World Organisation for Animal Health

Karine Laroucau - - FRANCE

WOAH Reference Laboratory Reports Activities 2024

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LABORATORY INFORMATION

***Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:**	Glanders
***Address of laboratory:**	
***Tel:**	+330149771350
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Website:	
***Name (including Title) of Head of Laboratory (Responsible Official):**	Dr Zientara Stéphan
***Name (including Title and Position) of WOAH Reference Expert:**	Dr Laroucau Karine
***Which of the following defines your laboratory? Check all that apply:**	Governmental

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
CFT	Yes	8	745
ELISA	Yes	0	870
Direct diagnostic tests		Nationally	Internationally
real-time PCR B. pseudomallei complex	No	0	67

real-time PCR B. mallei	Yes	0	67
real-time PCR B. pseudomallei	Yes	0	67

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
Glanders positive serum	CFT	produced	0	500 µL x 10	5	ARGENTINA, CROATIA, ITALY, THE NETHERLANDS, TUNISIA,

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?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
New PCR method for the detection of the B. pseudomallei complex	Development and validation of a new PCR method for the detection of the B. pseudomallei complex (unpublished data)

7. Did your laboratory validate diagnostic methods according to WOAH Standards for the designated pathogen or disease?

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

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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
TUNISIA	2024-01-01	CFT	59	0

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
ARGENTINA	SOP and reagents for glanders CFT	emails, visioconferences
THAILAND	SOP and reagents for glanders CFT	emails
TUNISIA	SOP and reagents for glanders CFT	emails
QATAR	SOP and reagents for glanders CFT	emails
CROATIA	SOP and reagents for glanders CFT	emails
ITALY	SOP and reagents for glanders CFT	emails
ROMANIA	SOP and reagents for glanders CFT	emails

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
Melioidosis in the Caribbean Islands and French Guiana	3 years	One Health approach for melioidosis	IRD, Medical hospitals	FRANCE - FRENCH GUIANA

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

Yes

Research need : 1

Please type the Research need: Validation of alternative CFT methods for glanders diagnosis, considering the endemicity of melioidosis, an endemic disease in Asia and an emerging disease in Africa and the Americas.

Relevance for WOAH Disease Control,

Relevance for the Code or Manual Manual,

Field Diagnostics,

Animal Category Terrestrial,

Disease:

Kind of disease (Zoonosis, Transboundary diseases) Zoonosis, Transboundary diseases,

If any, please specify relevance for Codes or Manual, chapter and title

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

Answer:

Notes:

Answer:

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

No

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

No

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:

3

Gasqué M, Guernier-Cambert V, Manuel G, Aaziz R, Terret J, Deshayes T, Baudrimont X, Breurec S, Rochelle-Newall E, Laroucau K. Reassessing the distribution of Burkholderia pseudomallei outside known endemic areas using animal serological screening combined with environmental surveys: The case of Les Saintes (Guadeloupe) and French Guiana.PLoS Negl Trop Dis. 2024 Sep 26;18(9):e0011977. doi: 10.1371/journal.pntd.0011977. eCollection 2024 Sep.

Desoutter A, Deshayes T, Vorimore F, Klotoe B, Durand B, Colot J, Wagner-Lichtenegger G, Steinmetz I, Tuanyok A, Laroucau K. Isolation of Burkholderia pseudomallei from a goat in New Caledonia: implications for animal and human health monitoring and serological tool comparison. BMC Vet Res. 2024 Mar 23;20(1):114. doi: 10.1186/s12917-024-03957

Gasqué M, Guernier V, Girault G, Terret J, Neulat-Ripoll F, Rochelle-Newall E, Laroucau K. Rapid confirmation of autochthonous origin in suspected cases of melioidosis from French overseas departments in the Caribbean and the Indian Ocean by PCR-high resolution melting (HRM) analysis. Infect Genet Evol. 2025 Jan;127:105711. doi: 10.1016/j.meegid.2024.105711. Epub 2024 Dec 26.

b) International conferences:

12

Guernier V, Chantratita N, Thongdee M, Tuanyok A, Kamyingkerd K, Cagape C, Kaewrakmuk J, Thaipadungpanit J, Laroucau K. A commercial ELISA test used to assess past environmental exposure to Burkholderia pseudomallei reveals strong heterogeneity in animals in Thailand, an endemic country for melioidosis. 10th world melioidosis congress, Darwin (Australia), 21-23 October 2024.

Gasqué M, Guernier-Cambert V, Terret J, Aaziz R, Manuel G, Breurec S, Rochelle-Newall E, Laroucau K. Burkholderia pseudomallei, the causative agent of melioidosis, is locally established in Guadeloupe, French West Indies. 10th world melioidosis congress, Darwin

(Australia), 21-23 October 2024.
Gasqué M, Guernier V, Girault G, Terret J, Neulat-Ripoll F, Rochelle-Newall E, Laroucau K. A rapid typing method using PCR-High Resolution Melting (PCR-HRM) to identify locally established strains within French overseas territories. 10th world melioidosis congress, Darwin (Australia), 21-23 October 2024.
Laroucau K. Glanders: global importance for trade, recommended diagnostic tests (WOAH Manual), main challenges and novel diagnostic tests 25th International Congress of Microbiology, Iran, 29 August 2024.
Laroucau K. Glanders: global importance for trade, recommended diagnostic tests (WOAH Manual), main challenges and novel diagnostic tests Tokyo – WOAH september 2024 WOAH Workshops in Japan, 17 September 2024.
Laroucau K. Glanders: epidemiology and recent developments in diagnosis and typing Mongolia. International conference - Seeking ways to eradicate tuberculosis and glanders, Ulaanbaatar (Mongolia), 3 September 2024. invited speaker
Gasqué M., Guernier-Cambert V., Rochelle-Newall E., Laroucau K. Melioidosis: an ELISA test developed for glanders helps to identify new areas of environmental occurrence. International conference - Seeking ways to eradicate tuberculosis and glanders, Ulaanbaatar (Mongolia), 3 September 2024. invited speaker.
Laroucau K. Glanders: epidemiology and recent developments in diagnosis and typing. International Equine infectious diseases conference – IEIDC 2024. Deauville (France), 30/09-04/10, invited speaker.
Terret J, Laroucau K. Results of the proficiency test for the serological diagnosis of Glanders. Workshop for European Reference laboratories / glanders. Deauville (France), 4 October 2024.
Terret J, Laroucau K. Results of the proficiency test for the molecular detection of Glanders. Workshop for European Reference laboratories / glanders. Deauville (France), 4 October 2024.
Laroucau K. Glanders: News & Recent advances in GLANDERS Diagnosis. Workshop for European Reference laboratories / glanders. Deauville (France), 4 October 2024.
Gasque M, Laroucau K. Melioidosis: an ELISA test developed for glanders helps to identify new areas of environmental occurrence. Workshop for European Reference laboratories / glanders. Deauville (France), 4 October 2024.

c) National conferences:

1
Gasqué M, Guernier-Cambert V, Terret J, Aaziz R, Klotoe B, Manuel G, Breurec S, Rochelle-Newall E, Laroucau K. Burkholderia pseudomallei is locally established in Guadeloupe, French West Indies. The One Health Challenges to tackle infectious diseases. St Brieux (France), 12-14 June 2024.

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

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: 0

d) Internships (>1 month) 1

Type of technical training provided (a, b, c or	Country of origin of the expert(s) provided	No. participants from the corresponding

d)	with training	country
A	TUNISIA	1
D	BRAZIL	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	Accreditation by COFRAC	Attestation 1-7341_Rév01.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
CFT	COFRAC
ELISA	COFRAC

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

Yes

B. mallei and B. pseudomallei are regulated under French legislation by the ANSM (Agence Nationale de Sécurité du Médicament et des Produits de Santé) as highly pathogenic microorganisms and toxins. This classification imposes strict biosafety and biosecurity measures, including regulatory inspections and mandatory compliance with containment protocols. All laboratory work involving these pathogens must be conducted in a Biosafety Level 3 (BSL-3) confined area, ensuring controlled access and adherence to rigorous decontamination procedures. Furthermore, activities within the BSL-3 facility must be carried out under the supervision of a designated risk manager, who oversees compliance with safety protocols, personnel training, and emergency response procedures.

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?

Yes

Title of event	Date	location	Role (speaker, presenting poster, short communications)	Title of the work presented
Workshops organised by WOAH Tokyo office	2024-09-16	Tokyo (visio conference)	speaker	Glanders: global importance for trade, recommended diagnostic tests (WOAH Manual), main challenges and novel diagnostic tests

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
Glanders	European Workshop on Glanders + International Equine infectious diseases conference (IEIDC) , Deauville (France) 30/09-04/10	400	all WOAH ref lab participated

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?

Yes

Purpose of the proficiency test:	Role of your Reference Laboratory (organiser/ participant)	No. participating Laboratories	Participating WOAH Ref. Labs/ organising WOAH Ref Lab
Assessment of technical competence of laboratories in detection of B. mallei antibodies by CFT	organiser	2	WOAH ref lab from Germany (FLI) participated
Assessment of technical competence of laboratories in detection of B. mallei and B. pseudomallei by real-time PCR	organiser	2	WOAH ref lab from Germany (FLI) participated

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?

Yes

Purpose for inter-laboratory test comparisons1	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
				ARGENTINA, AUSTRIA, BELGIUM, CROATIA, CZECH

Assessment of technical competence of laboratories in detection of B. mallei antibodies by CFT	Organiser	24	CFT	REPUBLIC, DENMARK, ESTONIA, FINLAND, FRANCE, GERMANY, IRELAND, ITALY, LATVIA, LITHUANIA, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, THAILAND, THE NETHERLANDS, UNITED KINGDOM,
Assessment of technical competence of laboratories in detection of B. mallei and B. pseudomallei by real-time PCR	Organiser	16	PCR	AUSTRIA, BELGIUM, CROATIA, CZECH REPUBLIC, FRANCE, GERMANY, HUNGARY, IRELAND, ITALY, POLAND, PORTUGAL, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, THE NETHERLANDS,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Ongoing revision of the Glanders/Melioidosis manual

Our laboratory is also European reference laboratory for Glanders

One Glanders workshop organised in October 2024 in Deauville, France for European reference laboratories (+Argentina)