

OIE Reference Laboratory Reports Activities

Activities in 2020

This report has been submitted : 2021-01-07 16:35:04

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Rabies
Address of laboratory:	Domaine de Pixérécourt Technopôle Agricole et Vétérinaire - Bâtiment H CS 40009 54220 MALZEVILLE CEDEX FRANCE
Tel.:	+33 (0)3 83 29 89 50
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E-mail address:	florence.cliquet@anses.fr
Website:	https://eurl-rabies.anses.fr/en/minisite/rabies/european-union-reference-laboratory-eurl-rabies ; https://www.anses.fr/fr
Name (including Title) of Head of Laboratory (Responsible Official):	Elodie Monchatre-Leroy
Name (including Title and Position) of OIE Reference Expert:	Florence Cliquet
Which of the following defines your laboratory? Check all that apply:	Governmental

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			
Fluorescent antibody virus neutralisation test (FAVN test)	Yes	513	218
Potency test of inactivated animal vaccines	Yes	10	15
ELISA (serology)	No	0	444
Direct diagnostic tests			
Fluorescent antibody test (FAT)	Yes	510	8
Cell culture inoculation test (RTCIT)	Yes	0	3
Real time RT-PCR	Yes	73	30
Viral RNA (Real time RT-PCR and RT PCR, N and G genes)	Yes	61	23
G gene and N gene Sequencing	Yes	11	5
Rabies virus titration (titration of oral vaccines)	Yes	0	28

**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?

Yes

NOTE: Currently, there are 22 laboratories that produce Standard Reference Reagents officially recognised by the OIE for 19 diseases/pathogens. Please click the following link to the list of OIE-approved International Standard Sera: <http://www.oie.int/en/our-scientific-expertise/veterinary-products/reference-reagents/>. If the reagent is not listed on this page, it is NOT considered OIE-approved. The next two questions allow you to indicate non-OIE-approved diagnostic reagents.

OIE-approved SRR producing laboratory - Select your lab from list:

Disease	Test	Available from
Rabies	Fluorescent antibody virus neutralisation	Dr Florence Cliquet Anses Nancy, Laboratoire d'études sur la rage et la pathologie des animaux sauvages, Domaine de Pixérécourt, BP 9, 54220 Malzéville, France Tel: 33 (0)3 83.29.89.50 Fax: 33 (0)3 83.29.89.58 florence.cliquet@anses.fr

Type of reagent available	Related diagnostic test	Produced/ Supply imported	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	Name of recipient OIE Member Countries
OIE	Seroneutralisation	Produced	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input type="radio"/> <10mL <input type="radio"/> 10-100mL <input checked="" type="radio"/> 100-500mL <input type="radio"/> >500mL	
The OIE serum was distributed in Chili, Croatia, France, Germany, Italy, Lithuania, Malaysia, Mexico, Morocco, Russia, South Africa, South Korea, Spain, Taiwan, Thailand, Turkey and UK.	Seroneutralisation	Produced	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input type="radio"/> <10mL <input type="radio"/> 10-100mL <input checked="" type="radio"/> 100-500mL <input type="radio"/> >500mL	

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
Naive reference serum	Seroneutralisation	Produced	72	495	16	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Challenge virus standard (CVS)	Seroneutralisation	Produced	0	5	2	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" 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?

No

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

No

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?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
IRELAND	January	0	1
IRELAND	January	0	1
LUXEMBOURG	June	1	0
LUXEMBOURG	June	1	0

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
JAPAN	Rabies surveillance network in France and in European countries	Visit of two experts from Japan at the Laboratory
GUINEA	Rabies diagnosis protocols and organisation of the laboratory rooms	Virtual meeting and sending of SOPs for the different diagnosis methods recommended by the OIE

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
OIE twinning project	3 years	The main purpose is to improve laboratory capacity for rabies diagnosis and serology and for rabies surveillance	Animal and Health Research Institute of Taipei (Taiwan)	CHINESE TAIPEI
OIE twinning project	3 years	The main purpose is to improve laboratory capacity for rabies diagnosis and serology and for rabies surveillance	Pasteur Institute of Tunis (Tunisia)	TUNISIA

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?

Yes

If the answer is yes, please provide details of the data collected:
Data of passive surveillance of rabies collected by the EU National Reference Laboratories

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

Yes

If the answer is yes, please provide details of the data collected:
Data of passive surveillance of rabies collected by the EU National Reference Laboratories

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: 4

1/ Evaluation of the Worldwide Occurrence of Rabies in Dogs and Cats Using a Simple and Homogenous Framework for Quantitative Risk Assessments of Rabies Reintroduction in Disease-Free Areas through Pet Movements.

Crozet G, Rivière J, Canini L, Cliquet F, Robardet E, Dufour B.

Vet Sci. 2020 Dec 18;7(4):207. doi: 10.3390/vetsci7040207. PMID: 33353001.

2/ Role of Oral Rabies Vaccines in the Elimination of Dog-Mediated Human Rabies Deaths.

Wallace RM, Cliquet F, Fehlner-Gardiner C, Fooks AR, Sabeta CT, Setién AA, Tu C, Vuta V, Yakobson B, Yang DK, Brückner G, Freuling CM, Knopf L, Metlin A, Pozzetti P, Suseno PP, Shadomy SV, Torres G, Vigilato MAN, Abela-Ridder B, Müller T.

Emerg Infect Dis. 2020 Dec;26(12):1-9. doi: 10.3201/eid2612.201266. PMID: 33219786.

3/ Viral Metagenomic Profiling of Croatian Bat Population Reveals Sample and Habitat Dependent Diversity. Šimić I, Zorec TM, Lojkić I, Krešić N, Poljak M, Cliquet F, Picard-Meyer E, Wasniewski M, Zrnčić V, Čukušić A, Bedeković T.

Viruses. 2020 Aug 14;12(8):891. doi: 10.3390/v12080891. PMID: 32824037.

4/ Further Evidence of Inadequate Quality in Lateral Flow Devices Commercially Offered for the Diagnosis of Rabies.

Klein A, Fahrion A, Finke S, Eyngor M, Novak S, Jakobson B, Ngoepe E, Phahladira B, Sabeta C, De Benedictis P, Gourlaouen M, Orciari LA, Yager PA, Gigante CM, Knowles MK, Fehlner-Gardiner C, Servat A, Cliquet F, Marston D, McElhinney LM, Johnson T, Fooks AR, Müller T, Freuling CM.

Trop Med Infect Dis. 2020 Jan 18;5(1):13. doi: 10.3390/tropicalmed5010013. PMID: 31963635.

b) International conferences: 3

1/ How to integrate OIE twinning into regional activities?

North African OIE Regional meeting for strategy to fight on Rabies (Webinar), 10 November 2020.

F. Cliquet.

2/ OIE twinning project for rabies between ANSES and the Pasteur Institute of Tunis.

REMESA Round Table on the way forward towards ZeroBy30 goal (Webinar), 28 September 2020.

F. Cliquet and M. Handous.

3/ Techniques/méthodes de diagnostic de la rage et surveillance chez l'animal.

Webinaire sur la rage en Afrique pour commémorer la Journée mondiale contre la rage 2020 «Partager nos progrès sur l'élimination de la rage en Afrique».

F. Cliquet.

c) National conferences: 1

1/ Surveillance de la rage des chauves-souris en France Métropolitaine & Actualités. 1ères Rencontres Chiroptères Nouvelle Aquitaine (Visioconférence), 05 November 2020.

E. Picard-Meyer, E. Robardet, N. Stroucken, A. Servat, F. Cliquet.

d) Other:

(Provide website address or link to appropriate information) 3

1/ Bilan de la surveillance des infections à Lyssavirus chez les chiroptères en France métropolitaine: 9 cas détectés en 2019, report September 2020.

Servat, A., Picard-Meyer, E., Stroucken N., Cliquet F.

2/ Rabies serology proficiency testing report, December 2020.

Wasniewski, M., Monchatre-Leroy E.

3/ Review of the analysis related to rabies diagnosis and follow up of oral vaccination performed in NRLS in 2019 Report of the rabies EURL, August 2020.

Robardet, E., Cliquet, F.

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?

Yes

a) Technical visits: 2

b) Seminars: 0

c) Hands-on training courses: 2

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
a, c	Ouganda	1
a, c	Morocco	1

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?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO 17025 (COFRAC)	Attestation 1-2253.pdf
ISO 17043 (COFRAC)	Attestation_1-6284.pdf
ISO 17025 (MJA)	Audit Attestation_108_MJA0815.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Rabies virus seroneutralisation test (FAVN test)	COFRAC (since February 2008)
Rabies diagnosis (FAT)	COFRAC (since October 2012)
Rabies diagnosis (RTCIT)	COFRAC (since October 2012)
Proficiency test (organisor) for rabies serology	COFRAC (since May 2017)
Potency test of rabies inactivated vaccines for veterina y and human use (challenge test and serological test)	EDQM (since March 2008)
Potency test of rabies vaccines (live, oral) for foxes and raccoon dogs	EDQM (since January 2012)
Rabies Real time RT-PCR (SybrGreen)	COFRAC (since March 2020)
Rabies Conventional RT-PCR	COFRAC (since March 2020)

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?

Yes

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?

Yes

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/ participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
Proficiency test for rabies serology (FAVN test and RFFIT)	Organiser	86	10 laboratories

¹ validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

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?

No

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?

Yes

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

Purpose for inter-laboratory test comparisons ¹	No. participating laboratories	Region(s) of participating OIE Member Countries
Proficiency test for rabies serology (FAVN test and RFFIT)	86	<input checked="" type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input checked="" type="checkbox"/> Middle East

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: