

OIE Reference Laboratory Reports Activities

Activities in 2021

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| Name of disease (or topic) for which you are a designated OIE Reference Laboratory: | Infectious bursal disease (Gumboro disease) |
| Address of laboratory: | Division of Avian Immunosuppressive Disease Harbin Veterinary Research Institute (HVRI) Chinese Academy of Agricultural Sciences (CAAS) 678 Haping Road Xiangfang District Harbin 150069 CHINA (PEOPLES REP. OF) |
| Tel.: | +86-451 51 05 16 90 |
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| E-mail address: | wangxiaomei@caas.cn |
| Website: | |
| Name (including Title) of Head of Laboratory (Responsible Official): | Dr. Zhigao Bu, the director of HVRI, CAAS |
| Name (including Title and Position) of OIE Reference Expert: | Xiaomei Wang |
| Which of the following defines your laboratory? Check all that apply: | Governmental Research 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 | | | |
| ELISA Ab detection | Yes | 0 | 0 |
| Direct diagnostic tests | | | |
| Partial amplification of IBDV genome (RT-PCR for VP2 or VP1) | Yes | 108 | 0 |
| Virus isolation or titration in cells | Yes | 10 | 0 |
| Indirect immunofluorescence assay (IFA) in cells | Yes | 100 | 0 |
| Virus gene sequencing of VP2 or VP1 | Yes | 50 | 0 |

**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?

No

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?

Yes

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

Yes

| Name of the new test or diagnostic method or vaccine developed | Description and References (Publication, website, etc.) |
|---|---|
| AGID kit for IBD detection | It can be used to detect Ab or Ag of IBDV. The application for the certification from the Ministry of Agriculture of China is under reviewing. |
| The Recombinant live Vaccine against vvIBDV (rGtHLJVP2 strain) | It was developed by reverse genetics technique. The application for the certification from the Ministry of Agriculture of China is under reviewing. |
| The recombinant MDV vaccine expressed VP2 of IBDV (rMDV-VP2 strain) | It has got GMO safety certificate and the the clinical trail in China is finished. |
| The subunit vaccine against noval varaint IBDV (SHG19-VLP) | The laboratory evaluation has been completed. |

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?

No

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 |
|--|---------------------------|-----------------------------|
| CHINA (PEOPLE'S REP. OF) | IBD detection and control | Phone,Email, and seminar |

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: |
| Relevant information was collected through published literature. |

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

Yes

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|--|
| If the answer is yes, please provide details of the data collected: |
| Disseminate epizootiological data through published literature and presentation. |

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: 7

- [1]Jiang N, Wang Y, Zhang W, Niu X, Huang M, Gao Y, Liu A, Gao L, Li K, Pan Q, Liu C, Zhang Y, Cui H, Wang X, Qi X . Genotyping and Molecular Characterization of Infectious Bursal Disease Virus Identified in Important Poultry-Raising Areas of China During 2019 and 2020. *Front. Vet. Sci.* 2021, 8:759861. Doi: 10.3389/fvets.2021.759861
- [2]Wang YL, Jiang N, Fan LJ, Niu XX, Zhang WY, Huang MM, Gao L, Li K, Gao YL, Liu CJ, Cui HY, Liu AJ, Pan Q, Zhang YP, Wang XM, Qi XL. Identification and Pathogenicity Evaluation of a Novel Reassortant Infectious Bursal Disease Virus (Genotype A2dB3). *Viruses.* 2021, 13(9):1682. Doi: 10.3390/v13091682.
- [3]Jiang N, Wang Y, Zhang W, Niu X, Gao Y, Gao L, Li K, Cui H, Liu A, Pan Q, Liu C, Zhang Y, Wang X, Qi X. Naturally occurring mutated infectious bursal disease virus of genotype A8B1 associated with bursa damage in China. *Virus Res.* 2021, 302:198498. Doi: 10.1016/j.virusres.
- [4]Wang Yulong, Fan Linjin, Jiang Nan, Gao Li, Li Kai, Gao Yulong, Liu Changjun, Cui Hongyu, Pan Qing, Zhang Yanping, Wang Xiaomei, Qi Xiaole. An improved scheme for infectious bursal disease virus genotype classification based on both genome-segments A and B. *Journal of Integrative Agriculture*, 2021, 20(5): 1372-1381. Doi: 10.1016/S2095-3119(20)63424-4.
- [5]Wang Y, Jiang N, Fan L, Gao L, Li K, Gao Y, Niu X, Zhang W, Cui H, Liu A, Pan Q, Liu C, Zhang Y, Wang X, Qi X. Development of a viral-like particle candidate vaccine against novel variant infectious bursal disease virus. *Vaccines*, 2021, 9(2):142. Doi: 10.3390/vaccines9020142.
- [6]Jiang N, Wang Y, Zhang W, Niu X, Liu C, Gao Y, Gao L, Cui H, Li K, Pan Q, Zhang Y, Liu A, Wang X, Qi X.

Identification of Novel Variant Strains (genogroup A2dB1) of Infectious Bursal Disease Virus in a Xueshan Chicken Flock. China Animal Health Inspection, 2021,38(05):119-125. Doi:10.3969/j.issn.1005-944X.2021.05.022. in Chinese

[7]Wang S, Yu M, Liu A, Bao Y, Qi X, Gao L, Chen Y, Liu P, Wang Y, Xing L, Meng L, Zhang Y, Fan L, Li X, Pan Q, Zhang Y, Cui H, Li K, Liu C, He X, Gao Y, Wang X. TRIM25 inhibits infectious bursal disease virus replication by targeting VP3 for ubiquitination and degradation. PLoS Pathog. 2021, 17(9):e1009900. doi: 10.1371/journal.ppat.1009900.

b) International conferences: 3

[1]The 3rd OIE Regional Meeting of OIE Reference Centres(RCs) in Asia and the Pacific, OIE RCs in Asia and the Pacific, Tokyo, Japan (on-line), 24-25 February 2021.

[2]The 88th Annual General Session of the World Assembly of National Delegates to the World Organisation for Animal Health (OIE) , OIE, Paris France (on-line, 24-28 May 2021.

[3]Regional Expert Network Meeting and Workshop for Avian Diseases in Asia and the Pacific, OIE RCs in Asia and the Pacific, Tokyo, Japan (on-line), 29-30 September 2021.

c) National conferences: 1

[1]Animal disease prevention and Control Association for Belt and Road. Mudanjiang, China, 29-30 July 2021.

d) Other:

(Provide website address or link to appropriate information) 0

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?

No

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/IEC 17025:2005 | CNAS Certificate.pdf |

16. Is your quality management system accredited?

Yes

| Test for which your laboratory is accredited | Accreditation body |
|---|--------------------|
| Isolation and Identification of Infectious Bursal Disease Virus | CNAS |
| RT-PCR Assay for Detecting Infectious Bursal Disease Virus | CNAS |
| ELISA for Antibody Detection of Infectious Bursal Disease Virus | CNAS |

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?

No

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?

No

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?

No

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

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?

No

25. Additional comments regarding your report:

No