

WOAH Reference Laboratory Reports Activities 2024

This report has been submitted: 1 février 2025 03:10

LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Newcastle disease
*Address of laboratory:	"National Veterinary Services Laboratories, National Centers for Animal Health, USDA, APHIS, Veterinary Services 1920 Dayton Ave Ames, IA 50010 UNITED STATES OF AMERICA Office: 515.337.7301"
*Tel:	+15153377551
*E-mail address:	mia.kim.torchetti@usda.gov
Website:	www.aphis.usda.gov/nvsl
*Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Suelee Robbe-Austerman, Director, NVSL
*Name (including Title and Position) of WOAH Reference Expert:	Mia Kim Torchetti, Director, Diagnostic Virology Laboratory, NVSL
*Which of the following defines your laboratory? Check all that apply:	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
Hemagglutination-inhibition (HI) antibody identification (APMV-1)	Yes	0	0
Direct diagnostic tests		Nationally	Internationally
Real-time RT-PCR (matrix,	Yes	796	0

Mia Kim Torchetti - - UNITED_STATES_OF_AMERICA

fusion)			
Virus Isolation	Yes	4146	0
Molecular pathotype (Sanger)	Yes	269	0
In vivo pathotype (ICPI)	Yes	2	0
Whole genome sequencing	Yes	75	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?

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
Reference antigen	Hemagglutination inhibition (HI)	both	20mL	8mL	4	ARGENTINA, COLOMBIA, EL SALVADOR, PERU,
Reference antisera	HI	both	20mL	6mL	3	EL SALVADOR, HONDURAS, SPAIN,
Positive amplification controls	PCR	both	0.8 ml	0.1 ml	2	CHILE, EL SALVADOR,
Extraction controls	PCR	both	15 ml	5 ml	1	EL SALVADOR,
Proficiency panels	PCR	both	320 ml	10 ml	1	CHILE,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOA Members?

Not applicable

TOR3: NEW PROCEDURES

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

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

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

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

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?

No

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:

"NVSL works with another unit within USDA for distribution of analyzed data.

https://www.aphis.usda.gov/animal_health/downloads/animal_diseases/ai/epi-analy-vnd-poultry-calif.pdf"

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:

"NVSL works with another unit within USDA for distribution of analyzed data.

https://www.aphis.usda.gov/animal_health/downloads/animal_diseases/ai/epi-analy-vnd-poultry-calif.pdf"

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

Hicks, Jessica, et al. "vSNP: a SNP pipeline for the generation of transparent SNP matrices and phylogenetic trees from whole genome

sequencing data sets." *BMC genomics* 25.1 (2024): 545.

b) International conferences:

4

none

c) National conferences:

1

October 2024: United States Animal Health Association and American Association of Veterinary Laboratory Diagnosticians Annual Meeting

February 2024: Live Bird Market Working Group Meeting

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

3

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
American Association for Laboratory Accreditation (A2LA)	pdf	A2LA Biological Testing Certificate_2024.pdf
American Association for Laboratory Accreditation (A2LA)	pdf	A2LA PT Certificate_2024.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Hemagglutination-inhibition Real-Time RT-PCR Virus Isolation In vivo pathogenicity (IVPI)	A2LA; ISO17025

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

Yes

Biosafety, Security and Incident Response Plan and Biological Risk Assessments: NVSL-MAN-0018 and NVSL-WI-1207

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. Do you network (collaborate or share information) with other 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

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?

Yes

Title of the project or contract	Scope	Name(s) of relevant WOAHP Reference Laboratories
Studies in Poultry Transmission, Airborne Spread and Mitigation Tools for Avian Influenza and Newcastle Disease in the USA	Interagency agreement	USDA ARS National Poultry Center Southeast Poultry Research Laboratory

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 ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAHP Member Countries
Administered by NVSL and required to conduct official testing in the U.S.; shipped internationally by request	Administered by NVSL and required to conduct official testing in the U.S.	33	PCR	CHILE, 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:

Yes

During 2024, some testing and many activities were impacted by the ongoing H5 2.3.4.4b HPAI outbreak affecting wild birds and poultry with sporadic spillovers into mammals as well as the spillover event in dairy which required onboarding new tests for new sample types.

Q1: Serologic testing is largely conducted at the state level; all APMV-1 are routinely characterized for monitoring.