

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 30 mai 2024 18:34

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Rift Valley fever
Address of laboratory:	CIRAD, Campus International de Baillarguet, TA 15/E, 34398 Montpellier Cedex 05, France
Tel.:	+33467593834
E-mail address:	catherine.cetre-sossah@cirad.fr
Website:	www.cirad.fr
Name (including Title) of Head of Laboratory (Responsible Official):	Dr Catherine CETRE-SOSSAH
Name (including Title and Position) of WOAH Reference Expert:	Dr Catherine CETRE-SOSSAH
Which of the following defines your laboratory? Check all that apply:	Research agency

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	
		Nationally	Internationally
Indirect diagnostic tests			
ELISA IgG		633	3
ELISA IgM		633	1
Direct diagnostic tests			
RTqPCR		18	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
RVF positive Goat serum	ELISA IgG	CIRAD/ISRA-LNERV Dakar Senegal	0	10 ml of 1 ml	1	SENEGAL,

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

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

Yes

NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
ID Rapid® Rift Valley Fever Antigen	https://www.innovative-diagnostics.com/produit/id-rapid-rift-valley-fever-antigen/ Cêtre-Sossah et al., 2019. https://doi.org/10.1371/journal.pntd.0007700

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOAHS Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAHS 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
SENEGAL	2023-02-06	ELISA IgG	1	1
SOUTH AFRICA	2023-04-24	ELISA IgM and ELISA IgG	12	12
ITALY	2023-10-25	ELISA IgG and RTqPCR	15	15

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

Yes

NAME OF THE WOAHS MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
CHAD	Possibility of collaboration with IRED for capacity building in animal disease diagnostic	Email exchanges

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAHS MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
Epidemiological and socio-economic status of Rift Valley fever (RVF) in Burundi	3 years	Investigate the socio-economic status of Rift Valley fever (RVF) in Burundi	LNV, Bujumbura, Burundi	BURUNDI
Support LNERV to maintain serology accreditation	Upon request since 2023	Support LNERV to maintain serology accreditation ISO17025 obtained through a training programme	ISRA-LNERV	SENEGAL
Support LCV to improve RVF diagnostic capacities	3 years	Support LCV to improve RVF diagnostic capacities	LCV	MALI
RFOROA One health	1 year	Diagnostic support	IRED (Chad), Smithsonian Institute (USA)	CHAD

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

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:

Some epidemiological data from Burundi have been collected by the local veterinarian services, they all belong to Burundi and are not yet internationally available, they will be available when the publication will be accepted

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:

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1. Cetre-Sossah C, Cyrille Lebon, Patrick Rabarison, Eric Cardinale, Patrick Mavingui, Celestine Atyame. Evidence of Eretmapodites subsimplicipes and Aedes albopictus as competent vectors for Rift Valley fever virus transmission in Mayotte. *Acta Tropica* 239 (2023) 106835. <https://doi.org/10.1016/j.actatropica.2023.106835>
2. Jordan Quellec, Aurélie Pédarrieu, Camille Piro-Mégy, Jonathan Barthelemy, Yannick Simonin, Sara Salinas & Catherine Cêtre-Sossah (2023) Rift Valley fever virus modulates apoptosis and immune response during infection of human astrocytes, *Emerging Microbes & Infections*, 12:1, 2207672, DOI: 10.1080/22221751.2023.2207672
3. Tinto B., Jordan Quellec, Catherine Cetre-Sossah, Amadou Dicko, Sara Salinas, Yannick Simonin, Rift Valley fever in West Africa: A zoonotic disease with multiple socio-economic consequences. *One Health* 17 (2023) 100583. <https://doi.org/10.1016/j.onehlt.2023.100583>
4. Ciss M, Giacomini A, Nahé Diouf M, Delabouglise A, Mesdour A, Garcia Garcia K, Muñoz F, Cardinale E, Lo M, Gaye AM, Fall M, Ndiaye K, Gueye Fall A, Cetre-Sossah C and A Apolloni. Description of the Cattle and Small Ruminants Trade Network in Senegal and Implication for the Surveillance of Animal Diseases <https://doi.org/10.1155/2023/1880493>

b) International conferences:

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- Quellec et al. 8th European Congress of Virology 2023, Gdansk, Poland. 4-7 May, 2023. Rift Valley fever modulates apoptosis and immune response during infection of human astrocytes
- Cêtre-Sossah et al. 2023. Symposium International sur les Maladies Zoonotiques Emergentes et Ré-émergentes : focus sur les Fièvres Hémorragiques Virales en Afrique (Étiologie- Épidémiologie- Surveillance et Prévention) dans le cadre du programme Ebosursy, Mbour (Sénégal), 9- 11 octobre 2023 Thème 4 : Valorisation des résultats de recherche et des innovations dans les systèmes nationaux de surveillance, de communications et de sensibilisation sur les MZER intitulée Renforcement des capacités de diagnostic d'une fièvre hémorragique virale, la fièvre de la Vallée du Rift (FVR), dans la sous-région Afrique de l'Ouest: exemple du jumelage OMSA entre le LNERV-ISRA, Sénégal et le CIRAD-UMR-ASTRE, France jumelage.

c) National conferences:

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- Quellec et al. Journées Françaises de Virologie, Paris, France. 16- 18 April 2023. Le virus de la fièvre de la Vallée du Rift (RVFV) module l'apoptose et la réponse immunitaire lors de l'infection d'astrocytes humains
- Quellec et al. Le printemps de Baillarguet, Montpellier, France. 26 Juin 2023. Le virus de la Fièvre de la Vallée du Rift module l'apoptose et la réponse immunitaire au cours de l'infection des astrocytes humains

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 WOAHA Members?

Yes

a) Technical visit : 0

b) Seminars : 2

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	SENEGAL	5
B	GABON	2

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025v2017	COFRAC	2024_COFRAC_Portée Détaillée.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
ELISA, PCR	COFRAC

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

Yes

All efforts are being made to work under biosafety level 3 containment facilities in Montpellier and under biosafety level 2 containment under dedicated safe hood cabinet wherever it is available. Personal equipment (dedicated laboratory coat, gloves, masks, glasses) are being used. Senegalese and French rules are followed up. Transport of biological materials considered as infectious substances by air are done according to the international regulation's guidelines developed by the national regulations, ICAO/IATA/CITES* regulations, through an air carrier company from ISRA-LNERV to CIRAD (Montpellier, France) and vice versa. The reference laboratory is used to receive and send infectious animal substances by air and has persons dedicated to the management of these shipments that are fully aware of the relevant regulations and of the proper process (identification, categorization, packaging, marking, labelling, documenting and refrigerating). When the candidate laboratory will intend to send infectious animal samples, contact will be made with the person in charge to make the shipment and written procedures and assistance will be given. Briefly, the IATA dangerous goods regulation indicate for the packaging instruction 602 for the shipment to arrive in good condition and to present no hazard to persons or to animals is the following: the package must include • A inner packaging comprising, watertight primary receptacle, a watertight secondary packaging • A list of the content placed between the secondary and the outer packaging • A rigid outer packaging of adequate strength for its capacity, weight and intended use. A special packaging Division 6.2 Infectious Substances must be used and assigned • UN2814 or UN2900 and the words of "Suspected Category A Infectious substances" must be shown

TOR9: SCIENTIFIC MEETINGS

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

No

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

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
Symposium International sur les Maladies Zoonotiques Emergentes et Ré-émergentes : focus sur les Fièvres Hémorragiques Virales en Afrique (Étiologie- Epidémiologie- Surveillance et Prévention) dans le cadre du programme Ebosursy	2023-10-09	Mbour, Senegal	Speaker in the theme 4 : Valorisation des résultats de recherche et des innovations dans les systèmes nationaux de surveillance, de communications et de sensibilisation sur les MZER	Renforcement des capacités de diagnostic d'une fièvre hémorragique virale, la fièvre de la Vallée du Rift (FVR), dans la sous-région Afrique de l'Ouest: exemple du jumelage OMSA entre le LNERV-ISRA, Sénégal et le CIRAD-UMR-ASTRE, France jumelage.

TOR10: NETWORK WITH WOA?H REFERENCE LABORATORIES

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

Yes

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

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

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

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOA REF. LABS/ ORGANISING WOA REF. LAB.
Serology IgG	Organiser	15	CIRAD, France
Molecular Biology RTqPCR	Organiser	15	CIRAD, France
Serology IgG	Participant	6	ARC-OVI, South Africa
Serology IgM	Participant	6	ARC-OVI, South Africa

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

Yes

TITLE OF THE PROJECT OR CONTRACT	SCOPE	NAME(S) OF RELEVANT WOA REFERENCE LABORATORIES
Update of the Code and Terrestrial Manual	Review and update of the WOA Code and Terrestrial Manual	ARC-OVI

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the Test	WOAH Member Countries
Serology IgG	Organizer	15	Serology IgG	ALGERIA, BOTSWANA, BURUNDI, FRANCE, GERMANY, MADAGASCAR, MAURITANIA, MOROCCO, MOZAMBIQUE, SENEGAL, SOUTH AFRICA, THE NETHERLANDS, TUNISIA,
Molecular Biology PCR	Organizer	11	Molecular Biology PCR	ALGERIA, BOTSWANA, FRANCE, GERMANY, MADAGASCAR, MAURITANIA, MOROCCO, MOZAMBIQUE, SENEGAL, SOUTH AFRICA, THE NETHERLANDS,
Serology IgG and RTqPCR	Participant	15	Serology IgG and RTqPCR	AUSTRIA, BELGIUM, CYPRUS, FRANCE, GERMANY, HUNGARY, IRELAND, ITALY, LATVIA, LITHUANIA, MALTA, POLAND, PORTUGAL, SPAIN, SWITZERLAND, THE NETHERLANDS,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

The organization of inter-laboratory tests is essential for all countries where the disease is circulating or at risk of circulation. This action should be consolidated by specific funding from WOA, which would ensure continuity in carrying out these tests on a regular, long-term basis. Indeed, setting up panels requires a great deal of preparation time, and includes precious reagents from infected areas. All in all, this allows for many useful technical exchanges, and enables us to build up a network of interesting and key partners in the event of a health crisis.