

WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 25 avril 2023 16:44

Laboratory Information

Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	Salmonellosis
Address of laboratory:	Viale dell'UNiversità 10, 35020, Legnaro, Padova (Italy)
Tel.:	+39 0498084296
E-mail address:	aricci@izsvenezie.it
Website:	www.izsvenezie.com
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Antonia Ricci - General Director - Istituto Zooprofilattico Sperimentale delle Venezie
Name (including Title and Position) of WOA Reference Expert:	Antonia Ricci
Which of the following defines your laboratory? Check all that apply:	Governmental

TOR1: DIAGNOSTIC METHODS

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 WOA Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Direct diagnostic tests		Nationally	Internationally
Serotyping (slide agglutination)	yes	2550	147
PCR (Salmonella confirmisation)	no	602	
Geno-serotyping	no	450	111
MLVA	no	700	
WGS	no	265	
Test for live vaccine Salmonella			

Enteritidis strain	no	73	
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TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOA?H?

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOA?H Members?

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOA?H Members?

No

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

No

7. Did your laboratory validate diagnostic methods according to WOA?H Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOA?H Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOA?H Members?

Yes

NAME OF WOA?H MEMBER COUNTRY SEEKING ASSISTANCE	DATE	WHICH DIAGNOSTIC TEST USED	NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT	NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES
NIGERIA	2022-03-01	Salmonella confirmation (PCR) and serotyping	63	
NIGERIA	2022-05-01	Salmonella confirmation (PCR) and Salmonella serotyping	42	
NIGERIA	2022-07-01	Salmonella confirmation (PCR) and Salmonella serotyping	25	

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOA?H Member?

Yes

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NAME OF THE WOA MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
NIGERIA	Assistance in analyses and preparation of scientific paper about a new serovar/strain of Salmonella	Remote - e-mail
NIGERIA	Training period about analytical methods for Salmonella isolation – identification – serotyping – molecular typing and WGS – (3,5 months)	in loco

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOA Members other than the own?

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAH MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
RIBMINS	3 years	To combine and strengthen Europe-wide research efforts on modern meat safety control systems	Several EU Institutions	SERBIA
H-ALO	3 years	To develop a cutting-edge biochemical photonic-based sensor enabling the on-site detection of microbiological and chemical contaminants in a broad number of different farm-to-fork-food chains	Several EU Institutions	THE NETHERLANDS

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:

The laboratory collects data about Salmonella strains isolated from samples related to veterinary sector (isolated from feed, food and animals) at national level and these data are available for surveillance purposes at national and international level. The laboratory contributed to the collection of Salmonella data for the EFSA/ECDC One health report, 2021

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:

The laboratory contributed to the preparation of Salmonella chapter of the EFSA/ECDC One health report, 2021

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

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Petrin S, Mancin M, Losasso C, Deotto S, Olsen JE and Barco L (2022) Effect of pH and Salinity on the Ability of Salmonella Serotypes to Form Biofilm. *Front. Microbiol.* 13:821679. doi:10.3389/fmicb.2022.821679

Mazzotta E, Foiani G, De Benedictis GM, Fiore E, Natale A, Spagnolo E, Vascellari M, Cento G, Corrà M. *Salmonella Enteritidis Fatal Septicemia with Meningoencephalitis in a Tiger (Panthera tigris) Cub. Animals (Basel).* 2022 Sep 20;12(19):2490. doi: 10.3390/ani12192490. PMID: 36230231; PMCID: PMC9558993.

Salerno B, Cornaggia M, Sabatino R, Di Cesare A, Furlan M, Barco L, Orsini M, Cordioli B, Mantovani C, Bano L, Losasso C. *Calves as Main Reservoir of Antibiotic Resistance Genes in Dairy Farms. Front Public Health.* 2022 Jun 20;10:918658. doi: 10.3389/fpubh.2022.918658. eCollection 2022. PMID: 35795698

Fagbamila IO, Hernandez-Segura A, van den Beld M, Mooijman K, Orsini M, Ajayi OT, Ngulukun S, Jambalang AR, Sati N, Emennaa P, Ankeli PI, Muhammad M, Barco L. *Salmonella enterica Newserovar Abeokuta Genome Sequence, Strain OG19FER4 Isolated from Poultry Feed in Nigeria. Microbiol Resour Announc.* 2022 Oct 20;11(10):e0048922. doi: 10.1128/mra.00489-22. Epub 2022 Sep 28. PMID: 36169316

Casagrande Proietti P, Musa L, Stefanetti V, Orsini M, Toppi V, Branciarri R, Blasi F, Magistrali CF, Capomaccio S, Kika TS, Franciosini MP. *mcr-1-Mediated Colistin Resistance and Genomic Characterization of Antimicrobial Resistance in ESBL-Producing Salmonella Infantis Strains from a Broiler Meat Production Chain in Italy. Antibiotics (Basel).* 2022 May 28;11(6):728. doi: 10.3390/antibiotics11060728. PMID: 35740135

Salerno B, Furlan M, Sabatino R, Di Cesare A, Leati M, Volanti M, Barco L, Orsini M, Losasso C, Cibi V *Antibiotic resistance genes load in an antibiotic free organic broiler farm. .Poult Sci.* 2022 Mar;101(3):101675. doi: 10.1016/j.psj.2021.101675. Epub 2021 Dec 23. PMID: 35091251.

b) International conferences:

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Petrin S., Mancin M., Losasso C., Deotto S., Olsen J.E., Barco L. (2022) Effect of pH and salinity on different Salmonella serotypes ability to form biofilm. In: *International Symposium Salmonella and Salmonellosis. Saint Malo, France, 20-22/06/2022 (Poster presentation)*

Petrin S., Orsini M., Tiengo A., Longo A., Furlan M., Zicavo A., De Marchis M.L., Olsen J.E., Barco L., Losasso C. (2022) Genomic characterization of a possible novel variant of Salmonella serovar Infantis. In: *One Health EJP Annual Scientific Meeting Programme & Abstract Book. Orvieto, Italy, 11-13 April 2022, 126. (Poster presentation)*

Petrin S., Orsini M., Tiengo A., Longo A., Furlan M., Zicavo A., De Marchis M.L., Olsen J.E., Barco L., Losasso C. (2022) Genomic characterization of a possible novel variant of Salmonella enterica subsp. enterica serovar Infantis. In: *International Symposium Salmonella and Salmonellosis. Saint Malo, France, 20-22/06/2022 (Poster presentation)*

Baggio G. Orsini M, (2022) Analysis of Horizontal Gene Transfer Relevance to Spread of Antibiotic Resistance Genes in Salmonella. In: *International Symposium Salmonella and Salmonellosis. Saint Malo, France, 20-22/06/2022 (Poster presentation)*

c) National conferences:

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Petrin S., Mancin M., Losasso C., Olsen J.E., Barco L. (2021) EFFETTI DELLA VARIAZIONE DI PH E SALINITÀ SULLA CAPACITÀ DI DIVERSI SEROVAR DI SALMONELLA DI PRODURRE BIOFILM. XX National Meeting SIDILV. 25-26 November 2021. Napoli (Oral Presentation)

Petrin S., Orsini M., Tiengo A., Longo A., Furlan M., Primavilla S., De Marchis M.L., Olsen J.E., Barco L., Losasso C. NUOVE POSSIBILI VARIANTI SOMATICHE DI SALMONELLA SEROVAR INFANTIS? UNA CARATTERIZZAZIONE GENOMICA. XX National Meeting SIDILV. 25-26 November 2021. Napoli (Poster Presentation)

Mancini M.E., Alessiani A., Tiengo A., Petrin S., Donatiello A., Occhiocchioso G., Faleo S., Didonna A., D'Attoli L., Selicato P., Pedarra C., Goffredo E. PRESENZA DI SALMONELLA BONGORI 48:Z35:- NELLA REGIONE PUGLIA XX National Meeting SIDILV. 25-26 November 2021. Napoli (Poster Presentation)

Mancin Marzia, Cento Giulia, Marafin Elisa, Tiengo Alessia, Antonello Ketì, Saccardin Cristina, Lettini Antonia Anna, Zavagnin Paola, Longo Alessandra, Barco Lisa Modello di source attribution per identificare le principali fonti di infezione da Salmonella nell'uomo in Italia nel periodo 2018 – 2020 XX National Meeting SIDILV. 25-26 November 2021. Napoli (Oral Presentation)

d) Other (Provide website address or link to appropriate information):

www.izsvenezie.it <https://www.izsvenezie.com/reference-laboratories/salmonellosis/>

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOA H Members?

Yes

a) Technical visit :

b) Seminars :

c) Hands-on training courses:

d) Internships (>1 month) 1

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
D	Nigeria	1

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO 17025	Accreditation_certificate.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Isolation and identification of Salmonella in food, feed and samples collected at primary production level	Accredia, Italian Accreditation Body
Serotyping of Salmonella strains	Accredia, Italian Accreditation Body
Molecular serotyping of Salmonella strains	Accredia, Italian Accreditation Body
PCR to differentiate S. Typhimurium and its monophasic variants	Accredia, Italian Accreditation Body
Real Time PCR for Salmonella detection in food and feed samples	Accredia, Italian Accreditation Body

Identification of vaccinal strains of <i>S. Enteritidis</i>	Accredia, Italian Accreditation Body
Pulsed Field Gel Electrophoresis	Accredia, Italian Accreditation Body
MLVA for <i>S. Enteritidis</i> and <i>S. Typhimurium</i>	Accredia, Italian Accreditation Body
Proficiency tests (<i>Salmonella</i> isolation and serotyping)	Accredia, Italian Accreditation Body

20. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

The laboratory has in place a management system that ensures safe and secure handling and storage of *Salmonella* isolates. This is the base to protect laboratory employees and avoid of *Salmonella* strains outside the laboratory. The management system in place guarantees laboratory biosafety and biosecurity.

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOA?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOA?

No

TOR10: NETWORK WITH WOA REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOA Reference Laboratories designated for the same pathogen or disease?

Yes

24. Are you a member of a network of WOA Reference Laboratories designated for the same pathogen?

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOA REF. LABS/ ORGANISING WOA REF. LAB.
Quality control assurance – <i>Salmonella</i> detection from samples collected at primary production level and food samples	Participant	68	Germany / UK
Quality control assurance – <i>Salmonella</i> serotyping	Participant	35	Germany / UK
Quality control assurance – <i>Salmonella</i> cluster analysis (MLVA and WGS)	Participant	19	Germany / UK

25. Did you organise or participate in inter-laboratory proficiency tests with WOA Reference Laboratories designated for the same pathogen?

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOA REF. LABS/ ORGANISING WOA REF. LAB.
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26. Did your laboratory collaborate with other WOA Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

No

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOA Reference Laboratories for the same pathogen?

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Region(s) of participating WOA Member Countries
Quality control assurance – Salmonella detection from samples collected at primary production level	Organizer	79	Europe
Quality control assurance – Salmonella serotyping	Organizer	13	Europe

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOA?

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
Responding to specific technical queries - support in relation to the revision of WOA Terrestrial manual in relation to Salmonellosis chapter	Remote assistance	Rapid slide agglutination test

29. Additional comments regarding your report:

No