OIE Reference Laboratory Reports Activities

Activities in 2015

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Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Rabies
Address of laboratory:	Südufer 10 D-17493 Greifswald - Insel Riems GERMANY
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Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Thomas Müller
Name (including Title and Position) of OIE Reference Expert:	Dr. Thomas Müller
Which of the following defines your laboratory? Check all that apply:	Governmental Research

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	
Indirect diagnostic tests		Nationally	Internationally
RFFIT	Yes	79	1006
FAVN	Yes	1	14
Direct diagnostic tests		Nationally	Internationally
FAT	Yes	1066	130
RTCIT	Yes	229	62
Realtime PCR	No	5	380
Vaccine virus titration	No	8	20
Sequencing	No	15	35

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
Lyssaviruses	FAT, dRIT, RTCIT	Produced / provided	50 ml	4 ml	2	☒Africa ☒Americas ☐Asia and Pacific ☐Europe ☐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?

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?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)
Development of the “Blueprint for Rabies Surveillance"	ongoing	Provision of OIE/WHO, and expert opinion as well as expertise on rabies surveillance in an online blueprint format	Members of the Partners for Rabies Prevention and GARC
Arctic rabies in Greenland	3 years	Elucidation of Arctic rabies phylogeny in Greenland	Canadian Food Inspection Agency (CFIA), University of Alaska, USA Animal and Plant Health Agency (APHA), UK University of Liverpool, UK National Veterinary Institute, Denmark,
Dog rabies elimination in Namibia	3 years	Provision of OIE/WHO, and expert opinion as well as technical support on dog rabies elimination in northern communal areas in Namibia	OIE, Ministry of Agriculture, Water & Forestry, Namibia University of Pretoria, RSA
Experimental studies to control rabies kudus	2 years	Development of rabies vaccination strategies for kudus	Agra Limited, Namibia Ministry of Agriculture, Water & Forestry, Namibia
Dvelopment of a direct rapid immunohistochemical test for rabies diagnosis	3 years	alternative test for FAT	St. Ross University ANSES Nancy AHPA Weybridge Canadian Food Inspection Agency Onderstepoort Veterinary Institute
OIE Laboratory Twinning project German-Turkey	ongoing	Laboratory and epidemiological capacity building on rabies according to OIE standards	ETLIK Veterinary Research and Control Institute, Ankara, Turkey
Virus-host interaction of phylogroup II lyssaviruses	ongoing	Pathogenicity of Lagos bat virus in its reservoir host	University of Ghana AHPA Weybridge University of Cambridge, UK
Evaluation of commercial rapid immunochromatographic tests for the diagnosis of rabies	2 years	Comparisson of the sensitivity & specificity of rapid rabies diagnostic test	Onderstepoort Veterinary Institute

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

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

Yes

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: 8
Höper, D., Freuling, C., Müller, T., Hanke, D., von Messling, V., Duchow, K., Beer, M., Mettenleiter; T.C. 2015. High definition viral vaccine strain identity and stability testing using full-genome population data – the next generation of vaccine quality control. Vaccine Oct 26;33(43):5829-37. doi: 10.1016/j.vaccine.2015.08.091.

Müller, T.F., Schröder, R., Wysocki, P., Mettenleiter, T.C., Freuling, C.M. 2015 .Spatio-temporal Use of Oral Rabies Vaccines in Fox Rabies Elimination Programmes in Europe. PLoS Negl Trop Dis. Aug 17;9(8):e0003953. doi: 10.1371/journal.pntd.0003953.

Freuling, C.M., Binger, T., Beer, M., Adu-Sarkodie, Y., Schatz, J., Fischer, M., Hanke, D., Hoffmann, B., Höper, D., Mettenleiter, T.C., Oppong, S.K., Drosten, C., Müller, T. 2015. Lagos bat virus transmission in an Eidolon helvum bat colony, Ghana. Virus Res. Virus Research 210 (2015) 42–45. doi: 10.1016/j.virusres.2015.07.009.

Eckardt, M., C. Freuling, T. Müller, and T. Selhorst. 2015. Spatio-temporal analysis of fox rabies incidences in Germany 2005-2006. Geospat Health. 3;10(1):313.

Horton, D.L., L.M. McElhinney, C. Freuling, D.A. Marston, H. Goharrriz, E. Wise, N. Nowotny, T. Müller, and A.R. Fooks. 2015. Complex epidemiology of rabies in a culturally diverse region: phylogeography of Rabies virus in the Middle East. PLoS Negl Trop Dis. 2015 Mar 26;9(3):e0003569. doi: 10.1371/journal.pntd.0003569.

Ross, S., B. Wolters, B. Hoffmann, L. Geue, S. Viazov, N. Grüner, M. Roggendorf, and T. Müller. 2015. Instructive even after a decade: Complete results of initial virologicaldiagnostics and re-evaluation of molecular data in the German rabiesvirus “outbreak” caused by transplantations. J Med Micro boil, Oct;305(7):636-43. doi: 10.1016/j.ijmm.2015.08.013.

Hampson, K., L. Coudeville, T. Lembo, M. Burton Sambo, A. Kieffer, M. Attlan, J. Barrat, J. Blanton, D. Briggs, S. Cleaveland, P. Costa, C. Freuling, E. Hiby, L. Knopf, F. Leanes, A. Metlin, M.E. Miranda, T. Müller, L. Nel, S. Recuenco, C. Rupprecht, C. Schumacher, L. Taylor, M. Vigilato, J. Zinstaag, and J. Dushoff J. 2015. Estimating the Global Burden of Endemic Canine Rabies. PLoS Negl Trop Dis. Apr 16;9(4):e0003709. doi: 10.1371/journal.pntd.0003709

Hampson, K., L. Coudeville, T. Lembo, M. Burton Sambo, A. Kieffer, M. Attlan, J. Barrat, J. Blanton, D. Briggs, S. Cleaveland, P. Costa, C. Freuling, E. Hiby, L. Knopf, F. Leanes, A. Metlin, M.E. Miranda, T. Müller, L. Nel, S. Recuenco, C. Rupprecht, C. Schumacher, L. Taylor, M. Vigilato, J. Zinstaag, and J. Dushoff J. 2015. Correction: Estimating the global burden of endemic canine rabies. PLoS Negl Trop Dis. May 11;9(5):e0003786. doi: 10.1371/journal.pntd.0003786

b) International conferences: 8
3rd International One Health Congress, Amsterdam, The Netherlands, 15-18 March 2015

Annual Meeting of the Partners for Rabies Prevention, Wolfsberg, Switzerland, 5 -7 May 2015

1st Pan-African Rabies Control Network Meeting, Gauteng, South Africa, 9 – 11 June 2015

The International Conference on Emerging Infectious Diseases (ICEID), Atlanta, USA, 24-26 August 2015

XXVI. International Conference Rabies in the Americas, Fort Collins, USA, 4-8 October 2015

WHO Meeting on Human and Dog Rabies Vaccine and Immunoglobulins, Geneva, Switzerland, 12-13 October 2015

Technical Meeting of the WHO Collaborating Centres on Rabies, Geneva, Switzerland, 9 December 2015

OIE/WHO Conference on Global Elimination of Dog-Mediated Human Rabies -The Time Is Now, Geneva, Switzerland, 9-11 December 2015

c) National conferences: 2
DVG Conference on Animal Disease Control, Berlin, 27-28 May 2015

Lower Saxony Symposium on Animal Health, Oldenburg, 25-26 June 2015

d) Other:
(Provide website address or link to appropriate information) 2
http://www.who-rabies-bulletin.org/

www.fli.bund.de

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 certified according to an International Standard?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO 17025	Akkreditierungsurkunde_FLI_Riems-Jena-2015.pdf

16. Is your laboratory accredited by an international accreditation body?

No

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 2014, Chapter 1.1.3a)

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?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
OIE/WHO Conference on Global Elimination of Human Dog-Mediated Rabies	12/15	Geneva	speaker	PROGRESS IN RABIES ELIMINATION IN EUROPE

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.
FAT/RTCIT/RT-PCR proficiency test	participant	50	ANSES Nancy (organising Lab.)
Rabies serology proficiency testing	participant	> 80	ANSES Nancy (organising Lab.)

[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?

Yes

Title of the project or contract	Scope	Name(s) of relevant OIE Reference Laboratories
Arctic rabies in Greenland	Elucidation of Arctic rabies phylogeny in Greenland	OIE-RL, Canadian Food Inspection Agency (CFIA), OIE-RL, Animal and Plant Health Agency (APHA), UK
Development of a direct rapid immunohistochemical test for rabies diagnosis	alternative test for FAT	OIE-RL ANSES Nancy OIE-RL AHPA Weybridge OIE-RL Canadian Food Inspection Agency OIE-RL Onderstepoort Veterinary Institute
Virus-host interaction of phylogroup II lyssaviruses	Pathogenicity of Lagos bat virus in its reservoir host	OIE-RL AHPA Weybridge
Evaluation of commercial rapid immunochromatographic tests for the diagnosis of rabies	Comparison of the sensitivity & specificity of rapid rabies diagnostic test	OIE-RL Onderstepoort Veterinary Institute

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: