

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 29 mai 2024 03:35

Laboratory Information

Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:	Avian influenza
Address of laboratory:	North 20, West 10 Kita-Ku Sapporo 001-0020 JAPAN
Tel.:	+81-11 706 5207
E-mail address:	sakoda@vetmed.hokudai.ac.jp
Website:	
Name (including Title) of Head of Laboratory (Responsible Official):	Yoshihiro Sakoda (Professor)
Name (including Title and Position) of WOAHO Reference Expert:	Yoshihiro Sakoda (Professor)
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 WOAHO Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
HI test for H5 virus infection		10	0
Direct diagnostic tests			
Virus isolation		300	800
RT-qPCR		100	0

TOR2: REFERENCE MATERIAL

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

No

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

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOAHO MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
Chicken immunized serum against AI virus	HI test	Produced	0	1 ml ×7 tubes	1	CONGO (DEM. REP. OF THE),

4. Did your laboratory produce vaccines?

Not applicable

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

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAHS 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
VIETNAM	2023-07-06	Virus isolation	0	800

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

Yes

NAME OF THE WOAHS MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
VIETNAM	Improvement of diagnosis of avian influenza	Direct advice in field

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAHS MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
Surveillance of avian influenza	22 years	Monitoring of avian influenza	State Central Veterinary Laboratory	MONGOLIA
Surveillance of avian influenza	14 years	Monitoring of avian influenza	Department of Animal Health	VIETNAM
Surveillance of avian influenza	6 years	Monitoring of avian influenza	Central Veterinary Laboratory	CONGO (DEM. REP. OF THE)

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

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:

During the surveillance in national or international cooperative project, we isolated high pathogenicity avian influenza viruses and investigated their gene constellations, and conducted the phylogenetical tree analysis.

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:

Gene sequence data of the isolated avian influenza viruses were registered onto the GISAID website.

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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Le KT, Nguyen LT, Huynh LT, Chu DH, Nguyen LV, Nguyen TN, Tien TN, Matsuno K, Okamoto M, Hiono T, Isoda N, Sakoda Y. Genetic, Antigenic, and Pathobiological Characterization of H9 and H6 Low Pathogenicity Avian Influenza Viruses Isolated in Vietnam from 2014 to 2018. *Microorganisms*. 2023 Jan 18;11(2):244. doi: 10.3390/microorganisms11020244.

Soda K, Tomioka Y, Usui T, Ozaki H, Ito H, Nagai Y, Yamamoto N, Okamoto M, Isoda N, Kajihara M, Sakoda Y, Takada A, Ito T. Susceptibility of common dabbling and diving duck species to clade 2.3.2.1 H5N1 high pathogenicity avian influenza virus: an experimental infection study. *J Vet Med Sci*. 2023 Sep 7;85(9):942-949. doi: 10.1292/jvms.23-0122. Epub 2023 Jul 26.

Nabeshima K, Takadate Y, Soda K, Hiono T, Isoda N, Sakoda Y, Mine J, Miyazawa K, Onuma M, Uchida Y. Detection of H5N1 High Pathogenicity Avian Influenza Viruses in Four Raptors and Two Geese in Japan in the Fall of 2022. *Viruses*. 2023 Sep 1;15(9):1865. doi: 10.3390/v15091865.

Taniguchi K, Noshi T, Omoto S, Sato A, Shishido T, Matsuno K, Okamoto M, Krauss S, Webby RJ, Sakoda Y, Kida H. The impact of PA/I38 substitutions and PA polymorphisms on the susceptibility of zoonotic influenza A viruses to baloxavir. *Arch Virol*. 2024 Jan 12;169(2):29. doi: 10.1007/s00705-023-05958-5.

b) International conferences:

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Sakoda Y, Characterization of H5 high pathogenicity avian influenza viruses detected in Japan during the winter season of 2022–2023 and perspectives for the forthcoming season. *The 3rd Joint Meeting of Veterinary Science in East Asia*. 1 May, 2023 (Pintong, Taiwan).

Sakoda Y, Integrated Surveillance and Available Tools and mechanisms. *Zoonotic Influenza Webinar Regional Quadripartite Sub-Group – Zoonotic Influenza*. 8 May, 2023 (online hosted by FAO, Thailand)

Sakoda Y, Surveillance of HPAI and avian diseases in poultry and non-poultry, including wild birds and mammals. *WOAH Regional Workshop for Avian Disease Prevention and Control in Asia and the Pacific*. 29 Aug., 2023 (Qingdao, China)

Sakoda Y, Laboratory networking Networking and Information sharing-Avian influenza. *Regional Workshop for Avian Disease Prevention and Control in Asia and the Pacific*. 29 Aug., 2023 (Qingdao, China)

Isoda N, Control for Avian and Zoonotic Influenza through One Health Approach. *International Symposium on AI in Animal and Plant Quarantine Agency, Ministry of Agriculture, Forest and Rural Affairs KOREA*. 13 Sep., 2023 (Gimcheon, Korea)

Hiono T, Current situation of high pathogenic avian influenza virus infection in wild birds and mammals in Japan. *International Symposium on AI in Animal and Plant Quarantine Agency, Ministry of Agriculture, Forest and Rural Affairs KOREA*. 13 Sep., 2023 (Gimcheon, Korea)

Hew YL, Continuous introduction of H5 high pathogenicity avian influenza viruses in Hokkaido, Japan. *The 11th Sapporo Summer Symposium for One Health*, 14–15, Sep., 2023 (Sapporo, Japan)

Sakoda Y, Importance of networking and information sharing for the control of avian influenza in Asia. *The program of V International scientific conference "The Impact of Climate Change on Biological Diversity and the Spread of Viral Infections of Animals in Eurasia"*. 5 Dec., 2023 (online hosted by Federal Research Center for Fundamental and Translational Medicine, Russia)

c) National conferences:

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Isoda N, Virus surveillance and their characterization for development of pandemic influenza vaccine. *Research progress of The Institute for Vaccine Research and Development, Hokkaido University*. 28, Sep., 2023 (Sapporo, Japan)

Hew YL, Characterization of H5 high pathogenicity avian influenza viruses isolated in winter 2022–2023 in Hokkaido, Japan. *70th annual meeting for the Japanese Society for Virology*. 26–29 Sep., 2023 (Sendai, Japan)

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

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<https://virusdb.czc.hokudai.ac.jp>**TOR7: SCIENTIFIC AND TECHNICAL TRAINING**

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

Yes

a) Technical visit : 0

b) Seminars : 9

c) Hands-on training courses: 14

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	THAILAND	9
C	GHANA	2
C	SRI LANKA	1
C	INDONESIA	1
C	JAMAICA	1
C	THAILAND	3
C	NEPAL	1
C	ZAMBIA	1
C	CHINA (PEOPLE'S REP. OF)	1
C	VIETNAM	1
C	MONGOLIA	2

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO/IEC 17025:2017	【2022】ISO Certification_e	【2022】ISO Certification_e.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Hemagglutination test and hemagglutination inhibition test	ISO/IEC 17025:2017

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

Yes

- Allocate the responsibility to each of the workers with training system and the SOP. - Zoning of biohazard area with locked system not to allow unrelated persons entering in. - Management of laboratory equipment including PPE with open-end system. - Held team-meeting once a week to conduct the risk communication.

TOR9: SCIENTIFIC MEETINGS

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

Yes

NATIONAL/ INTERNATIONAL	TITLE OF EVENT	CO-ORGANISER	DATE (MM/YY)	LOCATION	NO. PARTICIPANTS

International	Workshop for the WOAHA avian disease network in East Asia	WOAH- RRAP	2023-06-08	Online	60
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22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAHA?

No

TOR10: NETWORK WITH WOAHA REFERENCE LABORATORIES

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

Yes

24. Do you network (collaborate or share information) with other WOAHA Reference Laboratories designated for the same pathogen?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHA REF. LABS
avian influenza virus	participant	6	1. Animal and Plant Quarantine Agency, Korea 2. Harbin Veterinary Research Institute, china 3. Animal Health Research Institute, Council of Agriculture, Chinese Taipei 4. Federal State-Financed Institute, Russia 5. CSIRO Australian Center for Disease Preparedness, Australia 6. Istituto Zooprofilattico Sperimentale delle Venezie, Italy

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

No

26. Did your laboratory collaborate with other WOAHA 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 WOAHA REFERENCE LABORATORIES
Early detection of transboundary avian influenza viruses isolated from wild migratory birds	Early warning of transboundary avian influenza viruses in the Far East	Animal and Plant Quarantine Agency Ministry of Agriculture, Forest and Rural Affairs KOREA (REP. OF)
Early detection of transboundary avian influenza viruses isolated from wild migratory birds	Early warning of transboundary avian influenza viruses in the Far East	Federal State-Financed Institution, Russia
Genetic and antigenic characterization of recent H9 low pathogenicity avian influenza viruses	To characterize isolated viruses to develop the new diagnostic method for H9 low pathogenicity avian influenza	Istituto Zooprofilattico Sperimentale delle Venezie Research and Innovation Dept., Italy

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAHA Reference Laboratories for the same pathogen?

No

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report: