

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:	Necrotising hepatopancreatitis (infection with <i>Hepatobacter penaei</i>)
*Address of laboratory:	1117 E Lowell Street, Bldg 90, RM 102
*Tel:	+1-520 621 87.27
*E-mail address:	adhar@arizona.edu
Website:	https://aquapath.caes.arizona.edu/
*Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Arun K. Dhar
*Name (including Title and Position) of WOA Reference Expert:	Arun K. Dhar, Professor & Director, Aquaculture Pathology Laboratory
*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			
Direct diagnostic tests			
PCR/ Real time PCR	Yes	1235	620
Histopathology	Yes	8	5

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
Positive Control (inactivated tissue)	PCR	Produced	200mg	500mg	6	BRAZIL, COSTA RICA, ECUADOR, MADAGASCAR, NICARAGUA, UNITED STATES OF AMERICA,
Plasmid DNA	PCR	Produced	15ng	5-25ng	1	ECUADOR,

4. Did your laboratory produce vaccines?

No

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

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

Name of WOAHA Member Country seeking assistance	Date	Which diagnostic test used	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
AUSTRIA	2025-01-10	PCR	7	0
BELGIUM	2025-01-10	PCR	44	0
CHILE	2025-01-10	PCR	3	0
CHINA (PEOPLE'S REP. OF)	2025-01-10	PCR	1	0
CANADA	2025-01-10	PCR	1	0
COSTA RICA	2025-01-10	PCR	4	0
COLOMBIA	2025-01-10	PCR	24	0
CZECH REPUBLIC	2025-01-10	PCR	1	0
FRANCE	2025-01-10	PCR	76	0
INDIA	2025-01-10	PCR	15	0
INDONESIA	2025-01-10	PCR	1	0
ISRAEL	2025-01-10	PCR	7	0
JAPAN	2025-01-10	PCR	7	0
KAZAKHSTAN	2025-01-10	PCR	3	0
MALAYSIA	2025-01-10	PCR	5	0
MEXICO	2025-01-10	PCR	12	0
NEW ZEALAND	2025-01-10	PCR	4	0
NORWAY	2025-01-10	PCR	15	0
PERU	2025-01-10	PCR	1	0
RUSSIA	2025-01-10	PCR	48	0
SINGAPORE	2025-01-10	PCR	1	0
THAILAND	2025-01-10	PCR	322	0
UZBEKISTAN	2025-01-10	PCR	5	0
UNITED STATES OF AMERICA	2025-01-10	PCR	1245	0

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

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

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

No

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

No

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

No

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:

b) International conferences:

6

1. Dhar, Arun K. 2025. *Current and Emerging Diseases in Farmed Shrimp. Plenary talk, International Congress on Invertebrate Pathology and Microbial Control & 57th Annual Meeting of the Society for Invertebrate Pathology, Puerto Varas, Chile August 3 to 7, 2025.*

2. Dhar, Arun K. 2025. *"Comprehensive monitoring of animal health and developing oral therapeutics are needed for sustainability of shrimp farming worldwide", Lead Speaker Talk, 14th Asian Fisheries and Aquaculture Forum (14FAF), Greening the Blue Growth in Asia Pacific February 12-15, 2025, New Delhi, India.*

3. Dhar, Arun K., Jarvin Nipales, Ma Exanil L. Plantig, Carlos R. Pantoja-Morales and Mai, Hung N. 2025. *Identifying infectious pathogenic entities associated with reduced growth in farmed shrimp from Latin America. Abstract ID SH 227, Diseases in Asian Aquaculture, Chennai, India, September 23-27, 2025.*

4. Dhar, Arun K., Nipales, Jarvin, Plantig, Ma Exanil L., Pantoja-Morales, Carlos R. and Mai, Hung N. 2025. *Identifying infectious pathogenic entities associated with reduced growth in farmed shrimp from Latin America. Diseases in Asian Aquaculture, Chennai, India, September 23-27, 2025.*

5. Dhar, Arun K., Nipales, Jarvin, Ma Exanil Plantig, Pantoja-Morales, Carlos, and Mai, Hung N. 2025. *Association of NHP and DHPV with reduced growth in farmed shrimp from Latin America. Annual Meeting of the Society of Invertebrate Pathology, Puerto Varas, Chile, August 03-07, 2025.*

6. Arun K. Dhar, Ma Exanil Plantig, Carlos Pantoja-Morales. *ASSOCIATION OF NHP AND DHPV WITH REDUCED GROWTH IN FARMED SHRIMP FROM LATIN AMERICA. 2025. Aquaculture America 2025 Conference, World Aquaculture Society, March 06-10, 2025, New Orleans, Louisiana.*

c) National conferences:

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

1

Book Chapter:

1. José Mazón-Suástegui, Antonio López Carvallo, Milagro García-Bernal, Roberto Cruz Flores, Arun Dhar, Nelson Peña-Navarro, Ana Claudia Sánchez-Ortiz, Marco López-Torres. 2025. *Practices for shrimp disease detection, control, management, and genetics improvement. IN: Strategies for Sustainable Shrimp Aquaculture, LUIS RAFAEL MARTÍNEZ-CÓRDOVA and MARCEL MARTÍNEZ-PORCHAS, Academic Press, Pages 71-123.*

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

Arun Dhar - - UNITED_STATES_OF_AMERICA

- a) Technical visit : 0
b) Seminars : 0
c) Hands-on training courses: 16
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	BRAZIL	1
C	ECUADOR	1
C	PERU	1
C	SINGAPORE	2
C	KOREA (REP. OF)	2
C	UNITED STATES OF AMERICA	6
C	CHINESE TAIPEI	3

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
USDA Approval	PDF	UAZAPL_2026 - Animal Permit.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Histology for all the OIE-listed pathogens	ANSI-ASQ National Accreditation Board
PCR for all the OIE-listed pathogens	ANSI-ASQ National Accreditation Board

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

Yes

The laboratory follows the University of Arizona Biosafety and Biosecurity plan

TOR9: SCIENTIFIC MEETINGS

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

No

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

No

TOR10: NETWORK WITH WOA?H REFERENCE LABORATORIES

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

No

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

No

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

No

no

26. Did your laboratory collaborate with other WOA?H 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 ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
Proficiency Test in shrimp pathogens detection by PCR - Ring Test February 2025	Organizer	33	AHPND Proficiency test	AUSTRIA, BELIZE, BRAZIL, CANADA, COLOMBIA, ECUADOR, GUATEMALA, INDIA, ITALY, MALAYSIA, MEXICO, PERU, SAUDI ARABIA, THAILAND, UNITED ARAB EMIRATES, UNITED STATES OF AMERICA,
Proficiency Test in shrimp pathogens detection by PCR - Ring Test August 2025	Organizer	29	AHPND Proficiency test	COLOMBIA, ECUADOR, HONDURAS, INDIA, INDONESIA, MADAGASCAR, MALAYSIA, MEXICO, MOZAMBIQUE, NICARAGUA, OMAN, PERU, SINGAPORE, THAILAND, UNITED ARAB EMIRATES, UNITED STATES OF AMERICA,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No

N/A