

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 22 juillet 2024 14:35

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Avian influenza and Newcastle disease
Address of laboratory:	"National Veterinary Services Laboratories 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	
		Nationally	Internationally
Indirect diagnostic tests			
This testing conducted at the state level			
Direct diagnostic tests			
Real-time RT-PCR (matrix, fusion)		499	0
Virus Isolation (total samples)		2693	18
Molecular pathotype (Sanger)		191	0
In vivo pathotype (ICPI)		23	0
Whole genome sequencing		41	0

TOR2: REFERENCE MATERIAL

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

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAH Members?

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOAH MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
Reference antigen	Hemagglutination inhibition	both	12	16	2	ARGENTINA, COLOMBIA,

Reference antisera	Hemagglutination inhibition	both	26	80	3	ARGENTINA, EL SALVADOR, HONDURAS,
Positive amplification controls	rRT-PCR (matrix and fusion targets)	both	1	1	3	BELIZE, CHILE, HONDURAS,
Extraction controls	rRT-PCR	both	55	35	2	BELIZE, HONDURAS,
Proficiency panels	rRT-PCR	both	2230	0	1	UNITED STATES OF AMERICA,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAHA Members?

Not applicable

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?

No

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

No

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?

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 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:

"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:

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"1. Andrea Fortin, Andrea Laconi, Isabella Monne, Siamak Zohari, Kristofer Andersson, Christian Grund, Mattia Cecchinato, Marika Crimauo, Viviana Valastro, Valeria D'Amico, Alessio Bortolami, Michele Gastaldelli, Maria Varotto, Calogero Terregino, Valentina Panzarin,

A novel array of real-time RT-PCR assays for the rapid pathotyping of type I avian paramyxovirus (APMV-1), Journal of Virological Methods, Volume 322, 2023, 114813, ISSN 0166-0934, <https://doi.org/10.1016/j.jviromet.2023.114813>."

b) International conferences:

4

29th Annual meeting of the National Reference Laboratories for avian influenza and Newcastle disease Parma, Italy 2-3 October 2023

c) National conferences:

1

October 2023: United States Animal Health Association and American Association of Veterinary Laboratory Diagnosticians Annual Meeting

February 2023: Live Bird Market Working Group Meeting

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

3

Abstract: Alexander Morris ER, Torchetti MK, Killian ML, Suarez D, Dimitrov KM. Development of a Multiplex rRT-PCR for Simultaneous Detection of all Pigeon-adapted Type 1 Avian Paramyxoviruses and first detection of Asian lineage viruses in the US. Oct 2023 American Association of Veterinary Diagnostic Laboratories, National Harbor, MD Participated with international regionalization evaluation for Newcastle disease

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAHA 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	2526-01.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Hemagglutination-inhibition	American Association for Laboratory Accreditation (A2LA) ISO 17025 Biological Testing
Real-Time RT-PCR	American Association for Laboratory Accreditation (A2LA) ISO 17025 Biological Testing
Virus Isolation	American Association for Laboratory Accreditation (A2LA) ISO 17025 Biological

	Testing
In vivo pathogenicity (ICPI)	American Association for Laboratory Accreditation (A2LA) ISO 17025 Biological Testing

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

Yes

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?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
n/a	n/a	1	n/a

25. Did you organise or participate in inter-laboratory proficiency tests with WOAHP Reference Laboratories designated for the same pathogen?

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?

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.	223	rRT-PCR	UNITED STATES OF AMERICA,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

During 2023, some testing and activities were impacted by the ongoing H5 2.3.4.4b HPAI outbreak affecting wild birds and poultry with sporadic spillovers into mammals; vesicular stomatitis virus New Jersey in California; and the ongoing vigilance for SARS-CoV-2 in animals.

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

