

OIE Reference Laboratory Reports Activities

Activities in 2020

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Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Acute hepatopancreatic necrosis disease
Address of laboratory:	No. 500, Sec. 3 Anming Road Annan District Tainan City 709 CHINESE TAIPEI
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Name (including Title) of Head of Laboratory (Responsible Official):	Prof./Dr. Grace Chu-Fang Lo
Name (including Title and Position) of OIE Reference Expert:	Prof./Dr. Grace Chu-Fang Lo
Which of the following defines your laboratory? Check all that apply:	Academic

ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards

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 OIE Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests		Nationally	Internationally
IQ2000 (PCR)	YES	600	8
Direct diagnostic tests		Nationally	Internationally

ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards. To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by the OIE?

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient OIE Member Countries	Region of recipients
V. parahaemolyticus PirA and PirB antibody	ELISA, Western blot	provide	0	20 micro-liter	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
V. parahaemolyticus PirA and PirB antibody	ELISA, Western blot	provide	20 micro-liter	0	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific

and technical advice on disease control measures to OIE Member Countries

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
THAILAND	May	4	0
MALAYSIA	June	4	0

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

Yes

Name of the OIE Member Country receiving a technical consultancy	Purpose	How the advice was provided
ISRAEL	Lab technical training, and prevention of occurrence of WSD in shrimp farms	Remote assistance
JAPAN	Lab technical training, and prevention of occurrence of WSD in shrimp farms	In loco and remote assistance
UNITED STATES OF AMERICA	inter- calibration	Remote assistance

ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

No

ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:

Disease diagnostic

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:

Disease diagnostic

**13. What method of dissemination of information is most often used by your laboratory?
(Indicate in the appropriate box the number by category)**

a) Articles published in peer-reviewed journals: 5

1. Wang HC, Lin SJ, Mohapatra A, Kumar R, Wang HC (2020) A review of the functional annotations of important genes in the AHPND-causing pVA1 plasmid. *Microorganisms*. 3;8(7):E996. Ranking: 0.274 (MICROBIOLOGY 37/135) IF: 4.152.
2. Chang YH, Kuo WC, Wang HC, Chen YM (2020) Biocontrol of acute hepatopancreatic necrosis disease (AHPND) in shrimp using a microalgal-bacterial consortium. *Aquaculture*. 521: 734990. Ranking:0.129 (MARINE & FRESHWATER BIOLOGY, 14/108), IF: 3.022
3. Kumar R, Ng TH, Wang HC (2020) Acute hepatopancreatic necrosis disease in penaeid shrimp. *Reviews in aquaculture*. 12(3) p.1867-p.1880. Ranking:0.019 (FISHERIES, 1/52), IF: 7.19
4. Apitanyasai K, Chang CC, Ng TH, Liu CH, Lo CF, Lin SS, Wang HC (2020) Penaeus vannamei serine proteinase inhibitor 7 (LvSerp7) acts as an immune brake by regulating the proPO system in AHPND-affected shrimp. *Dev. Comp. Immunol.* Accepted. Ranking: 0.0412 (ZOOLOGY, 7/170), IF: 3.119.
5. Kumar R, Ng TH, Chang CC, Tung TC, Lin SS, Lo CF, Wang HC (2020) Bile acid and bile acid transporters are involved in the pathogenesis of acute hepatopancreatic necrosis disease in white shrimp *Litopenaeus vannamei*. *Cell Microbiol.* e13127. Ranking: 0.233 (MICROBIOLOGY, 31/133), IF: 4.288.

b) International conferences: 0

c) National conferences: 0

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/>

***ToR 7: To provide scientific and technical training for personnel from OIE Member Countries
To recommend the prescribed and alternative tests or vaccines as OIE Standards***

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

Yes

- a) Technical visits: 6
 b) Seminars: 0
 c) Hands-on training courses: 0
 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
a	Japan	6

ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned

15. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO/ICE 17025	□□□□ (□□).pdf

16. Is your quality management system accredited?

Yes

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

17. Does your laboratory maintain a “biorisk management system” for the pathogen and the disease concerned?

Yes

(See *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*, Chapter 1.1.4)

ToR 9: To organise and participate in scientific meetings on behalf of the OIE

18. Did your laboratory organise scientific meetings on behalf of the OIE?

No

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
2nd meeting of ad hoc steering committee of the Regional Collaboration Framework on Aquatic Animal Health	12/2020	Virtual meeting	speaker	Evaluation of Acute hepatopancreatic necrosis disease test methods
2nd teleconference meeting of the ad hoc Steering Committee of the Regional Collaboration Framework on Aquatic Animal Health in Asia and the Pacific	03/2020	Virtual meeting	speaker	AHPND detection and diagnosis is not so simple

ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results

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

Yes

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

Yes

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/ participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
validation of a diagnostic protocol	Organizer& participant	4	Dr. Arun's lab

¹ validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

22. Did your laboratory collaborate with other OIE Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

No

ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

Yes

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at: <http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing> see point 1.3

Purpose for inter-laboratory test comparisons ¹	No. participating laboratories	Region(s) of participating OIE Member Countries
PCR for AHPND detection	1	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East

ToR 12: To place expert consultants at the disposal of the OIE

24. Did your laboratory place expert consultants at the disposal of the OIE?

Yes

Kind of consultancy	Location	Subject (facultative)
2nd meeting of ad hoc steering committee of the Regional Collaboration Framework on Aquatic Animal Health	Virtual meeting	AHPND disease testing methods
2nd teleconference meeting of the ad hoc Steering Committee of the Regional Collaboration Framework on Aquatic Animal Health in Asia and the Pacific	Virtual meeting	Complexities of AHPND detection and diagnosis

25. Additional comments regarding your report: