OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-06 03:24:57

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Brucellosis (Brucella abortus, B. melitensis, B. suis)
Address of laboratory:	National Reference Laboratory for Animal Brucellosis (NRLAB) Department of Diagnostic Technology China Institute of Veterinary Drug Control (IVDC) No.8 Zhongguancun South Street Haidian District Beijing 100081 CHINA (PEOPLES REP. OF)
Tel.:	+86-10 61.25.53.27
Fax:	
E-mail address:	dingjiabo@126.com
Website:	http://www.ivdc.org.cn/
Name (including Title) of Head of Laboratory (Responsible Official):	Ming Li,Director of IVDC Jiabo Ding,DVM,Ph.D, Head of the National/OIE Reference Laboratory for Brucellosis, IVDC.
Name (including Title and Position) of OIE Reference Expert:	Jiabo Ding
Which of the following defines your laboratory? Check all that apply:	Governmental

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
RBT	yes	7749	0
CFT	yes	540	0
cELISA(bovine serum)	yes	4251	0
cELISA(ovine-caprine serum)	yes	1348	0
iELISA(ovine-caprine serum)	yes	4912	0
iELISA(bovine serum)	yes	5093	0
iELISA(camel serum)	yes	245	0
Direct diagnostic tests		Nationally	Internationally
PCR	yes	393	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?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient OIE Member Countries	Region of recipients
Positive bovine serum for Brucella abortus	Positive control for all serological methods	Produced	-	4 vials(1mL/vial)	2	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☒Middle East

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.)
Brucella antibody detection strip	This product was certificated as the Class I New Veterinary Drug (Certificate No.23.2017)
IFN-γ sandwich ELISA kit for detection of bovine tuberculosis	This product was certificated as the Class II New Veterinary Drug (Certificate No.8.2019)

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
FRANCE	12th Workshop of the EU National Reference Laboratories for Brucellosis(invited)	Keynote Speaker

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:
1.Data were obtained and analyzed based on the results of surveillance on serum samples collected from dairy cows, sheep and goat, etc. . 2.A large number of literatures were reviewed, and relevant data were summarized and analyzed

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:
1.Articles were published in peer-reviewed journals. 2.Gave presentations at international conference.

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: 13

1. Liu Y F, Sun J L, Peng X W, et al. Deletion of the LuxR-type regulator VjbR in Brucella canis affects expression of type IV secretion system and bacterial virulence, and the mutant strain confers protection against Brucella canis challenge in mice [J]. Microbial Pathogenesis, 2019: 103865.
2. Gao X T, Guo X, Li M, et al. Interleukin 8 and entaxin (C-reactive protein) as potential new of bovine tuberculosis. J Clin Microbiol, 2019 Sep 24;57(10). pii: e00274-19. doi: 10.1128/JCM. 00274-19.
3. Liu Y F, Dong H, Peng X W, et al. RNA-seq reveals the critical role of Lon protease in stress response and Brucella virulence [J]. Microbial Pathogenesis, 2019, 130: 112-119.
4. Xu G L, Cheng R J, Sun C L, et al. Complete genome sequence of Brucella canis GB1, a strain isolated from a poodle in Beijing, China [J]. Microbiol Resour Announc, 2019, 8(2): e01476-18.
5. Peng X W, Liu Y F, Jiang H, et al. Comparative transcriptome analysis of artificially induced rough-mutant Brucella strain RM57 and its parent strain Brucella melitensis M1981[J]. Frontiers in Veterinary Science, 2019, 6: 459.
6. Liu Y F, Dong H, Sun S J, et al. Research progress on bacterial Lon protease [J]. Microbiology China, July 20, 2019, 46(7): 1706−1711.
7. Bian Z J, Zhu L Q, Feng Y, et al. Epidemiological trends and characteristics of Brucellosis in miscarriage dairy cows in China, 2013-2017 [J]. Microbiology China, 2019, 46(3):618-623.
8. Xie S J, Peng X W, Feng Y, et al. Mechanism of Brucella evading from host immune response. Chinese Bulletin of Life Sciences, 2019 (9): 3.
9. Gao Q, Peng X W, Feng Y□et al. Progress in research on circulating micro□NA in animal disease diagnosis. Animal Husbandry &Veterinary Medicine, 2019 (5): 28
10. Sun J L, Peng X W, Sun S J, et al. Research progress in Brucella lumazine synthase (BLS).[J]. Microbiology China, 2019, 46(5): 1179−1184.
11. Liu Y, Xu L, Wang L, et al. Immunological effect of Brucellosis S2 strain vaccine with thermo-sensitive gel in mice with different mucosal immune routes. Chinese Journal of Preventive Veterinary Medicine, 2019, 41(3): 290−294.
12. Liu Y F, Sun S J, Peng X W, et al. Research progress on the antitumor effects of several important microorganisms. Chinese Bulletin of Life Sciences, 2019, 31(3): 225−231.
13. Niu K, Cheng R J, Xu G L, et al. Identification and Complete Genomic Analysis of a Brcucella Strain Isolated from Deer. Acta Veterinaria et Zootechica Sinica, 2019, 50(8): 1666−1675.

b) International conferences: 1

Prof. Jiabo Ding was invited as a Keynote Speaker attending the 12th Workshop of the EU Reference Laboratories for Brucellosis. He gave two presentations in the meeting.
Topic 1: Brucellosis in China: Trends and Updates
Topic 2: Development and Application of Brucellosis Diagnostic Reagents

c) National conferences: 11

Jiabo Ding. Brucellosis Vaccine and Its Immunological Technology. Symposium on Important Animal Disease Control and Prevention in Qinghai Province. Xining, Qinghai, China.

Jiabo Ding. The Current Epidemiological Status and Prevention and Control Strategy of Brucellosis in China. Workshop on Technologies for Diagnosis and Elimination of Animal Diseases in Breeding Farms. Nanjing, Jiangsu, China.

Jiabo Ding. Animal Brucellosis Vaccines and their Appropriate Application. The 7th Veterinary Vaccine Industry Summit. Fujian, China.

Jiabo Ding. Scientific Selection and Application of Diagnostic Methods for Brucellosis. The 2019 International Congress of Cow Diseases. Beijing, China.

Kairong Mao. Research Progress on Brucellosis Vaccine for Animals. The 2019 International Symposium on Zoonoses and Rabits Conference. Anhui, China.

Liangquan Zhu. Techniques Application of Prevention, Control and Diagnostic of Brucellosis and Bovine Tuberculosis. The 2019 National Seminar on the Analysis and Prevention and Control of Tuberculosis, Bovine Buberculosis and Tuberculosis. Beijing, China.

Liangquan Zhu. The Situation of Brucellosis and Its Prevention and Control. The 2019 Shanghai Training Session on Prevention and Control Techniques of Brucellosis, Schistosomiasis and Other Zoonoses. Shanghai, China.

Zhu Liangquan. Situation Analysis of Brucellosis and Its Prevention and Control Technology. The 2019 Sicuan Provincial Training Session on the Prevention and Control Technology of Brucellosis, Schistosomiasis and Other Zoonotic Diseases. Sicuan, China.

Xuezheng Fan. Serological Detection Technology and Prevention and Control Application of Brucellosis. The 2019 Internal Laboratory Training. Beijing, China.

Xuezheng Fan. Comprehensive Prevention and Control of Five Diseases (including Brucellosis and Bovine Tuberculosis). Production Technology Training of Large-scale Dairy Farm around Beijing. Beijing, China.

Shijing Sun. Study on the Biological Parameters of Brucellosis Tb Phage. The 2019 International Symposium on Zoonoses and Rabits Conference in China. Anhui, China.

d) Other:
(Provide website address or link to appropriate information) 1
Xia Y C, Chen G H, Ding J B. Science of Veterinary Biological (2nd Edition). China Agriculture Press. Beijing ISN 978-7-109-24447-4.

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)
ISO17025	CNAS-CL01-2017.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
RBPT, SAT and CFT	CNAS L3838
FPA, iELISA and cELISA	CNAS L3838
Isolation and identification of bacteria	CNAS L3838
PCR	CNAS L3838

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?

Yes

Purpose of the proficiency tests: [1]	Role of your Reference Laboratory (organiser/ participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
Brucellosis serology (RBT/SAT/ELISA, serum)	Participant	11	Animal and Plant Health Agency (APHA), UK

[1] *validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.*

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?

Yes

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

Purpose for inter-laboratory test comparisons[1]	No. participating laboratories	Region(s) of participating OIE Member Countries
RBT	10	☐Africa ☐Americas ☒Asia and Pacific ☐Europe ☐Middle East

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: