World Organisation for Animal Health

Noboru Inoue - - JAPAN

WOAH Reference Laboratory Reports Activities 2024

This report has been submitted: 23 janvier 2025 04:16

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	Yes	0	

			246

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
Total DNA of T. evansi	PCR	Produced / Provide	0	1 micro g	1	JAPAN,
Total DA of T. theileri	PCR	Produced / Provide	0	1 micro g	1	JAPAN,

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
JAPAN	Query into an availability of trypanosome control DNA for PCR tests	Remote assistance

Noboru Inoue - - JAPAN

JAPAN	Lecture on surra and dourine	Direct communication
JAPAN	Advice about experimental animal model of animal African trypanosomoses	Remote assistance
JAPAN	Advice about draft Chapter (WOAH manual) on Dourine	Remote assistance
UNITED KINGDOM	Advice about PCR tests for animal trypanosomoses	Remote assistance
UNITED KINGDOM	Advice about availability of reference DNA and giemsa stained slides of T. evansi	Remote assistance
UNITED KINGDOM	Advice about in vitro cultivation of T. vivax	Remote assistance
UNITED STATES OF AMERICA	Advice to the dog owner about diagnosis of surra, in relation to travel to Zambia.	Remote assistance
UNITED STATES OF AMERICA	Advice to the dog owner about diagnosis of surra, in relation to travel to South Africa.	Remote assistance
GERMANY UNITED STATES OF AMERICA	Preparation of WOAH webinar (horse diseases)	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
Epidemiological studies on aniaml trypanosomosis in domestic animals in Paraguay	1	Epidemiological surveillance of animal trypanosomosis in domestic animals by means of molecular tests	Centro de Diagnostico Veterinario	PARAGUAY
Development of drugs for African trypanosomosis	1	Drug development	North-West University	SOUTH AFRICA
Epidemiological studies on aniaml trypanosomosis and mechanical vectors in domestic animals in South Africa	3	Epidemiological surveillance of animal trypanosomosis and mechanical vectors in domestic animals	North-West University	SOUTH AFRICA
Development of drugs for African animal trypanosomosis	1	Drug development	Egerton University	KENYA

The Project for establishment of research and disease control systems for eradication of dourine	6	Control of dourine in Mongolia	Institute of Veterinary Medicine	MONGOLIA

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:

10

1. Keisuke Suganuma, Go Fujita, Adrian Miki C Macalanda, Maria Angenica F Regilme, Hiroshi Izumida, Noboru Inoue, Tomas J Acosta, Repellent activity of icaridin-impregnated horsecloth against horse flies, Acta Tropica, 260: 107485 , 2024

2. David D. N'Da, Janine Aucamp, Helena D. Janse van Rensburg, Keisuke Suganuma, Design, synthesis, in vitro and in vivo trypanosomaticidal efficacy of novel nitroindolylazines, European Journal of Medicinal Chemistry, 280: 116979, 2024

3. Christina Kannigadu, Helena D. Janse van Rensburg, Janine Aucamp, Keisuke Suganuma, David D. N'Da, Exploration of novel "Ferroxazide/Ferrazone" derivatives as antitrypanosomatid agents: design, synthesis, and biological efficacy, Applied Organic Chemistry, , 2024

4. Yasumoto Oyadomari, Yasuyuki Goto, Keisuke Suganuma, Shin-ichiro Kawazu, Leontine E. Becking, Nobuhiro Fusetani, Yoichi Nakao , Aurantoside L, a new tetramic acid glycoside with anti-leishmanial activity isolated from the marine sponge Siliquariaspongia japonica, Marine drugs, 22(4): 171, 2024

5. Keamogetswe Sechoaro, Janine Aucamp, Christina Kannigadu, Helena D. Janse van Rensburg, Keisuke Suganuma, David D N'Da, Investigation of novel isatinylhydantoin derivatives as potential anti-kinetoplastid agents, ChemMedChem, e202400533, 2024

6. Ai Yamazaki, Yusuke Tanaka, Kenichi Watanabe, Mayu Sato, Shin-Ichiro Kawazu, Kiyoshi Kita, Noboru Inoue, Helena D Janse van Rensburg, David D N'Da, Keisuke Suganuma, Prophylactic activity of orally administered dry-heat-sterilized Acremonium egyptiacum against Trypanosoma congolense-induced animal African trypanosomosis. , Acta Tropica, 254: 107185, 2024

7. Keisuke Suganuma, Eito Anma, Afraa Elata, Adrian Miki C Macalanda, Shin-Ichiro Kawazu, Noboru Inoue, Tabanus chrysurus is a potential biological vector of Trypanosoma (Megatrypanum) theileri in Japan. , Parasitology Research, 123(4): 174, 2024

8. Keisuke Suganuma, Kennedy M. Mochabo, Judith K. Chemuliti, Kiyoshi Kita, Noboru Inoue, Shin-ichiro Kawazu, Ascofuranone antibiotic is a promising trypanocidal drug for nagana, Onderstepoort Jounral of Veterinary Research, 91(1): 1-6, 2024

9. Helena D. Janse van Rensburg, David D. N'Da, Keisuke Suganuma, In vitro trypanocidal potency and in vivo treatment efficacy of oligomeric ethylene glycol-tethered nitrofurantoin derivatives, European Jounral of Pharmaceutical Sciences, 192: 106668, 2024

10. Adrian Miki C Macalanda, Eloiza May S Galon, Vernadyn A Morillo, Atcharaphan Wanlop, Kevin Austin L Ona, Xuenan Xuan, Noboru Inoue, Shin-Ichiro Kawazu, Keisuke Suganuma, Molecular detection and internal transcribed spacer-1 sequence diversity of Trypanosoma evansi in goats from Cavite, Philippines, The Journal of Veterinary Medical Science, 86(1): 35-38, 2024

b) International conferences:

2

1. Keisuke Suganuma, Yuta Okuno, Tomas J. Acosta, Takeo Yamauchi, Adrian Miki C. Macalanda, Shin-ichiro Kawazu, Noboru Inoue, An entomological survey of horsefly (Diptera: Tabanidae) in livestock farms in Tokachi, Hokkaido prefecture, Japan, XXVII International Congress of Entomology, Kyoto, Kyoto, Japan.

2. Keisuke Suganuma, Yuta Okuno, Tomas J. Acosta, Takeo Yamauchi, Adrian Miki C. Macalanda, Shin-ichiro Kawazu, Noboru Inoue, A two-year entomological survey of blood sucking insectsin livestock farms in Tokachi, Hokkaido prefecture, Japan. The 4th Joint Meeting of Veterinary Science in East Asia, Obihiro, Hokkaido, Japan.

c) National conferences:

6

1. Keamogetswe Sechoaroa, Janine Aucampa, Christina Kannigadua, Helena D. Janse van Rensburga, Keisuke Suganumab, David D. N'Da, Synthesis and in vitro anti-trypanosomal activity of novel isatinylhydantoin derivatives, Proceedings of the 70th Joint Annual Meeting of Northern Branches of the Japanese Society of Parasitology and the Japan Society of Medical Entomology and Zoology, Obihiro, Hokkaido, Japan

2. Janine Aucamp, David N'Da, Helena Janse van Rensburg, Keisuke Suganuma, The biological screening of novel nitroindolylazines against zoonotic trypanosomatids, Proceedings of the 70th Joint Annual Meeting of Northern Branches of the Japanese Society of Parasitology and the Japan Society of Medical Entomology and Zoology, Obihiro, Hokkaido, Japan

3. Keisuke Suganuma, Ai Yamazaki, Kiyoshi Kita, Shin-ichiro Kawazu, Noboru Inoue, Evaluation of prophylactic activity of ad libitum feeding of dry-heat-sterilized Acremonium egyptiacum containing food against Trypanosoma congolense infection, Proceedings of the 70th Joint Annual Meeting of Northern Branches of the Japanese Society of Parasitology and the Japan Society of Medical Entomology

and Zoology, Obihiro, Hokkaido, Japan

4. Mako Kawano, Kouta Komatsu, Sachiko Aoki, Keisuke Suganuma, Shin-ichiro Kawazu, Noboru Inoue, Seek for new trypanocidal compounds, Proceedings of the 70th Joint Annual Meeting of Northern Branches of the Japanese Society of Parasitology and the Japan Society of Medical Entomology and Zoology, Obihiro, Hokkaido, Japan

5. Sachiko Aoki, Keisuke Suganuma, Nada Arayaskul, Kenichi Watanabe, Shin-ichiro Kawazu, Noboru Inoue, Detection of antibody responses to the saliva antigen of Tabanus nipponicus, The 167th Meeting of the Japanese Society of Veterinary Science, Obihiro, Hokkaido, Japan

6. Keisuke Suganuma, Go Fujita, Noboru Inoue, Tomas J. Acosta, Repellent activity of icaridin-impregnated horsecloth against horse flies, The 77th meeting of the Japan Society of Medical Entomology and Zoology, Sapporo, Hokkaido, Japan.

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

1
Keisuke Suganuma, Horseflies!!!, The 64th Protist/Parasite/Evolution seminar, web seminar (https://kantoprotist.wixsite.com/tgef-protist/schedule)

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 : 1

b) Seminars : 0

c) Hands-on training courses: 3

d) Internships (>1 month) 3

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	PHILIPPINES	1
C	PHILIPPINES	1
C	SOUTH AFRICA	2
D	PHILIPPINES	1
D	SOUTH AFRICA	1

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,	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

	drug efficacy, vaccines, modes of transmission, reservoir hosts and vector control.		DESQUESNES CIRAD-IRD, France

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen during the past 2 years?

No

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 during the past 2 years?

No

no

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No