

OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-14 16:27:25

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Leptospirosis
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Website:	
Name (including Title) of Head of Laboratory (Responsible Official):	Marga G.A. Goris PhD, Head OIE and National Collaborating Centre for Reference and Research on Leptospirosis, Academic Medical Center, Department of Medical Microbiology
Name (including Title and Position) of OIE Reference Expert:	Marga Goris
Which of the following defines your laboratory? Check all that apply:	Academic

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
Microscopic Agglutination Test	yes	722	172
IgM ELISA	no	1072	
Ig Total ELISA	no	1072	
Direct diagnostic tests		Nationally	Internationally
Culture	yes	703	
PCR	yes	1085	112

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
Rabbit Reference Sera	MAT ELISA IFAT	produced	2	455	21	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Monoclonal Antibodie	MAT ELISA IFAT	produced	3	12	5	<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
Leptospira strains	MAT	provide	2	405	24	<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
EMJH culture media	MAT Culture	produced	1	44	5	<input 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.)
PCR	submitted for 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?

No

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?

No

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:
Prevalence of Leptospira Infection in Rodents from Bangladesh. Leptospira infection and shedding in cats in Thailand. Leptospira infection and shedding in dogs in Thailand. Leptospira prevalence in cats in Spain Leptospira prevalence in cats in Italy

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:
scientific publication

**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: 6

Ferreira AS, Ahmed A, Rocha T, Vieira ML, Paiva-Cardoso MDN, Mesquita JR, van der Linden H, Goris M, Thompson G, Hartskeerl RA, Inácio J. Genetic diversity of pathogenic leptospires from wild, domestic and captive host species in Portugal. *Transbound Emerg Dis*. 2019 Nov 1. doi: 10.1111/tbed.13409. [Epub ahead of print] PubMed PMID: 31677243.

Yang B, de Vries SG, Ahmed A, Visser BJ, Nagel IM, Spijker R, Grobusch MP, Hartskeerl RA, Goris MG, Leeflang MM. Nucleic acid and antigen detection tests for leptospirosis. *Cochrane Database Syst Rev*. 2019 Aug 1;8:CD011871. doi:10.1002/14651858.CD011871.pub2. PubMed PMID: 31425612; PubMed Central PMCID: PMC6699653.

Krijger IM, Ahmed AAA, Goris MGA, Groot Koerkamp PWG, Meerburg BG. Prevalence of *Leptospira* Infection in Rodents from Bangladesh. *Int J Environ Res Public Health*. 2019 Jun 14;16(12). pii: E2113. doi: 10.3390/ijerph16122113. PubMed PMID: 31207905; PubMed Central PMCID: PMC6616592.

Sprißler F, Jongwattanapisan P, Luengyosluechakul S, Pusoonthornthum R, Prapasarakul N, Kurilung A, Goris M, Ahmed A, Reese S, Bergmann M, Dorsch R, Klaasen HLBM, Hartmann K. *Leptospira* infection and shedding in cats in Thailand. *Transbound Emerg Dis*. 2019 Mar;66(2):948-956. doi: 10.1111/tbed.13110. Epub 2019 Jan 7. PubMed PMID: 30580489.

Kerstin Altheimer, Prapaporn Jongwattanapisan, Supol Luengyosluechakul, Rosama Pusoonthornthum, Nuvee Prapasarakul, Alongkorn Kurilung, Els M. Broens, Jaap A. Wagenaar, Marga G. A. Goris, Ahmed A. Ahmed, Nikola Pantchev, Sven Reese, Katrin Hartmann. *Leptospira* infection and shedding in dogs in Thailand. *BMC Veterinary Research* "in press"

Ramli SR, Moreira GMSG, Zantow J, Goris MGA, Nguyen VK, Novoselova N, et al. (2019) Discovery of *Leptospira* spp. seroreactive peptides using ORFeome phage display. *PLoS Negl Trop Dis* 13(1): e0007131. <https://doi.org/10.1371/journal.pntd.0007131>

b) International conferences: 3

Murillo Andrea, Cuenca Rafaela, Mesalles Montserrat, Saco Yolanda, Peña Raquel, Goris Marga. Electrophoretic analysis of urinary proteins in cats with subclinical leptospirosis. Joint congress of veterinary pathology and veterinary clinical pathology. 25-28 September 2019 Arnhem, the Netherlands.

G. Sips, S. Niemansburg, H. van der Linden, A. Ahmed, M. Goris, E. Fanoy. Source tracing for leptospirosis in a community garden: a One Health approach. *ASM Microbe*, June 2019, San Francisco, USA

Farida Dwi Handayani, Lisa Novipuspitasari, Ristiyanto Ristiyanto, Ahmed A. Ahmed, M. Hussein Gasem. Detection of Pathogenic *Leptospira* spp in Sputum of Patient with Leptospirosis Pulmonary Hemorrhagic Syndrome. ILS 2019 Scientific Meeting, 8 - 12 July, 2019, Vancouver, Canada

c) National conferences: 1

Invited speaker

MGA Goris: Leptospirose: meer dan de ziekte van Weil. 10 april 2019: Fokkersdag (hond en kat), opgezet door de Voorjaarsdagencommissie (KNMvD)

d) Other:

(Provide website address or link to appropriate information) 0

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: 0
 b) Seminars: 0
 c) Hands-on training courses: 1
 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
c	Italy	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)
NEN-EN-ISO 15189:2012	20180220 Certificaat ISO 15189 Engelse versie.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Microscopic Agglutination Test	Raad voor Accreditatie (RvA)
ELISA	Raad voor Accreditatie (RvA)
PCR	Raad voor Accreditatie (RvA)
Culture	Raad voor Accreditatie (RvA)
Typing	Raad voor Accreditatie (RvA)

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.
MAT proficiency testing	Organizer	88	all OIE Reference laboratories
MAT, ELISA and PCR interlaboratory study	Organizer and Participant	3	Institut Pasteur CNR de la Leptospirose Unité Biologie des spirochètes. Paris OIE and National Collaborating Centre for Reference and Research on Leptospirosis Department of Medical Microbiology Meibergdreef 39, 1105 AZ Amsterdam, the Netherlands Laboratoire Borrelia (CNRT/ NRZK) Boucle de Cydalise 16 2303 La Chaux-de-Fonds
PCR proficiency test	Organizer	3	none

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
MAT, ELISA and PCR interlaboratory comparison study	3	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
PCR proficiency test, national	3	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input 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:

