

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:	Acute hepatopancreatic necrosis disease
*Address of laboratory:	No.500, Sec. 3, Anming Rd., Annan Dist., Tainan City 709, Taiwan
*Tel:	+886-6 384 24 48
*E-mail address:	wanghc@mail.ncku.edu.tw
Website:	
*Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Han-Ching Wang
*Name (including Title and Position) of WOA Reference Expert:	Dr. Han-Ching Wang
*Which of the following defines your laboratory? Check all that apply:	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	
		Nationally	Internationally
Indirect diagnostic tests			
IQ2000 (PCR)	Yes	43	5
Real-time PCR	No	16	0
Pockit Central	No	173	0
Direct diagnostic tests			
Non	No	0	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?

No

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?

No

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

No

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

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

TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

Yes

Name of the WOAHP Member Country receiving a technical consultancy	Purpose	How the advice was provided
SINGAPORE	Guidance for WOAHP registration of AHPND diagnostic kits	Remote/In loco
KOREA (REP. OF)	Development of feed-additive Ccombodies against AHPND	Remote/In loco
IRAN	Disease diagnosis for surveillance	Remote/In loco

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	WOAHP Member Countries involved other than your country
Developing diagnostic tests	fourth year	Developing diagnostic tools for AHPND to support global shrimp aquaculture	Arizona University	UNITED STATES OF AMERICA

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

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:

We collected and analyzed AHPND-related samples

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 published our epidemiological findings for AHPND as scientific papers.

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. Kumar R, Lin SJ, Huang CK, Lin SS, Wang HaoC, Fagutao FF, Wang HC*. (2025) Bile acid- and taurocholate-mediated virulence in AHPND-causing *Vibrio parahaemolyticus* is independent of the LuxO-OpaR quorum sensing cascade. *Aquaculture* 606:742604.

2. Hsu TK, Chen YY, Li SW, Shih HY, Chou HY, Hsu CK, Wang HC, Chen LL* (2025) Characterization and genome analysis of a novel phage vB_VpaS_BP15 infecting *Vibrio parahaemolyticus*. *Scientific report*. 15:2801.

b) International conferences:

4

1. Azzahidah A, Kumar R, Wang HC* (2025) Effect of Plant-Derived Feed Additive Perilla Leaf Extract on Immune Response and AHPND Resistance in Shrimp. "30th Biological Sciences Graduate Congress (30th BSGC)" Bangkok, Thailand. Dec. 14-17, 2025 (Oral presentation-Best oral presentation)

2. Kumar R, Azzahidah A, Wang HC* (2025) Translating AHPND Knowledge to Combat Emerging Shrimp Pathogens. "International Symposium of Aquaculture Biotechnology: Frontier and Prospective" National Taiwan Ocean University, Keelung, Taiwan. Nov. 13, 2025 (Invited Speaker).

3. Azzahidah A, Kumar R, Wang HC* (2025) Perilla leaf extract as a functional feed additive enhances immunity and AHPND resilience in shrimp. "5th Conference of the International Society of Fish and Shellfish Immunology (5th ISFSI)" Tainan, Taiwan. Nov 4-Nov 8, 2025 (Poster presentation)

4. Azzahidah A, Kumar R, Wang HC* (2025) Dietary Perilla leaf extract supplementation enhances shrimp immunity and disease resistance "12th Symposium on Diseases in Asian Aquaculture" Chennai, India. Sep 23-27, 2025. (Oral presentation- Student Travel Awards)

c) National conferences:

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1. Azzahidah A, Kumar R, Wang HC* (2025). Plant-derived feed additive Perilla leaf extract improves shrimp immunity and AHPND resilience through immunomodulatory effects. "7th the Taiwan Marine Biotechnology Society Annual Meeting" Yilan, Taiwan. Oct. 14, 2025. (Poster presentation - Excellence award)

2. Azzahidah A, Kumar R, Lin YH, Lin SM, Wang HC* (2025). Immunostimulatory effect of Perilla leaf extract supplementation enhances AHPND resistance in shrimp. "2025 5th CBB Research Day" Tainan, Taiwan. June 30, 2025. (Oral presentation-First prize award).

3. Azzahidah A, Kumar R, Wang HC* (2025). The potential of dietary Perilla leaf extract supplementation on shrimp growth performance and disease resistance. "The Fisheries Society of Taiwan Annual Meeting". Taipei, Taiwan. Jan 11, 2025. (Poster presentation-Second prize award)

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

1

1. International Center for the Scientific Development of Shrimp Aquaculture
<https://sites.google.com/view/icdsa/>

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 : 0

c) Hands-on training courses: 5

d) Internships (>1 month) 1

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	PHILIPPINES	4
C	MALAYSIA	1

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 17025:2017; CNS 17085:2018	2023-2026. pdf	ISO17025.pdf
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19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
AHPND PCR detection	Taiwan Accreditation Foundation

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

Yes

Our system follows the regulations of ISO17025:2017

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

No

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 plan to participate in inter-lab proficiency tests in this 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?

No

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?

No

we plan to participate in inter-lab proficiency tests in this year.

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No