdao, China	Method validation testing on shrimp species ( <i>Penaeus vannamei</i> , <i>P. monodon</i> and <i>P. japonicus</i> ) in 2025.
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29. Additional comments regarding your report:

No