

# WOAH Reference Laboratory Reports Activities 2024

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## LABORATORY INFORMATION

<b>*Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:</b>	Newcastle disease
<b>*Address of laboratory:</b>	No.369 Nanjing Road, Qingdao, P.R. China
<b>*Tel:</b>	+86-532 85.63.91.66
<b>*E-mail address:</b>	zlwang111@163.com
<b>Website:</b>	
<b>*Name (including Title) of Head of Laboratory (Responsible Official):</b>	Zhiliang Wang, Prof., PhD, DVM
<b>*Name (including Title and Position) of WOAH Reference Expert:</b>	Zhiliang Wang, Prof., PhD, DVM, Deputy Director General of China Animal Health and Epidemiology Center
<b>*Which of the following defines your laboratory? Check all that apply:</b>	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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
HI	Yes	230	0
Direct diagnostic tests		Nationally	Internationally
Virus isolation	Yes	15537	0
RT-PCR	Yes	15537	0
ICPI	Yes	8	

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			0
Real-time RT-PCR	Yes	210	0
NDV genetic analysis by sequencing	Yes	469	0

## TOR2: REFERENCE MATERIAL

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

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOA?H 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?H Member Countries	Country of recipients
Inactivated NDV	Real-time RT-PCR	Provide	20 mL	0	1	CHINA (PEOPLE'S REP. OF),

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOA?H Members?

Not applicable

## TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

Yes

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

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
Real-time RT-PCR for virulent NDV	Validation of real-time RT-PCR method using NDVs isolated in 2024 (unpublished)
RT-RAA for genotype VI NDV	Detection of genotype VI NDV (unpublished)

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

Yes

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

Yes

Name of the new vaccine developed	Description and References (Publication, website, etc)
Inactivated vaccine for NDV (Genotype VII)	Genotype-matched vaccine for genotype VII using reverse genetics (unpublished)
Live vector vaccine for IBV (NDV vector)	Live vector vaccine for IBV and genotype VII NDV using reverse genetics (unpublished)

## TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

Yes

Name of the WOAHA Member Country receiving a technical consultancy	Purpose	How the advice was provided
CHINA (PEOPLE'S REP. OF)	Consultation on real-time RT-PCR method for NDVs	Wechat
VIETNAM	Consultation on real-time RT-PCR for detecting virulent NDVs	Email

## 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 WOAHA?

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:

Global distribution and genetic characterization of Newcastle disease viruses (WAHIS, EMPRES-i, Published research paper, international meetings).

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:

Global distribution and genetic characterization of Newcastle disease viruses (WAHIS, MARA website, CAHEC website, Published research paper, international/national meetings, Wechat app).

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] Ding Y, Li X, Chen L, et al. Genome Characterization of Avian Paramyxovirus Type 6 Derived from Wild Ducks. *China animal health inspection*, 41 (6): 78-84.

[2] Chen L, Liu Y, Zhu M, et al. Introduction to Major Pigeon Diseases in China and Corresponding Countermeasures. *China animal health inspection*, 41 (8): 69-75.

[3] Chen L, Liu Y, Chen Y, et al. Pathogen Detection and Genotype Analysis of Mixed Infection in a Pigeon Farm in Shandong Province. *China animal health inspection*, 41 (11): 34-42.

[4] Zhang X, Zhu M, Wang H, et al. Genomic Characterization of 4 Strains of Newcastle Disease Viruses Derived from Wild Birds in China. *China animal health inspection*, 41 (12): 16-24.

b) International conferences:

1

Regional workshop on avian disease prevention and control for Asia and the Pacific. Seoul, August 27-29, 2024.

c) National conferences:

5

[1] National Epidemiological Investigation Meeting. Qingdao, March 26-28, 2024.

[2] The 10th Veterinary Medicine Conference. Xiamen, June 18-19, 2024.

[3] National Training on Prevention and Control of Avian Disease. Xining, August 12-14, 2024.

[4] The Epidemic Analysis Meeting for Major Avian Disease. Qingdao, September 26-27, 2024.

[5] Chinese Association of Animal & Veterinary Sciences poultry branch. Chengdu, October 11-14, 2024.

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

## TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

a) Technical visit : 0

b) Seminars : 1

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
B	KOREA (REP. OF)	74

## TOR8: QUALITY ASSURANCE

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18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025	jpg	17025 2022-2028.jpg

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
HA and HI	China National Accreditation Service for Conformity Assessment (ilac-MRA, APLAC-MRA)
RT-PCR	China National Accreditation Service for Conformity Assessment (ilac-MRA, APLAC-MRA)
Real-time RT-PCR	China National Accreditation Service for Conformity Assessment (ilac-MRA, APLAC-MRA)

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

Yes

The experiments related to virulent NDVs are carried out in ABSL-3 laboratory (CNAS BL0008,CNAS-CL 05:2009)

## TOR9: SCIENTIFIC MEETINGS

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

Yes

National/ International	Title of event	Co-organiser	Date	location	No. Participants
National	National Training on Prevention and Control of Avian Disease	None	2024-08-12	Xining	59
National	The Epidemic Analysis Meeting for Major Avian Disease	None	2024-09-25	Qingdao	40

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

Yes

Title of event	Date	location	Role (speaker, presenting poster, short communications)	Title of the work presented
National Epidemiological Investigation Meeting	2024-03-26	Qingdao	speaker	Epidemiological investigation of major avian diseases
				Current situation of pigeon Newcastle disease

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The 10th Veterinary Medicine Conference	2024-06-17	Xiamen	speaker	in China and research on prevention and control technology
Regional workshop on avian disease prevention and control for Asia and the Pacific	2024-08-27	Seoul	speaker	Surveillance of Newcastle disease in China

## 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
Regional expert network for avian disease in Asia and the Pacific	Participant	3	QIA (Korea)

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

No

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?

Yes

Purpose for inter-laboratory test comparisons <sup>1</sup>	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAHP Member Countries
Validation of ND HI test	participant	6	HI test	CHINA (PEOPLE'S REP. OF),
Validation of NDV RT-PCR	participant	6	RT-PCR test	CHINA (PEOPLE'S REP. OF),
Validation of NDV real-				CHINA (PEOPLE'S REP.

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## TOR12: EXPERT CONSULTANTS

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

Yes

Kind of consultancy	Location	Subject (facultative)
Attendance at WOAHP regional workshop	Seoul	Regional Workshop for Avian Disease prevention and control in Asia and the Pacific

29. Additional comments regarding your report:

Yes

*As ND diagnostics and vaccine are relatively matured, technical demands from members are becoming less.*