

# WOAH Reference Laboratory Reports Activities 2023

## Activities in 2023

This report has been submitted : 27 mai 2024 15:02

### Laboratory Information

<b>Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:</b>	Trichinellosis
<b>Address of laboratory:</b>	Department of Infectious Diseases, Istituto Superiore di Sanità, viale regina Elena 299. 00161 ROMA. Italy
<b>Tel.:</b>	+390-6 49.90.2078
<b>E-mail address:</b>	mariaangeles.gomezmorales@iss.it
<b>Website:</b>	<a href="https://www.iss.it/en/">https://www.iss.it/en/</a>
<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	Professor Dr. Anna Teresa Palamara, Research Director, Head of the Department of Infectious Diseases
<b>Name (including Title and Position) of WOAHO Reference Expert:</b>	Maria de los Angeles Gomez Morales, PhD, Research Director at the Department of Infectious Diseases
<b>Which of the following defines your laboratory? Check all that apply:</b>	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 WOAHO Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
Indirect ELISA for human		4	0
Western blot for human		20	0
Direct diagnostic tests			
Artificial muscle digestion		32	0
Multiplex PCR		55	402

### TOR2: REFERENCE MATERIAL

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

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TESTING	PRODUCED/ IMPORTED	QUANTITY SUPPLIED NATIONWIDE (ML, MG)	QUANTITY SUPPLIED AT INTERNATIONAL LEVEL (ML, MG)	NAME OF BENEFICIARY WOAHO MEMBER COUNTRIES

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

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED	AMOUNT SUPPLIED INTERNATIONALLY	NO. OF RECIPIENT WOAHO MEMBER	COUNTRY OF RECIPIENTS

			NATIONALLY (ML, MG)	(ML, MG)	COUNTRIES	
Trichinella spiralis infected mouse carcass	ISO 18743	Produced/ provided	5 units	7 units	7	CROATIA, ESTONIA, GERMANY, IRELAND, LITHUANIA, NORWAY, ROMANIA,
Trichinella spiralis crude worm extract	Indirect test	Produced/provided	0	10	2	FRANCE, GERMANY,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAHA 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 WOAHA 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 WOAHA Standards for the designated pathogen or disease?

No

### TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAHA 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
BULGARIA	2023-05-11	PCR	39	0
FINLAND	2023-11-20	PCR	73	0
FRANCE	2023-03-23	PCR	0	3
FRANCE	2023-09-27	PCR	0	1
ROMANIA	2023-10-27	PCR	0	2
SPAIN	2023-01-19	PCR	33	0
SPAIN	2023-01-26	PCR	17	0
SPAIN	2023-01-27	PCR	11	0
SPAIN	2023-02-16	PCR	20	0
SPAIN	2023-02-20	PCR	14	0
SPAIN	2023-02-28	PCR	35	0
SPAIN	2023-03-17	PCR	4	0
SPAIN	2023-03-20	PCR	10	0
SPAIN	2023-04-18	PCR	46	0
SPAIN	2023-05-05	PCR	9	0
SPAIN	2023-06-30	PCR	1	0
SPAIN	2023-12-06	PCR	3	0
SPAIN	2023-12-21	PCR	14	0
SPAIN	2023-12-28	PCR	1	0
SWEDEN	2023-01-19	PCR	0	6
SWEDEN	2023-11-16	PCR	0	4
SWITZERLAND	2023-09-07	PCR	0	1

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

Yes

NAME OF THE WOA MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
AUSTRIA	Maximum number of samples and maximum amount of muscle tissue that can be tested at once by magnetic stirrer method	e-mail
BELGIUM	Samples preparation for Proficiency Testing	e-mail
BELGIUM	Interpretation of ISO 18743/2015	e-mail
BELGIUM	The existence of a tool, other than Trichinella forceps, which could allow to sample muscle tissue at slaughterhouses	e-mail
DENMARK	Determination of the sample size for Trichinella risk assessment in European countries	e-mail
BULGARIA	Modifications introduced in the ISO 18743/2015 by the 2023 amendment	e-mail
NORTH MACEDONIA (REP. OF)	Number of Trichinella larvae to be tested to assure the absence of mixed infection	e-mail

## TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

13. In exercising your activities, have you identified any regulatory research needs\* relevant for WOA?

No

## 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:

Epizootiological data relevant to Trichinella infection are collected in a database The database is available at the International Commission on Trichinellosis website: <https://trichinella.iss.it/>

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:

Our laboratory disseminate information regarding epizootological data under request

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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Bandino E, Gomez-Morales MA, Brundu D, Soddu M, Ludovisi A, Cabras PA, Loi F, Pintore A, Pozio E. The illegal rearing and slaughtering of pigs in the wild favor the increase of *Trichinella britovi* biomass in wild boars (*Sus scrofa*) of the Mediterranean island of Sardinia but do not affect the existing serological prevalence. *Parasit Vectors*. 2023 Sep 11;16(1):323. doi: 10.1186/s13071-023-05927-6. PMID: 37697408; PMCID: PMC10496314

Vasilev S, Ciupescu LM, Lalkovski N, Balic D, Vasilev D, Marucci G. *Trichinella* proficiency testing in Southeastern European countries. *Vet Parasitol*. 2023 Aug;320:109982. doi: 10.1016/j.vetpar.2023.109982. Epub 2023 Jul 4. PMID: 37421926

Marin AM, Mederle OA, Marucci G, Popovici DC, Mederle N. First Identification and Molecular Characterization of *Trichinella britovi* (Nematoda: Trichinellidae) from the Pine Marten (*Martes martes* Linnaeus, 1758) in Romania. *Microorganisms*. 2023 Sep 18;11(9):2339. doi: 10.3390/microorganisms11092339. PMID: 37764183

Marin AM, Popovici DC, Marucci G, Cherchi S, Mederle N. First Identification of *Trichinella pseudospiralis* in a Golden Jackal (*Canis aureus*) in Romania. *Pathogens*. 2023 Dec 29;13(1):32. doi: 10.3390/pathogens13010032. PMID: 38251339; PMCID: PMC10818659.

b) International conferences:

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XVI International Conference on Trichinellosis, held in Belgrade, Serbia, August 30th to September 1st

XVIII Annual Workshop of the National Reference Laboratories for Parasites, held at the Istituto Superiore di Sanità, Roma, Italy, November 16-17, 2023

c) National conferences:

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

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Chapter 3.1.22 Trichinellosis (infection with *Trichinella* spp.) for the twelfth edition of the WOAHP Manual of Diagnostic Tests and Vaccines for Terrestrial Animals. Approved May 2023

Provision of support to the European Food Safety Authority and European Centre for Disease Prevention and Control for the production of the Chapter Trichinella, 2023. The European Union One Health 2022 Zoonoses Report EFSA Journal. 2023; s21:e8442. <https://doi.org/10.2903/j.efsa.2023.8442>. DOI: 10.2903/j.efsa.2023.8442

## TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

a) Technical visit : 5

b) Seminars : 0

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	BULGARIA	1
A	LITHUANIA	1
A	CZECH REPUBLIC	1
A	GREECE	1
A	ROMANIA	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	pdf	Certificato accreditamento 17025.pdf
ISO17043	pdf	Certificato accreditamento 17043.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Detection of anti- <i>Trichinella</i> antibodies in swine serum by indirect ELISA (MI-01)	ACCREDIA
Identification of <i>Trichinella</i> muscle larvae at species level by Multiplex PCR (MI-02)	ACCREDIA
Detection of anti- <i>Trichinella</i> antibodies in human serum by indirect ELISA (MI-03)	ACCREDIA
Identification of <i>Trichinella</i> spp. proteins recognized by specific IgG in serum of infected pigs by Western blotting (MI-13)	ACCREDIA

Identification of Trichinella spp. proteins recognized by specific IgG from serum samples of humans with trichinellosis by Western blotting (MI-16)	ACCREDITIA
Proficiency Testing on the digestion method to detect Trichinella larvae	ACCREDITIA
Proficiency Testing on the identification of Trichinella larvae at species level	ACCREDITIA

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

Yes

### TOR9: SCIENTIFIC MEETINGS

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

No

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

No

### TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES

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

Yes

24. Do you network (collaborate or share information) with other WOAHP Reference Laboratories designated for the same pathogen?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
Trichinellosis	sharing information	2	Dr. Brad Scandrett Canadian Food Inspection Agency 116 Veterinary Road Saskatoon Saskatchewan S7N 2R3 Saskatoon

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

No

26. Did your laboratory collaborate with other WOAHP 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 WOAHP Reference Laboratories for the same pathogen?

Yes

Purpose for inter-laboratory test comparisons <sup>1</sup>	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the Test	WOAHP Member Countries
Determining a laboratory's capability to conduct specific diagnostic tests (Proficiency testing on the digestion method to detect Trichinella larvae in meat)	Organizer	32	Artificial digestion	ALBANIA, AUSTRIA, BELGIUM, BULGARIA, CROATIA, CYPRUS, CZECH REPUBLIC, DENMARK, ESTONIA, FINLAND, FRANCE, GERMANY, HUNGARY, ICELAND, IRELAND, ITALY, LATVIA, LITHUANIA, MALTA, NORTH MACEDONIA (REP. OF), NORWAY, POLAND, PORTUGAL, ROMANIA, SERBIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, SWITZERLAND, THE NETHERLANDS, UNITED KINGDOM,

### TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No