

OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-14 14:51:36

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Salmonellosis
Address of laboratory:	Diedersdorfer Weg 1 D-12277 Berlin GERMANY
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Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Istvan Szabo
Name (including Title and Position) of OIE Reference Expert:	Dr. Istvan Szabo
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		Nationally	Internationally
-	-	-	-
Direct diagnostic tests		Nationally	Internationally
Serotyping		4065	
PCR		90	
Real-time PCR		998	
Test Salmonella Vaccine Strains		86	
Next Generation Sequencing		734	

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?

No

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?

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:
Data collected in frame of the Salmonella monitoring and control programs in Germany is an important part of the national and international human outbreak investigations. It is also the base for the investigation of different epidemiological issues on the level of primary production.

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 collected in frame of the Salmonella monitoring and control programs in Germany is provided the EFSA for further analysis.

**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

Hadziabdic, S., Fischer, J., Borowiak, M., Malorny, B., Juraschek, K., Kaesbohrer, A., Guerra, B., Deneke, C., Gonzalez-Zorn, B., Szabo, I., 2019. The bla NDM-1 carrying IncA/C2 plasmid underlies structural alterations and co-integrate formation in vivo. *Antimicrobial Agents and Chemotherapy*. DOI:10.1128/AAC.00380-19

Meinen, A., Simon, S., Banerji, S., Szabo, I., Malorny, B., Borowiak, M., Hadziabdic, S., Becker, N., Luber, P., Lohr, D., Harms, C., Plenge-Bonig, A., Mellou, K., Mandilara, G., Mossong, J., Ragimbeau, C., Weicherding, P., Hau, P., Dedicova, D., Safarikova, L., Nair, S., Dallman, T.J., Larkin, L., McCormick, J., De Pinna, E., Severi, E., Kotila, S., Niskanen, T., Rizzi, V., Deserio, D., Flieger, A., Stark, K., 2019. Salmonellosis outbreak with novel *Salmonella enterica* subspecies *enterica* serotype (11:z41:e,n,z15) attributable to sesame products in five European countries, 2016 to 2017. *Eurosurveillance* 24. DOI:10.2807/1560-7917.Es.2019.24.36.1800543

Roschanski, N., Hadziabdic, S., Borowiak, M., Malorny, B., Tenhagen, B.-A., Projahn, M., Käsohrer, A., Guenther, S., Szabo, I., Roesler, U., Fischer, J., 2019. Detection of VIM-1-Producing *Enterobacter cloacae* and *Salmonella enterica* Serovars *Infantis* and *Goldcoast* at a Breeding Pig Farm in Germany in 2017 and Their Molecular Relationship to Former VIM-1-Producing *S. Infantis* Isolates in German Livestock Production. *mSphere* 4. DOI: 10.1128/mSphere.00089-19

Borowiak, M., Fischer, J., Szabo, I., 2019. Next-Generation Sequencing im Nationalen Referenzlabor für Samonellen, *Rundschau für Fleischhygiene und Lebensmittelüberwachung, RFL*, pp. 52-54.

Uelze, L., Borowiak, M., Deneke, C., Jacobs, C., Szabo, I., Tausch, S.H., Malorny, B., 2019. First complete genome sequence and comparative analysis of *Salmonella enterica* subsp. *diarizonae* serovar 61:k:1,5,(7) indicates host adaptation traits to sheep. *Gut Pathogens* 11. DOI:10.1186/s13099-019-0330-9

Borowiak, M., Deneke, C., Fischer, J., Szabo, I., Malorny, B. 2019. Characterization of mcr-5-harboring *Salmonella enterica* subsp. *enterica* serovar *Typhimurium* isolates from animal and food origin in Germany. *Antimicrobial Agents and Chemotherapy* 63, pii: e00063-00019. DOI: doi:10.1128/AAC.00063-19

b) International conferences: 3

Szabo, I. *Salmonella Agona* in animal feed in Germany 2017 - 2018. *EURL-Salmonella Workshop 2019 Amersfoort, The Netherlands*. 29. - 29. Mai 2019

Fischer, J., Hadziabdic, S., Borowiak, M., Malorny, B., Bloch, A., Juraschek, K., Käsohrer, A., Guerra, B., Szabo, I., 2019. Structural alterations of a blaNDM-1 carrying IncA/C2 plasmid and complete sequence of its IncHI2-IncA/C2 co-integrate megaplasmid derivative formed in vivo 12th International Meeting on Microbial Epidemiological

Markers (IMMEM XII), Dubrovnik, Croatia.

Rosen, K., Fleischmann, S., Opherden, S., Alter, T., Szabo, I., Hadziabdic, S., Gensch, A., Rotsch, P., Wiese, G., Roesler, U., 2019. Comparison of the bacterial decontamination efficiency on eggshells via UV-C/UV-C-LED-treatment Zoonoses 2019 - International Symposium on Zoonoses research, Berlin, Germany.

c) National conferences: 3

Nachweis der Übertragung und Veränderung eines Carbapenemase-kodierenden Plasmids im Tiermodell Huhn. BfR-Symposium "Zoonosen und Lebensmittelsicherheit". Berlin, Germany. 04.-05. November 2019

Nachweis der Übertragung und Veränderung eines Carbapenemase-kodierenden Plasmids im Tiermodell Huhn. 38. Arbeits- und Fortbildungstagung der DVG-Fachgruppe AVID, Arbeitskreis für Veterinärmedizinische Informationsdiagnostik, Schwerpunkt Bakteriologie. Kloster Banz, Germany. 11.-13. September 2019.

Hadziabdic, S., Fischer, J., Salatowsky, D., Borowiak, M., Malorny, B., Käsbohrer, A., Guerra, B., Szabo, I., 2019. In vivo persistence and stability of animal S. Infantis native blaVIM-1-carrying IncHI2 plasmid in a broiler infection study, 71. Jahrestagung der Deutschen Gesellschaft für Hygiene und Mikrobiologie e. V., Deutschen Gesellschaft für Hygiene und Mikrobiologie e. V., Göttingen, Germany.

d) Other:

(Provide website address or link to appropriate information) 1

Information system on consumer protection and food safety in Germany

FIS-VL

Fachinformationssystem für Verbraucherschutz und Lebensmittelsicherheit

<https://fis-vl.bvl.bund.de/share/page/>

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?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO 17025	akkreditierungsurkunde-din-en-iso-iec-17025-2005.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Serotyping of Salmonella spp.	German National Accreditation Body
Detection of Salmonella spp. (ISO 6579)	German National Accreditation Body
Detection of Salmonella spp. with PCR and real-time PCR	German National Accreditation Body
Identification of Salmonella Enteritidis with real-time PCR	German National Accreditation Body
Conformation of d-Tartrat fermentation in Salmonella spp. with PCR	German National Accreditation Body
Identification of S. Enteritidis Vaccine Strains with real-time PCR	German National Accreditation Body
Identification of mono- and biphasic S. Typhimurium with real-time PCR	German National Accreditation Body
PFGE of Salmonella isolates	German National Accreditation Body
MLVA of Salmonella isolates	German National Accreditation Body

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?

No

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
Participant EURL-Salmonella ring trial : Salmonella detection in feed	42	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Participant EURL-Salmonella ring trial : Salmonella detection in food	42	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Participant EURL ring trial : Salmonella detection in primary production	35	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Participant EURL ring trial : Salmonella serotyping	35	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Participant EURL ring trial : PFGE of Salmonella strains	20	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Participant EURL ring trial : MLVA of Salmonella strains	20	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Participant EURL ring trial : Salmonella Whole Genome Sequencing of Salmonella strains	20	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Organiser NRL ring trial: Salmonella detection in poultry faeces in phrame of the NationalSalmonella Control Program	51	<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?

Yes

Kind of consultancy	Location	Subject (facultative)
member of an expertpanel for the OIE Procedure of registration of diagnostic kits	---	Salmonella diagnostic kit

25. Additional comments regarding your report: