WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 2 mai 2024 02:43

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Surra (Trypanosoma evansi)
Address of laboratory:	Inada-cho Nishi 2-13, Obihiro, Hokkaido 080-8555
Tel.:	+81-155 49.56.52
E-mail address:	ircpmi@obihiro.ac.jp
Website:	https://www.obihiro.ac.jp/facility/protozoa/en/woah-rl-tryp-about-us
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Keisuke Suganuma, Associate Prof., D.V.M., Ph.D.
Name (including Title and Position) of WOAH Reference Expert:	Dr. Noboru Inoue, Professor, D.V.M., Ph.D.
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
Direct diagnostic tests		Nationally	Internationally
PCR		0	246
PCR		0	122
PCR		0	122
PCR		176	0

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
Giemsa stained smear						

of T. brucei	Microscopy	Produced/Provide	0	2 slides	1	IRAN,
Giemsa stained smear of T. congolense	Microscopy	Produced/Provide	0	2 slides	1	IRAN,
Giemsa stained smear of T. brucei and T. congolense	Microscopy	Produced/Provide	0	10 slides	1	SOUTH AFRICA,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH Members?

No

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?

No

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
UNITED STATES OF AMERICA	Advice to the veterinarian about diagnosis of surra in dog, in relation to travel to South Africa	Remote assistance
JAPAN UNITED STATES OF AMERICA	Advice to the quarantine officer about diagnosis and quarantine measures of surra and dourine	Direct communication and assistance
INDONESIA	Advice to the scientist about countermeasures of surra outbreak in horse	Remote assistance
UNITED STATES OF AMERICA	Advice to the veterinarian about diagnosis of surra in dog	Remote assistance
MOROCCO	Advice to the scientist about protocol of CATT/T.evansi test	Remote assistance
AUSTRALIA	Advice to the veterinarian about diagnosis of surra in pig by means of CATT/T.evansi	Remote assistance
SOUTH AFRICA	Query into the implementation of inter-laboratory proficiency tests of diagnostic techniques for surra and other animal protozoan diseases	Remote assistance
JAPAN	Advice to the veterinarian about detection of T. theileri infection in cow and countermeasures	Remote assistance
CHINA (PEOPLE'S REP. OF)	Species identification of trypanosomes detected from infected camel blood	Remote assistance
IRAN	Query into an availability of standard Giemsa smears of African trypanosome species	Remote assistance

JAPAN	Advice to the quarantine officer about diagnosis and quarantine measures of surra	Remote assistance

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
Towards eradication of dourine in Mongolia	6 years	Eradication of dourine in Mongolia	Institute of Veterinary Medicine	MONGOLIA
Epidemiological studies on animal trypanosomosis in domestic animals in Paraguay	2 years	Epidemiological surveillance of animal trypanosomosis in domestic animals by means of molecular tests	Centro de Diagnostico Veterinario	PARAGUAY
Development of drugs for African trypanosomosis	2 years	Drug development	North-West University	SOUTH AFRICA
Epidemiological studies on animal trypanosomosis and mechanical vectors in domestic animals in South Africa	4 years	Epidemiological surveillance of animal trypanosomosis and mechanical vectors in domestic animals	North-West University	SOUTH AFRICA
Development of drugs for African animal trypanosomosis	2 years	Drug development	Egerton University	KENYA

13. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

No

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:
In collaboration with institutions shown in the list of ToR5-12, we had conducted epidemiological study of animal trypanosomoses and vector insects.

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 epidemiological data was disseminated as scientific articles listed below (ToR6-16).

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:

11

Helena D. Janse van Rensburg, David D. N'Da, Keisuke Suganuma, In vitro and in vivo trypanocidal efficacy of nitrofuryl- and nitrothienylazines, ACS Omega, 45: 43088-43098, 2023

Nthatisi Innocentia Molefe-Nyembe, Oluyomi Stephen Adeyemi, Daisuke Kondoh, Kentaro Kato, Noboru Inoue, Keisuke Suganuma, In vivo efficacy of curcumin and curcumin nanoparticle in Trypanosoma congolense, Pathogens, 12(10): 227, 2023

Ai Yamazaki, Keisuke Suganuma, Yusuke Tanaka, Kenichi Watanabe, Shin-ichiro Kawazu, Kiyoshi Kita, Noboru Inoue, Efficacy of oral administration of ascofuranone with and without glycerol against Trypanosoma congolense, Experimental Parasitology, 252: 108588, 2023

Aya Yoshimura, Rio Saeki, Ryusuke Nakada, Shota Tomimoto, Takahiro Jomori, Keisuke Suganuma, Toshiyuki Wakimoto, Membrane-vesicle-mediated interbacterial communication activates silent secondary metabolite production, Angewandte Chemie Internatioal Edition, e202307304, 2023

Helena D Janse van Rensburg, Keisuke Suganuma, David D N'Da, In vitro trypanocidal activities and structure-activity relationships of ciprofloxacin analogs, Molecular Diversity, , 2023

Anna Seetsi, David D N'da, Nthatisi Molefe-Nyembe, Keisuke Suganuma, Tsepo Ramatla, Oriel Thekisoe, In vitro anti-trypanosomal activity of synthetic nitrofurantoin-triazole hybrids against Trypanosoma species causing human African trypanosomosis, Fundamental & Clinical Pharmacology, 38(1): 72-83, 2023

Afraa Elata, Eloiza May Galon, Paul Franck Adjou Moumouni, Rochelle Haidee D. Ybanez, Ehab Mossaad, Caro B. Salces, Gundolino P. Bajenting, Adrian P. Ybanez, Xuenan Xuan, Noboru Inoue, Keisuke Suganuma, Molecular detection of animal trypanosomes in different animal species in the Visayas region of the Philippines, Acta Parasitologica, 68: 604-611, 2023

Yujon Hong, Keisuke Suganuma, Yuma Ohari, Mitsunori Kayano, Kenji Nakazaki, Shinya Fukumoto, Shin-ichiro Kawazu, Noboru Inoue, Seasonal variation and factors affecting Trypanosoma theileri infection in wild sika deer (ezo sika deer Cervus nippon yesoensis) in Eastern Hokkaido, Animals, 13810, 2023

Zhichao Wang, Ben-Yeddy Abel Chitama, Keisuke Suganuma, Yoshi Yamano, Sachiko Sugimoto, Susumu Kawakami, Osamu Kaneko, Hideaki Otsuka, Katsuyoshi Matsunami, Two new cytotoxic sesquiterpene-amino acid conjugates and a coumarin-glucoside from Crossostephium chinense, Molecules, 28(12), 2023

Stipan Nurbyek, Buyanmandakh Buyankhishig, Keisuke Suganuma, Yoshinobu Ishikawa, Mika Kutsuma, Marie Abe, Kenroh Sasaki, Bekh-Ochir Davaapurev, Javzan Batkhuu, Toshihiro Murata, Phytochemical investigation of Scutellaria scordiifolia and its trypanocidal activity, Phytochemistry, 209, 2023

Yusuke Tanaka, Keisuke Suganuma, Kenichi Watanabe, Yoshiyasu Kobayashi, Epididymitis in mice experimentally infected with Trypanosoma equiperdum: a histopathological and immunohistochemical study, Journal of Comparative Pathology, 201: 1-9, 2023

b) International conferences:

1
Keisuke Suganuma, Ai Yamazaki, Shin-ichiro Kawazu, Kiyoshi Kita, Noboru Inoue, Usage of dry-heat sterilized fungi for control of trypanosomosis, US-Japan Cooperative Medical Sciences Program, Parasitic Disease Panel, Alabang, Philippines

c) National conferences:

4
Keisuke Suganuma, Ai Yamazaki, Shin-ichiro Kawazu, Noboru Inoue, Kiyoshi Kita, Treatment efficacy of ascofuranone against Trypanosoma congolense infection in mice, The 92nd Annual Meeting of the Japanese Society of Parasitology, Kanazawa, Ishikawa, Japan

Keisuke Suganuma, Eito Anma, Adrian Miki C. Macaranda, Shin-ichiro Kawazu, Noboru Inoue, Tabanus chrysurus is a potential biological vector of Trypanosoma (Megatrypanum) theileri in Japan, The 166th meeting of the Japanese Society of Veterinary Science, Fuchyu, Tokyo

Helena D. Janse van Rensburg, David D. N'Da, Keisuke Suganuma, In vitro and in vivo trypanocidal efficacy of nitrofuryl- and nitrothienylazines, Proceedings of the 69th Joint Annual Meeting of Northern Branches of the Japanese Society of Parasitology and the Japan Society of Medical Entomology and Zoology, Sendai, Miyagi, Japan

Keisuke Suganuma, Go Fujita, Noboru Inoue, Tomas J. Acosta, Evaluation of repellent activity using horse blanket with icaridin, Proceedings of the 69th Joint Annual Meeting of Northern Branches of the Japanese Society of Parasitology and the Japan Society of Medical Entomology and Zoology, Sendai, Miyagi, Japan

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

0

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 : 2

b) Seminars : 1

c) Hands-on training courses: 1

d) Internships (>1 month) 1

Type of technical training	Country of origin of the expert(s)	No. participants from the

provided (a, b, c or d)	provided with training	corresponding country
A	MONGOLIA	23
B	MONGOLIA	23
C	SOUTH AFRICA	2
D	SOUTH AFRICA	2
A	SOUTH AFRICA	8

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	2023-10-10-ISO認定証.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
PCR test	Perry Johnson Laboratory Accreditation, Inc (PJLA)

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

Yes

In order to safely conduct experiments on animals, pathogens, and gene manipulation, our university has established regulations and special committees based on relevant laws. Laboratory and animal facilities are managed at BSL2 level. Periodical inspections are carried out to ensure that animal experiments, pathogen and gene manipulation experiments are being conducted appropriately. Plans for animal experiments, pathogens, and gene manipulation experiments are reviewed in advance by relevant expert committees and approved before implementation.

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?

Yes

24. Do you network (collaborate or share information) with other WOAH Reference Laboratories designated for the same pathogen?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAH REF. LABS
WOAH Non-Tsetse Transmitted Animal Trypanosomoses Network	To create awareness on NTTAT as high impact neglected veterinary diseases To develop tools that enhance countries' capacity for surveillance of the NTTAT in view of improved disease reporting To foster collaborative research on identified topics To respond to needs for scientific evidence as expressed by endemic countries and/or organisations engaged in NTTAT control To fill gaps in knowledge on disease epidemiology, pathogenesis, drug efficacy, vaccines, modes of transmission, reservoir hosts and vector control.	10	RL for Dourine Dr. Laurent Hebert ANSES, France RL for Surra Dr. Nick Van Reet Institute of Tropical Medicine Antwerp RL for Surra Prof. Noboru Inoue National Research Center for Protozoan Diseases, Obihiro University of Agriculture and Veterinary Medicine, Japan RL for trypanosomoses (tsetse-transmitted) Dr. Marc DESQUESNES CIRAD-IRD, France

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

No

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?

No

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

None