WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 8 mars 2023 04:03

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Equine piroplasmosis
Address of laboratory:	National Research Center for Protozoan Diseases, Obihiro University of Agriculture and Veterinary Medicine, Nishi 2-13, Inada-cho, Obihiro, Hokkaido 080-8555, Japan
Tel.:	+81155495649
E-mail address:	yokoyama@obihiro.ac.jp
Website:	https://www.obihiro.ac.jp/facility/protozoa/en/oie-reference-centres
Name (including Title) of Head of Laboratory (Responsible Official):	Prof. Naoaki Yokoyama
Name (including Title and Position) of WOAH Reference Expert:	Prof. Naoaki Yokoyama
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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Theileria equi IFAT	YES	0	18

Babesia caballi IFAT	YES	0	18
Theileria equi cELISA	YES	0	18
Babesia caballi cELISA	YES	0	18
Direct diagnostic tests		Nationally	Internationally
Theileria equi PCR	YES	0	264
Babesia caballi PCR	YES	0	264

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
Theileria equi IFAT slides	IFAT	Produced and provided	20	Nos. 2,084	6	America Asia and Pacific Europe
Babesia caballi IFAT slides	IFAT	Produced and provided	0	Nos. 1,590	4	America Europe
Theileria equi DNA	PCR	Produced and provided	0	0.015 MG	3	America Europe
Babesia caballi DNA	PCR	Produced and provided	0	0.015 MG	2	America Europe

4. Did your laboratory produce vaccines?

Not applicable

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

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAH 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
UNITED KINGDOM	2022-01-14	IFAT and cELISA	0	2
NEW ZEALAND	2022-02-02	IFAT, cELISA, and PCR	0	2
UNITED KINGDOM	2022-02-03	IFAT and cELISA	0	1
NEW ZEALAND	2022-03-16	IFAT, cELISA, and PCR	0	2
UNITED STATES OF AMERICA	2022-03-17	IFAT and cELISA	0	1
UNITED KINGDOM	2022-04-12	IFAT and cELISA	0	1
UNITED KINGDOM	2022-07-21	IFAT and cELISA	0	6
UNITED KINGDOM	2022-07-26	IFAT and cELISA	0	1
NEW ZEALAND	2022-08-12	IFAT, cELISA, and PCR	0	1
GERMANY	2022-09-21	IFAT and cELISA	0	1

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

Yes

NAME OF THE WOAH MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
MONGOLIA	Methodology for the isolation and in vitro cultivation of Theileria equi and Babesia caballi	Electronic consultation
THE NETHERLANDS	Methodology for the isolation, in vitro cultivation, preservation, and genome sequencing of Theileria equi and Babesia caballi	Electronic consultation
ARGENTINA	Methodology for the isolation and in vitro cultivation of Theileria equi and Babesia caballi	Electronic consultation
AUSTRALIA	Tests available for the diagnosis of Theileria equi and Babesia caballi and the impact of genetic diversity on test results	Electronic consultation
IRELAND	Tests available for the diagnosis of Theileria equi and Babesia caballi and the impact of genetic diversity on test results	Electronic consultation
SRI LANKA	Designing an epidemiological survey of Theileria equi and Babesia caballi in horses	Electronic consultation
	Methodology for the in vitro cultivation, tests available for the	

FRANCE	diagnosis of Theileria equi and Babesia caballi, and the impact of genetic diversity on test results	Electronic consultation
JAPAN	Methodology for the serodiagnosis of Theileria equi and Babesia caballi	In person and electronic consultation

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAH MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
Epidemiology of Theileria equi and Babesia caballi in donkeys in Sri Lanka	3 years	To investigate the epidemiology and genetic diversity of Theileria equi and Babesia caballi in Sri Lanka	Veterinary Research Institute	SRI LANKA
Molecular epidemiology of Theileria equi and Babesia caballi in Paraguay	4 years	To determine the epidemiology and genetic diversity of Theileria equi and Babesia caballi in horses in Paraguay	Centro de Diagnostico Veterinario and Universidad Nacional de Canendiyu	PARAGUAY
Molecular Survey and genotyping of Theileria equi and Babesia caballi in horses in Mongolia	4 years	To identify the Theileria equi and Babesia caballi genotypes infecting horses in Mongolia	Institute of Veterinary Medicine, Mongolian University of Life Sciences	MONGOLIA
Development of antigen detection rapid diagnostics for equine piroplasmosis	3 years	To develop rapid ICTs (immunochromatographic test) for the diagnosis of Theileria equi and Babesia caballi active infections in equines	ICAR-National Research Centre on Equines, Hisar, Haryana	INDIA
Survey and in vitro cultivation of Theileria equi and Babesia caballi in Argentina	3 years	To determine the current status of equine piroplasmosis and in vitro cultivation of parasite genotypes infecting horses in Argentina	Clinica Equina S.R.L.	ARGENTINA

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:
We surveyed donkeys in Sri Lanka and camels in Egypt for Theileria equi and Babesia caballi.

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:
The data from our epidemiological surveys in Sri Lanka and Egypt were published in peer-reviewed international scientific journals (see the list of publication in 16a)

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:

2

1. Salman D, Sivakumar T, Otgonsuren D, Mahmoud ME, Elmahallawy EK, Khalphallah A, Kounour AMEY, Bayomi SA, Igarashi M, Yokoyama N. 2022. Molecular survey of Babesia, Theileria, Trypanosoma, and Anaplasma infections in camels (Camelus dromedaries) in Egypt. Parasitol. Int. 90, 102618.

2. Ahedor B, Kothalawala H, Kanagaratnam R, Vimalakumar SC, Otgonsuren D, Tuvshintulga B, Batmagnai E, Silva SSP, Sivakumar T, Yokoyama N. 2022. First detection of Theileria equi in free-roaming donkeys (Equus africanus asinus) in Sri Lanka. Infect. Genet. Evol. 99, 105244.

b) International conferences:

0

c) National conferences:

1

Ahedor B, Sivakumar T, Valinotti MFR, Otgonsuren D, Yokoyama N, Acosta, TJ. PCR detection of Theileria equi and Babesia caballi from apparently healthy horses in Paraguay. 68th Joint Meeting of the Japanese Society for Parasitology and the Northern Japan Society of Medical Zoology, Japan, October 15, 2022.

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

1

https://www.obihiro.ac.jp/facility/protozoa/en/oie-reference-centres

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

a) Technical visit : 4

b) Seminars : 71

c) Hands-on training courses: 0

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
A	SWEDEN	1
A	MONGOLIA	1
A	JAPAN	2
B	PARAGUAY	3
B	INDIA	2
B	MONGOLIA	6
B	JAPAN	60

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO17025:2017	PDF	iso-Eng.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
PCR for Theileria equi	Perry Johnson laboratory Accrediation, Inc. (PJLA)
PCR for Babesia caballi	Perry Johnson laboratory Accrediation, Inc. (PJLA)

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

Yes

In accordance with the applicable laws, our university has regulations to ensure the safety when conducting experiments with pathogens, animals, and gene editing. The expert committees regularly review and update these regulations. The expert committees on biorisk management review and approve research plans involving animals, pathogens, and gene manipulation only after a thorough review. All laboratories are routinely examined to ensure that all experiments are carried out safely. All laboratories and animal facilities, including the RL for equine piroplasmosis, are run at the BSL2 standard.

TOR9: SCIENTIFIC MEETINGS

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

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAH?

No

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

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

Not applicable (only WOAH Reference Laboratory designated for the disease

24. Are you a member of a network of WOAH Reference Laboratories designated for the same pathogen?

Not applicable (Only WOAH Reference Laboratory designated for the disease)

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

Not applicable (Only WOAH Reference Laboratory designated for the disease)

26. Did your laboratory collaborate with other WOAH Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Not applicable (Only WOAH Reference Laboratory designated for the disease)

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

No

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No