

OIE Reference Laboratory Reports Activities

Activities in 2021

This report has been submitted : 2022-01-18 21:51:56

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Heartwater
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Name (including Title) of Head of Laboratory (Responsible Official):	Nonito Pages (responsable du laboratoire de Guadeloupe)
Name (including Title and Position) of OIE Reference Expert:	Valérie Rodrigues, ingénieure de recherche, CIRAD Guadeloupe.
Which of the following defines your laboratory? Check all that apply:	Other: académique

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
ELISA Map1B	OUI	0	80
Direct diagnostic tests		Nationally	Internationally

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?

No

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
Témoin positif pour PCR Ehrlichia ruminantium	qPCR Sol1	ADN titré d'Ehrlichia ruminantium	0	100µl	1	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input 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?

Yes

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

No

Name of the new test or diagnostic method or vaccine developed	Description and References (Publication, website, etc.)
qPCR sol1 (gene pCS20 d'Ehrlichia ruminantium) sur matrice sang, sang conservé en ethanol et tique	Cangi N, Pinarello V, Bournez L, Lefrançois T, Albina E, Neves L, Vachiéry N. Efficient high-throughput molecular method to detect Ehrlichia ruminantium in ticks. Parasit Vectors. 2017 Nov 13;10(1):566. doi: 10.1186/s13071-017-2490-0. PMID: 29132402; PMCID: PMC5683323.
Detection serologique d'anticorps anti Map1B pan-espèces	en attente de publication

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?

No

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
MADAGASCAR	Mise en place de la qPCR Sol1 dans le laboratoire de l'Institut Pasteur de Madagascar	echanges de mails: protocoles, discussions

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
Multivalent vaccine against CCPP and Heartwater in Africa. Financement CRDI	42 mois	développement d'un vaccin multivalent contre 2 maladies des petits ruminants: la pleuropneumonie contagieuse caprine et la cowdriose	CIRDES (centre international pour la recherche et le développement sur l'élevage en région sub-humide)	BURKINA FASO
Multivalent vaccine against CCPP and Heartwater in Africa. Financement CRDI	42 mois	développement d'un vaccin multivalent contre 2 maladies des petits ruminants: la pleuropneumonie contagieuse caprine et la cowdriose	NoCSL (National center of specialization on livestock)	NIGER
Multivalent vaccine against CCPP and Heartwater in Africa. Financement CRDI	42 mois	développement d'un vaccin multivalent contre 2 maladies des petits ruminants: la pleuropneumonie contagieuse caprine et la cowdriose	EPAC (Ecole Polytechnique d'Abomey Calavi)	BENIN
Multivalent vaccine against CCPP and Heartwater in Africa. Financement CRDI	42 mois	développement d'un vaccin multivalent contre 2 maladies des petits ruminants: la pleuropneumonie contagieuse caprine et la cowdriose	KALRO (Kenyan agricultural livestock research organization)	KENYA
Multivalent vaccine against CCPP and Heartwater in Africa. Financement CRDI	42 mois	développement d'un vaccin multivalent contre 2 maladies des petits ruminants: la pleuropneumonie contagieuse caprine et la cowdriose	ILRI (International livestock research institute)	KENYA
Multivalent vaccine against Heartwater in Africa - Financement UE Leap Agri	48 mois	developpement d'un vaccin multivalent local contre la cowdriose en Afrique	CIRDES (centre international pour la recherche et le développement sur l'élevage en région sub-humide) et INERA (Institut National de l'environnement et de recherches agricoles)	BURKINA FASO
Multivalent vaccine against Heartwater in Africa - Financement UE Leap Agri	48 mois	developpement d'un vaccin multivalent local contre la cowdriose en Afrique	Arc-OVI (Onderstepoort Veterinary Institute) et Université de Pretoria	SOUTH AFRICA

Multivalent vaccine against Heartwater in Africa - Financement UE Leap Agri	48 mois	developpement d'un vaccin multivalent local contre la cowdriose en Afrique	IBET (Institut de Biologie Expérimentale et Technologique)	PORTUGAL
Assessing the risk of Arthropod-Borne Disease in the Caribbean and the Americas (RACE Risk of Arthropod-borne diseases in the Caribbean)	36 mois	comprendre l'épidémiologie de la Cowdriose et d'évaluer le risque d'expansion de cette maladie et de son vecteur, dans la région des Caraïbes	USDA-ARS (Animal Research Unit (Pullman-Washington))	UNITED STATES OF AMERICA
Development of strategies to control tick-borne bacterial pathogens of livestock	48 mois	mise en place de gorgements artificiels des tiques Amblyomma	USDA-ARS (Animal Research Unit (Pullman-Washington))	UNITED STATES OF AMERICA

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?

No

If the answer is no, please provide a brief explanation of the situation:

Pas de collecte actuellement; des projets vont démarrer ou sont en attente de financement pour réaliser ce type d'études

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

No

If the answer is no, please provide a brief explanation of the situation:

Pas de données récentes à traiter

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: 3

Charles R.A. , Bermúdez S. E., Banović P., Alvarez D. O., Díaz-Sánchez A. A., Corona-González B., Etter E. M. C., Rodríguez Gonzalez I., Ghafar A., Jabbar A., Moutailler S., Cabezas-Cruz A. 2021 Ticks and tick-borne diseases in Central America and the Caribbean: A One Health Perspective. Pathogens 10, 1273.

<https://doi.org/10.3390/pathogens10101273>

Noroy C., and Meyer D.F. (2021) The super repertoire of type IV effectors in the pangenome of Ehrlichia spp.

provides insights into host-specificity and pathogenesis. PLOS Computational Biology, 17(7) : e1008788.
<https://doi.org/10.1371/journal.pcbi.1008788>

Pinarello V., Bencurova E., Marcelino I., Gros O., Puech C., Bhide M., Vachery V., and Meyer D.F. (2021) Ehrlichia ruminantium uses its transmembrane protein Ape to adhere to host bovine aortic endothelial cells.
 bioRxiv, 06.15.447525 ; doi : <https://doi.org/10.1101/2021.06.15.447525>

b) International conferences: 0

c) National conferences: 0

d) Other:

(Provide website address or link to appropriate information) 2

Couverture du journal : July '21 issue of PLOS Computational Biology PLoS
<https://dx.plos.org/10.1371/image.pcbi.v17.i07>

Brevet n° 11,065,321 aux États-Unis du 21 septembre 2018 accordé le 20 juillet 2021 Pour " LIVE ATTENUATED BACTERIAL STRAIN AND ITS USE AS A VACCINE" Au nom de Centre De Coopération Internationale En Recherche Agronomique Pour Le Développement (CIRAD) - Inventeurs : Damien Meyer (Guadeloupe, France), Jonathan Gordon (Leuven, Belgique), Nathalie Vachery (Saint Mathieu de Treviers, France) et Dominique Martinez (Sauve, France)

Soutenance de thèse de Stéphanie Silou (Encadrant: D.Meyer et co-encadrante V.Rodrigues - Cirad Guadeloupe) :
 Etude de la vie intracellulaire d'Ehrlichia ruminantium, bactérie pathogène responsable de la cowdriose :
 autophagie et effecteurs du système de sécrétion de type IV, soutenue en décembre 2021

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?

No

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?

No

Explain Quality Management System in adoption process or currently in place
Système de management Qualité/Sécurité/Environnement ISO 17025. Le laboratoire était accrédité jusqu'en août 2019 et a demandé une suspension. L'audit de reprise de cette accréditation a été reporté 3 fois par le COFRAC en raison de la crise sanitaire et sociale (conditions de voyage en Guadeloupe)

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
ELISA Map1B	COFRAC (suspendu depuis 08/19)
PCR nichée pCS20	COFRAC (suspendu depuis 08/19)
qPCR Sol1	COFRAC depuis oct 21, en attente de confirmation par audit

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?

No

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?

No

25. Additional comments regarding your report:

Peu d'activité de référence pendant la période 2021 car beaucoup de retard pris dans les activités à cause de la crise sanitaire qui touche tous les pays partenaires.
Des collaborations sont en cours de renforcement dans la zone Caraïbe grâce au réseau Caribvet et dans l'océan indien grâce au laboratoire du Cirad à la Réunion.