OIE Reference Laboratory Reports Activities

Activities in 2020

This report has been submitted : 2021-01-16 07:08:03

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)
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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:	Dr. Xiaomei Wang, the head of OIE Reference Laboratory for IBD, the head of State key laboratory of veterinary biotechnology of China, the vice director of HVRI, CAAS
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	
Indirect diagnostic tests		Nationally	Internationally
ELISA Ab detection	Yes	1564	0
Direct diagnostic tests		Nationally	Internationally
Partial amplification of IBDV genome (RT-PCR for VP2 or VP1)	Yes	165	0
virus isolation or titration in eggs	Yes	3	0
virus isolation or titration in cells	Yes	10	0
indirect immunofluorescence assay (IFA) in cells	Yes	40	0
Preparation of virus stocks from infected bursae	Yes	4	0
Virus gene sequencing of VP2 or VP1	Yes	52	0
Complete virus genome sequencing	Yes	1	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 undergoing.
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 control	Phone,Email, and seminar
PAKISTAN	IBDV epidemiology	Phone,Email
INDONESIA	Vaccine	Phone
NIGERIA	IBD vaccine	Email

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?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
he National Key Research and Development Program of China□Study on avian major infectious diseases prevention and control and the development of international scientific and technological cooperation platform	3 years	see title	University of Veterinary and Animal Sciences, Lahore	PAKISTAN
the National Key Research and Development Program of China□Study on avian major infectious diseases prevention and control and the development of international scientific and technological cooperation platform	3 years	see title	niversity of Udayana	INDONESIA
the National Key Research and Development Program of China□Study on avian major infectious diseases prevention and control and the development of international scientific and technological cooperation platform	3 years	see title	PT Biotis Prima Agrisindo	INDONESIA

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

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: 11
[1] Wang Yulong, FAN Lin-jin, JIANG Nan, GAO Li, LI Kai, GAO Yu-long, LIU Chang-jun, CUI Hong-yu, PAN Qing, ZHANG Yan-ping, WANG Xiao-mei, QI Xiao-le. An Improved Scheme for Infectious Bursal Disease Virus Genogroup Classification Based on Both Genome-segments A and B. Journal of Integrative Agriculture, 2020, 19: 2–11. doi:10.1016/S2095-3119(20)63424-4.
[2] Linjin Fan, Yulong Wang, Nan Jiang, Mango Chen, Li Gao, Kai Li, Yulong Gao, Hongyu Cui, Qing Pan, Changjun Liu, Yanping Zhang, Xiaomei Wang, Xiaole Qi. Novel variant infectious bursal disease virus suppresses Newcastle disease vaccination in broiler and layer chickens. Poultry Science. 2020, 99:6542-6548. doi: 10.1016/j.psj.2020.09.037.
[3] Linjin Fan, Yulong Wang, Nan Jiang, Li Gao, Kai Li, Yulong Gao, Hongyu Cui, Qing Pan, Changjun Liu, Yanping Zhang, Xiaomei Wang, Xiaole Qi. A reassortment vaccine candidate of the novel variant infectious bursal disease virus. Veterinary Microbiology, 2020, 251: 108905. doi: 10.1016/j.vetmic.2020.108905
[4] Wang Yulong, Fan Linjin, Jiang N, Gao Li, Li Kai, Gao Yulong, Liu Changjun, Cui Hongyu , Pan Qing, Zhang Yanping, Wang Xiaomei, Qi Xiaole. Naturally occurring cell-adapted classic strain of infectious bursal disease virus. Veterinary Microbiology, 2020, 243: 108620. doi: 10.1016/j.vetmic.2020.108620.
[5] Wu Tiantian, Wang Yulong, Li Hui, Fan Linjin, Jiang Nan, Gao Li, Li Kai, Gao Yulong, Liu Changjun, Cui Hongyu, Pan Qing, Zhang Yanping, Wang Xiaomei, Qi Xiaole. Naturally occurring homologous recombination between novel variant infectious bursal disease virus and intermediate vaccine strain. Veterinary Microbiology. 2020, 245, 108700. doi: 10.1016/j.vetmic.2020.108700.
[6] Fan Linjin, Wu Tiantian, Wang Yulong, Hussain Altaf, Jiang Nan, Gao Li, Li Kai, Gao Yulong, Liu Changjun, Cui Hongyu, Pan Qing, Zhang Yanping, Wang Xiaomei, Qi Xiaole. Novel variants of infectious bursal disease virus can severely damage the bursa of fabricius of immunized chickens. Veterinary Microbiology. 2020, 240:108507. doi: 10.1016/j.vetmic.2019.108507.
[7] Altaf Hussain, Wu Tian-tian, Fan Lin-jin, Wang Yu-long, Farooq Khalid Muhammad, Jiang Nan, Gao Li, Li Kai, Gao Yu-long, Liu Chang-jun, Cui Hong-yu, Pan Qing, Zhang Yan-ping, Asim Aslam, Khan Muti-rehman, Muhammad Imran Arshad, Hafiz Muhammad Abdullah, Wang Xiao-mei, QI Xiao-le. The circulation of unique reassortment strains of infectious bursal disease virus in Pakistan. Journal of Integrative Agriculture. 2020, 19(7): 1867-1875. doi: 10.1016/S2095-3119(20)63183-5.
[8] LiuAijing, Pan Qing, Li Yue, Yan Nana, Wang Jing, Yang Bo, Chen Zehua, Qi Xiaole, Gao Yulong, Gao Li, Liu Changjun, Zhang Yanping, Cui Hongyu, Li Kai, Wang Yongqiang, Wang Xiaomei. Identification of chicken CD74 as a novel attachment cellular receptor for infectious bursal disease virus in bursa B lymphocytes. Journal of Virology. 2020, 94(2): e01712-19. doi: 10.1128/JVI.01712-19.

[9] Wang Zhihao, Jielan Mi, Yulong Wang, Tingting Wang, Xiaole Qi, Kai Li, Qing Pan, Yulong Gao, Li Gao, Changjun Liu, Yanping Zhang, Xiaomei Wang, Hongyu Cui. Recombinant Lactococcus Expressing a Novel Variant of Infectious Bursal Disease Virus VP2 Protein Can Induce Unique Specific Neutralizing Antibodies in Chickens and Provide Complete Protection. Viruses. 2020, 12(12):1350. doi: 10.3390/v12121350.
[10] WANG Yulong, FAN Lin-jin, JIANG Nan, GAO Yu-long, LI Kai, GAO Li, LIU Chang-jun, CUI Hong-yu, PAN Qing, ZHANG Yan-ping, WANG Xiao-mei, QI Xiao-le. Identification of Novel Variant Strains of Infectious Bursal Disease Virus in a Layer Flock. 2020,42(5):36-40. doi:10.16372/j.issn.1004-6364.2020. (in Chinese)
[11] Liliana L. Cubas-Gaona, Romane Trombetta, Céline Courtillon, Kai Li, Xiaole Qi, Xiaomei Wang, Sofiane Lotmani, Alassane Keita, Michel Amelot, Nicolas Eterradossi, Sébastien Mathieu Soubies. Ex vivo rescue of recombinant very virulent IBDV using a RNA polymerase II driven system and primary chicken bursal cells. Sci Rep. 2020,10(1):13298. doi: 10.1038/s41598-020-70095-x.

b) International conferences: 0

c) National conferences: 0

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 .jpg

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?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
Veterinary laboratory biosafety management system seminar	11/20	Hanzhou, China	study and communication	-

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: