

OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-14 17:40:08

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Salmonellosis
Address of laboratory:	Viale dell'Università, 10, 35020 Legnaro (Padova) ITALY
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E-mail address:	aricci@izsvenezie.it
Website:	https://www.izsvenezie.com/
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Antonia Ricci
Name (including Title and Position) of OIE Reference Expert:	Dr. Antonia Ricci, Scientific Director of Istituto Zooprofilattico Sperimentale delle Venezie
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
no	not applicable	not applicable	not applicable
Direct diagnostic tests		Nationally	Internationally
isolation	yes	3338	
serotyping (slide agglutination)	yes	1655	75
serotyping (molecular method)	no	1034	25
detection(Real Time PCR/PCR)	no	13311	
sub-typing (PCR)	no	53	
antimicrobial susceptibility testing (MIC determination)	yes	168	
MLVA	no	681	7
PFGE	no	86	
WGS	no	412	6
Identification of Salmonella vaccine strains	no	109	

**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
salmonella strain	not applicable	produced/provide	3	11	2	<input type="checkbox"/> Africa <input 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
BOSNIA AND HERZEGOVINA	July	1	1
NIGERIA	June	37	37
ETHIOPIA	June	37	37

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
NIGERIA	assistance in scientific paper revision before submission to a peer-review journal	remote assistance
NIGERIA	Support in the preparation of the application and related documents for a grant of a student aimed to attend the laboratory for 6 months	remote assistance
MONTENEGRO	to provide a seminar on Salmonella including both legislative and technical aspects to a group of veterinarians	in loco, at the institute where the OIE laboratory is located
PAKISTAN	technical support in the identification of the most effective analytical method according to the laboratory possibilities	remote assistance

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:
The Laboratory collects data on Salmonella strains isolated from samples related to the veterinary sector at national level and these data are available for surveillance purposes at national and international level

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:
The laboratory contributes to the data collection in the framework of the EFSA molecular typing data base and provides on request data to EURL in case of multi-country outbreaks

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: 7

Antonelli, P., Belluco, S., Mancin, M., Losasso, C., Ricci, A., 2019. Genes conferring resistance to critically important antimicrobials in *Salmonella enterica* isolated from animals and food: A systematic review of the literature, 2013–2017. *Res. Vet. Sci.* 126, 59–67. <https://doi.org/10.1016/j.rvsc.2019.08.022>

Cibin, V., Busetti, M., Longo, A., Petrin, S., Knezevich, A., Ricci, A., Barco L., Losasso, C. (2019). Whole genome sequencing of *Salmonella* serovar Stanleyville from two Italian outbreaks resulted in unexpected genomic diversity within and between outbreaks. *Foodborne pathogens and disease*, 16(4), 307-308

Fagbamila I.O., Mancin M., Barco L., Ngulukun S.S., Jambalang A., Ajayi O.T., Sati N., Emenna P., Ankeli P.I., Kwaga J., Abdu P.A., Kabir J., Umoh J., Ricci A., Muhammad M. (2019) "Investigation of potential risk factors associated with *Salmonella* presence in commercial laying hen farms in Nigeria". *Prev.Vet.Med.* 165:85-86.

Grattarola C., Gallina S., Giorda F., Pautasso A., Ballardini M., Iulini B., Varello K., Gorla M., Peletto S., Masoero L., Serracca L., Romano A., Dondo A., Zoppi S., Garibaldi F., Scaglione F.E., Marsili L., Di Guardo G., Lettini A.A., Mignone W., Fernandez A., Casalone C. (2019) First report of *Salmonella* 1,4,[5],12:i:- in free-ranging striped dolphins (*Stenella coeruleoalba*), Italy. *Sci.Rep.* 9(1)

Longo A., Petrin S., Mastroilli E., Tiengo A., Lettini A.A., Barco L., Ricci A., Losasso C., Cibin V. (2019) Characterizing *Salmonella enterica* serovar Choleraesuis, var. Kunzendorf: a comparative case study. *Frontiers in Veterinary Science* 6:316.

Longo A., Losasso C., Vitulano F., Mastroilli E., Turchetto S., Petrin S., Mantovani C., Dalla Pozza M.C., Ramon E., Conedera G., Citterio C.V., Ricci A., Barco L., Lettini A.A. (2019) Insight into an outbreak of *Salmonella* Choleraesuis var. Kunzendorf in wildboars. *Vet. Microbiology* <https://doi.org/10.1016/j.vetmic.2019.108423>

Petrin S., Longo A., Barco L., Cortini E., Peruzzo A., Antonelli P., Ramon E., Cibin V., Lettini A.A., Ricci A., Losasso C. (2019) Different Resolution Power of Multilocus Variable-Number Tandem Repeat Analysis and Whole-Genome

Sequencing in the Characterization of S. 1,4,[5],12:i:- Isolates. Foodborne Pathog.Dis.

b) International conferences: 2

Berio E., Ballardini M., Pautasso A., Grattarola C., Iulini B., Varello K., Bozzetta E., Giorda F., Gallina S., Romano A., Gorla M., Peletto S., Masoero L., Serracca L., Dondo A., Zoppi S., Garibaldi F., Scaglione F.E., Di Francesco C.E., Consales G., Garofalo G., Ramon E., Di Guardo G., Marsili L., Mignone W., Casalone C. (2019). Emerging pathogens and immunotoxic pollutants in cetaceans stranded along the coasts of the Liguria: Pelagos Sanctuary, Italy. In: WMMC - World Marine Mammals Conference, Barcelona 2019. Abstract book: 780, Barcelona, 9-12 dicembre 2019, (poster).

Mastrorilli E., Orsini M., Petrin S., Longo A., Cozza D., Luzzi I., Ricci A., Barco L., Losasso C. (2019) Comparative genomic analysis reveals high intra-serovar plasticity within Salmonella Napoli isolated in Europe, 2005-2017. In: FEMS 2019 8th Congress of European Microbiologists Abstract Book. Glasgow, UK, 7-11 July 2019, 486. (poster)

c) National conferences: 2

Grattarola C., Ballardini M., Pautasso A., Iulini B., Varello K., Bozzetta E., Giorda F., Berio E., Gallina S., Romano A., Gorla M., Peletto S., Masoero L., Serracca L., Dondo A., Zoppi S., Garibaldi F., Scaglione F.E., di Francesco C.E., Marsili L., Consales G., Garofalo G., Ramon E., Di Guardo G., Mignone W., Casalone C. (2019). Cetacei spiaggiati in Liguria e contaminazione da patogeni emergenti e inquinanti immunotossici: una minaccia per il santuario Pelagos. In: 50° Congresso della Società Italiana di Biologia Marina. Abstract book: 382-383, (poster), Livorno, 10-14 giugno 2019

Petrin S., Mastrorilli E., Longo A., Antonello K., Cozza D., Ricci A., Losasso C., Barco L. In: XIX Congresso Nazionale S.I.Di.L.V. Matera, Italy, 23-25 Ottobre 2019. Identificazione del gene blaCTX-M-15 in un plasmide persistente in un isolato umano di Salmonella serovar Napoli (comunicazione orale)

d) Other:

(Provide website address or link to appropriate information) 1

<https://www.efsa.europa.eu/en/efsajournal/pub/5926>

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: 4

c) Hands-on training courses: 0

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	Nigeria	1
a	Ethiopia	1
b	Montenegro	8

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	certificato-ISO-17025.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
isolation and identification of Salmonella in primary production samples	Italian Accreditation Body, ACCREDIA
seotyping of Salmonella strains	Italian Accreditation Body, ACCREDIA
molecular serotyping of salmonella strains	Italian Accreditation Body, ACCREDIA
PCR to differentiate S. Typhimurium and its monophasic variant	Italian Accreditation Body, ACCREDIA
Real Time PCR to detect Salmonella in food and feed	Italian Accreditation Body, ACCREDIA
Test to identify salmonella vaccine strain Salmonella Enteritidis, 441/014 (ade/his); based on commercial test	Italian Accreditation Body, ACCREDIA

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
Assess laboratories capability to isolate Salmonella in primary production samples (organized at national level)	77	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Assess laboratories capability to serotype Salmonella strains (organized at national level)	18	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Assess laboratories capability to isolate Salmonella in primary production samples (participant)	not applicable	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Assess laboratories capability to serotype Salmonella strains (participant)	not applicable	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Assess laboratories capability to characterize Salmonella strains by PFGE (participant)	not applicable	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Assess laboratories capability to characterize Salmonella strains by determination of MLVA profile (participant)	not applicable	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Assess laboratories capability to characterize Salmonella strains by WGS (participant)	not applicable	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Assess laboratories capability to perform a cluster analysis on Salmonella strains based on MLVA, PFGE and WGS results (participant)	not applicable	<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)
Revision of the validation protocol for a Salmonella molecular serotyping kit	remote assistance	OIE validation
Salmonella strains (9) provided to an applicant who intended to revise the validation protocol for a Salmonella molecular serotyping kit	not applicable	OIE validation

25. Additional comments regarding your report: