

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:	Equine piroplasmosis
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Website:	https://www.obihiro.ac.jp/facility/protozoa/en/oie-reference-centres
Name (including Title) of Head of Laboratory (Responsible Official):	Prof. Naoaki Yokoyama, DVM, PhD
Name (including Title and Position) of OIE Reference Expert:	Prof. Naoaki Yokoyama, DVM, PhD
Which of the following defines your laboratory? Check all that apply:	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		Nationally	Internationally
Theileria equi IFAT	Yes	2	481
Babesia caballi IFAT	Yes	2	481
Theileria equi ELISA	Yes	0	442
Babesia caballi ELISA	Yes	0	442
Theileria equi cELISA	Yes	2	39
Babesia caballi cELISA	Yes	2	39
Direct diagnostic tests		Nationally	Internationally
Theileria equi PCR	Yes	0	3
Babesia caballi PCR	Yes	0	3

**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?

Yes

NOTE: Currently, there are 22 laboratories that produce Standard Reference Reagents officially recognised by the OIE for 19 diseases/pathogens. Please click the following link to the list of OIE-approved International Standard Sera: <http://www.oie.int/en/our-scientific-expertise/veterinary-products/reference-reagents/>. If the reagent is not listed on this page, it is NOT considered OIE-approved. The next two questions allow you to indicate non-OIE-approved diagnostic reagents.

Disease		Test	Available from		
Type of reagent available	Related diagnostic test	Produced/ Supply imported	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	Name of recipient OIE Member Countries
Theileria equi IFAT slides (Nos. 1,890)	IFAT	Produced and supplied	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	FRANCE
Theileria equi IFAT slides (Nos. 10)	IFAT	Produced and supplied	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	UNITED KINGDOM
Babesia caballi IFAT slides (Nos. 1,890)	IFAT	Produced and supplied	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	FRANCE
Babesia caballi IFAT slides (Nos. 10)	IFAT	Produced and supplied	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	UNITED KINGDOM
Babesia caballi IFAT slides (Nos. 330)	IFAT	Produced and supplied	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	ARGENTINA

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
Theileria equi-positive horse serum	Serology	Provided	0	1 ml	Turkey	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Babesia caballi-positive horse serum	Serology	Provided	0	1 ml	Turkey	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> 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?

No

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

No

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?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
GERMANY	February	0	1
NIGERIA	February	442	0
NEW ZEALAND	February and August	0	31
JAPAN	June	0	2
UNITED KINGDOM	August and December	0	7

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
THE NETHERLANDS	Interpretation of diagnostic test results and in vitro cultivation	Electronic consultation
MONGOLIA	Application for OIE Laboratory Twinning Programme	Electronic consultation
ARGENTINA	Epidemiological survey	Electronic consultation
KYRGYZSTAN	Research plan for epidemiological survey of equine piroplasmosis	Electronic consultation
NEW ZEALAND	Interpretation of diagnostic test results	Electronic consultation

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
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	Universidad Católica	PARAGUAY
Molecular Survey and genotyping of Theileria equi and Babesia caballi in horses in Mongolia	3 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
Epidemiological survey of equine piroplasmosis in horses in Kyrgyzstan	4 years	To determine the prevalence of equine piroplasmosis in horses in Kyrgyzstan	Kyrgyz Research Institute of veterinary named after A Duisheev	KYRGYZSTAN

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:

We collected data on the global epidemiology of equine piroplasmosis from published articles.

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:
We prepared epidemiological maps of Babesia caballi and Theileria equi using the collected data and posted them on the website for OIE reference laboratory for equine piroplasmiasis (https://www.obihiro.ac.jp/facility/protozoa/en/oie-rl-ep-ep).

**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: 2

Onyiche, T.E., Sivakumar, T., Tuvshintulga, B., Nugraha, A.B., Ahedor, B., Mofokeng, L., Luka, J., Mohammed, A., Mbaya, A.W., Biu, A.A., Yokoyama, N., Thekiso, O., 2021. Serosurvey for equine piroplasms in horses and donkeys from North-Western Nigeria using IFAT and ELISA. J. Immunoassay Immunochem. 42, 648-661.

Tuvshintulga, B., Nugraha, A.B., Mizutani, T., Liu, M., Ishizaki, T., Sivakumar, T., Xuan, X., Yokoyama, N., Igarashi, I., 2021. Development of a stable transgenic Theileria equi parasite expressing an enhanced green fluorescent protein/blasticidin S deaminase. Sci. Rep. 11, 9107.

b) International conferences: 0

c) National conferences: 0

d) Other:

(Provide website address or link to appropriate information) 1

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

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?

Yes

a) Technical visits: 0

b) Seminars: 12

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
b	Kyrgyzstan	2
b	Sri Lanka	1
b	Japan	3
b	Nigeria	2
b	Paraguay	2
b	Argentina	2

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)
ISO17025:2017	□□□□□□.pdf

16. 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)

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
AAVS-OIE-UGM Session on Collaboration between VEEs and International Organizations in Asia	3/2021	Indonesia (virtual)	Speaker	An introduction to our collaboration with OIE

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

Yes

Kind of consultancy	Location	Subject (facultative)
OIE ad hoc group on equine piroplasmosis	Virtual	Revision of Terrestrial Animal Health Code on equine piroplasmosis

25. Additional comments regarding your report: