OIE Reference Laboratory Reports Activities

Activities in 2021

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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	
Indirect diagnostic tests		Nationally	Internationally
Serotyping of Salmonella	no	3330	no
PCR (S. Paratyphi B, d-Tartrat)		59	
Real-time PCR (Salmonella spp)		252	
TEst Salmonella Enteritidis Vaccine Strains		50	
S. Typhimurium, monophasic (conformation PCR)		488	
Next Generation Sequencing of Salmonella strains		1602	
Antimicrobial susceptibility test (MIC) of Salmonella strains		912	
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?

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?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
FARMED - Fast Antimicrobial Resistance and Mobile-Element Detection using meta-genomics for animal and human on-site tests (One Health European Joint Programme)since January 2020	5 years	Fast Antimicrobial Resistance and Mobile-Element Detection using meta-genomics for animal and human on-site tests	1. Animal and Pant Health Agency (UK) 2. Technical University of Denmark 3. Istituto Superiore di Sanità (ISS) (IT) 4. Sciensano (Belgium) 5. Statens Serum Institut (DK) 6. Complutense University of Madrid (ES) 7. Wageningen Bioveterinary Research (NL) 8. Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale" (IT)	BELGIUM DENMARK ITALY SPAIN THE NETHERLANDS UNITED KINGDOM

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 is collected in frame of the following programs: - national (General Administrative Provision, AVV) and European Salmonella monitoring programs - national control programs for Salmonella (Directive 2003/99/EC and Regulation (EC) No 2160/2003) in breeding flocks of Gallus gallus (Commission Regulation (EU) No 200/2010), in laying hens of Gallus gallus (Commission regulation (EU) No 517/2011), in flocks of broilers (Commission regulation (EU) No 200/2012) and in flocks of turkeys (Commission regulation (EU) No 1190/2012) The collected data 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:
Salmonella Data is part of the national zoonoses report “Pathogens of zoonoses in Germany” on the epidemiological situation in the food chain, which appears as a BfR science booklet and is available for download. The data used to compile this national zoonoses report are also used for reporting zoonoses to the European Food Safety Authority (EFSA).

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

Esteban-Cuesta I, Labrador M, Hunt K, Reese S, Fischer J, Schwaiger K, et al. Phenotypic and Genetic Comparison of a Plant-Internalized and an Animal-Isolated Salmonella Choleraesuis Strain Microorganisms. 2021;9(8).

Esteban-Cuesta I, Fischer J, Guldimann C. Draft Genome Sequence of a Salmonella enterica subsp. enterica Serotype Choleraesuis Strain Isolated from the Pulp of Muskmelons. Microbiol Resour Announc. 2021;10(10).

Shakeri G, Hammerl JA, Jamshidi A, Ghazvini K, Rohde M, Szabo I, et al. The Lytic Siphophage vB_StyS-LmqsSP1 Reduces the Number of Salmonella enterica Serovar Typhimurium Isolates on Chicken Skin. Appl Environ Microbiol. 2021;87(24):e0142421.

Uelze L, Borowiak M, Deneke C, Fischer J, Flieger A, Simon S, et al. Comparative genomics of Salmonella enterica subsp. diarizonae serovar 61:k:1,5,(7) reveals lineage-specific host adaptation of ST432. Microbial Genomics. 2021;7(8).

Uelze L, Bloch A, Borowiak M, Grobbel M, Deneke C, Fischer M, et al. What WGS Reveals about Salmonella enterica subsp. enterica in Wildlife in Germany. Microorganisms. 2021;9(9).

Uelze L, Becker N, Borowiak M, Busch U, Dangel A, Deneke C, et al. Toward an Integrated Genome-Based Surveillance of Salmonella enterica in Germany. Frontiers in Microbiology. 2021;12(200).

b) International conferences: 2

Indre N, Otani S, Bartsch J, Brouwer M, De Keersmaecker S, Vanneste K, et al. FARMED: : Long-read metagenomic sequencing workflow for the identification of pathogens/AMR on-site. 3rd One Health European Joint Programme Annual Scientific Meeting (OHEJP ASM2021). Copenhagen/ virtually. 09-10.06.2021.(poster)

Fischer J. Salmonella ball: a new player in Germany? 31st ECCMID, the European Congress of Clinical Microbiology and Infectious Disease. Vienne, virtuel: European Society of Clinical Microbiology and Infectious Diseases. 09-12.07.2021. (poster)

c) National conferences: 5

Esteban-Cuesta I, Fischer J. Phänotypischer und genetischer Vergleich eines pflanzlichen mit einem tierischen Salmonella enterica subsp. enterica serovar Choleraesuis. 61 Arbeitstagung des Arbeitsgebietes Lebensmittelsicherheit und Verbraucherschutz. 28-30.09.2021. Online und Garmisch-Partenkirchen:2021. (poster)

Szabo I. Salmonellen - ein Überblick. Berliner Veterinary Public Health Meetings. online. 16.02.2021.(talk)

Schlund O, Göhler A, Fischer M, Lamparter MC. Salmonella in Tahini: Occurrence and conservation. Deutsche Gesellschaft für Hygiene und Mikrobiologie (DGHM) Jahrestagung 13.09.2021. Berlin, Germany.(talk)

Robé CO, Susann; Fleischmann, Susanne; Alter, Thomas; Szabo, Istvan; Hadziabdic, Sead; Rosen, Kerstin; Gensch Anette; Weizmann, Mosche; Zeng, H; Wiese, Gero; Rösler, Uwe. Einsatz von UV-C/UV-C-LED zur Reduktion von Mikroorganismen auf (Konsum-)Eiern. Tagung der DVG-Fachgruppe "Bakteriologie und Mykologie" online. 14-16.06.2021.(poster)

Lamparter M. Aktuelles aus dem NRL-Salmonella. Wissenschaftliches Symposium der mikrobiologischen Nationalen Referenzlaboratorien und Konsiliarlabore. online. 14-15.06.2021(talk)

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?

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_und_Anlage_vom_22102020.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 6579-1)	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 bipasich 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 food	33	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East
Participant EURL-Salmonella ring trial : Salmonella detection in primary production	35	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East
Participant EURL ring trial : Salmonella serotyping	~37	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East
Participant EURL ring trial : Salmonella Whole Genome Sequencing of Salmonella strains	~21	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East
Organiser: Ring trial - Salmonella detection in poultry faeces in phrame of the NationalSalmonella Control Program	49	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐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)
Revisiosn of OIE Terrestrial Manual in cooperation with other OIE reference laboratories for salmonellosis	digital	OIE Terrestrial Manual: Chapter on Salmonellosis

25. Additional comments regarding your report: