

OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-10 12:44:27

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Trichinellosis
Address of laboratory:	Viale Regina Elena 299 00161 Roma ITALY
Tel.:	+390-6 49.90.23.04
Fax:	+390649903561
E-mail address:	mariaangeles.gomezmorales@iss.it
Website:	https://trichinella.iss.it
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Giovanni Rezza Research Leader
Name (including Title and Position) of OIE Reference Expert:	Dr. Maria Angeles Gomez Morales Senior Researcher
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
indirect ELISA for pigs	yes	0	13
indirect ELISA for humans	no	17	10
Western blot for pigs	no	0	2
Western blot for humans	no	1	1
Direct diagnostic tests		Nationally	Internationally
Artificial muscle digestion	yes	8	0
Multiplex PCR	no	37	570

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?

Yes

NOTE: Currently, there are 22 laboratories that produce Standard Reference Reagents officially recognised by the OIE for 19 diseases/pathogens. Please click the following link to the list of OIE-approved International Standard Sera: <http://www.oie.int/en/our-scientific-expertise/veterinary-products/reference-reagents/>. If the reagent is not listed on this page, it is NOT considered OIE-approved. The next two questions allow you to indicate non-OIE-approved diagnostic reagents.

OIE-approved SRR producing laboratory – Select your lab from list:

Disease	Test	Available from			
Type of reagent available	Related diagnostic test	Produced/ Supply imported	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	Name of recipient OIE Member Countries
4 Trichinella positive reference pig sera	ELISA Western blot	produced	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	CHINA (PEOPLE'S REP. OF)
2 Trichinella negative reference pig serum	ELISA Western blot	produced	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	CHINA (PEOPLE'S REP. OF)
4 Trichinella positive reference pig sera	ELISA Western blot	produced	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	POLAND
2 Trichinella negative reference pig serum	ELISA Western blot	produced	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	POLAND

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
Trichinella spiralis Excretory/Secretory antigens	ELISA Western blot	produced	0	8.5 mg	2	<input type="checkbox"/> Africa <input type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Trichinella spiralis crude worm extract	western blotting artificial digestion (agglutination)	produced	0	1 mg	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Mouse carcass infected with T. spiralis	artificial digestion PCR	produced	4 carcasses	10 carcasses	8	<input type="checkbox"/> Africa <input type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Mouse carcass infected with T. britovi	artificial digestion PCR	produced	0	1 carcass	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Larvae T. pseudospiralis in ethanol	PCR	produced	0	10000	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americ as <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

Larvae T. zimbabwensis in ethanol	PCR	produced	0	10000	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Trichinella positive dog serum samples	ELISA and western blotting	provide	0	3	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Trichinella positive pig serum samples	ELISA and western blotting	produced	0	40	1	<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
CHINA (PEOPLE'S REP. OF)	January	0	6
CROATIA	October/November	4	0
FINLAND	July/August	218	0
FRANCE	May/July	2	0
POLAND	October	0	8
PORTUGAL	June	0	1
CZECH REPUBLIC	January	1	0
RUSSIA	November	50	0
SERBIA	July/September	0	11
SPAIN	January-July/November-December	226	0
SWEDEN	February/May	0	13
UNITED STATES OF AMERICA	September	18	0
SOUTH AFRICA	August	1	0
ITALY	all months but May and July	84	0

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
ITALY	Recommendations for laboratories in the slaughterhouse for the detection of Trichinella in meat	Remote assistance
NORTH MACEDONIA (REP. OF)	Information on Reference Materials	Remote assistance
ARGENTINA	Information on serological tests for Trichinella detection in dogs	Remote assistance
UNITED STATES OF AMERICA	Information on the availability of reference sera for 12 different Trichinella species	Remote assistance
SPAIN	Troubles in the recovery of clean Trichinella larvae after artificial digestion	Remote assistance
CANADA	Information on the registration of a new species of Trichinella	Remote assistance
INDIA	Assistance on species identification of Trichinella species circulating in India	Remote assistance
CROATIA	Information on the website	Remote assistance
SOUTH AFRICA	Information on the validation of serological methods	Remote assistance
FRANCE	Assistance on PT participation	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?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
Microsatellite analysis of <i>Trichinella britovi</i>	2 years	Analysis of the genetic structure of <i>T. britovi</i> isolates of Latvia	Daugavpils University	LATVIA
Microsatellite analysis of <i>Trichinella britovi</i>	2 years	<i>T. britovi</i> isolates of Estonia	Institute of Veterinary Medicine and Animal Science, Estonian University of Life Sciences	ESTONIA
Microsatellite analysis	2 years	Molecular epidemiology	K.I. Skrjabin All-Russian Institute	RUSSIA
Microsatellite analysis	2 years	Molecular epidemiology	Oklahoma State University	UNITED STATES OF AMERICA

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:
epidemiology of <i>Trichinella</i> infection

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:
epidemiology of <i>Trichinella</i> infection

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: 2

Pozio E., Ludovisi A., Pezzotti P., Bruschi F, Gómez-Morales MÁ. Retrospective analysis of hospital discharge records for cases of trichinellosis does not allow evaluation of disease burden in Italy. *Parasite*. 2019;26:42. doi: 10.1051/parasite/2019043.

Dimzas D., Diakou A., Koutras C., Gómez Morales MA., Psalla D., Keryttopoulos P., Deligianni D., Kontotasios K., Pozio E. Human trichinellosis caused by *Trichinella britovi* in Greece, and literature review. *J Helminthol.* 2019 doi: 10.1017/S0022149X19000075

b) International conferences: 3

-European Surveillance for Food Borne Parasites (COST Action FA1408). 12-14 February 2019, Oeiras, Portugal

- XIV Workshop of "National Reference Laboratories for Parasites". 23-24

May, 2019 Roma, Italy

-15th International Conference on Trichinellosis. 26-30 August 2019, Cluj-Napoca, Romania

c) National conferences: 1

Analisi epidemiologica di due malattie infettive orfane: *Echinococcus* e *Trichinella*. 19 February 2019, Rome,

d) Other:

(Provide website address or link to appropriate information) 2

<https://eurlp.iss.it>

<https://trichinella.iss.it>

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: 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	Turkey	1
a	Serbia	1
a	Poland	2
a	Rumania	1

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 accreditamento 17025_2018-2022.pdf
ISO 17043	certificato accreditamento 17043_2022.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Detection of anti-Trichinella antibodies in swine serum by indirect ELISA	ACCREDIA
Identification of Trichinella muscle larvae at species level by Multiplex PCR	ACCREDIA
Detection of anti-Trichinella antibodies in human serum by indirect ELISA	ACCREDIA
Detection of anti-Trichinella antibodies in swine serum by Western Blot	ACCREDIA
Proficiency Testing on the digestion method to detect Trichinella larvae	ACCREDIA
Proficiency Testing on the identification of Trichinella larvae at the species level	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?

Yes

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/participant)	No. participants	Participating OIE Ref. Labs/organising OIE Ref. Lab.
New test for Trichinella detection	Participant	2	Centre for Food-borne and Animal Parasitology, Food Inspection Agency (Canada)

¹ validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

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?

Yes

Title of the project or contract	Scope	Name(s) of relevant OIE Reference Laboratories
Typing new Trichinella isolates	Identification of a new Trichinella species	Centre for Food-borne and Animal Parasitology, Food Inspection Agency (Canada)

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
Proficiency Testing on the digestion method to detect <i>Trichinella</i> larvae in meat	32	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Proficiency Testing on the digestion method to detect <i>Trichinella</i> larvae in meat	14	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Proficiency Testing on the digestion method to detect <i>Trichinella</i> larvae in meat	23	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Proficiency Testing on the digestion method to detect <i>Trichinella</i> larvae in meat	7	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Proficiency Testing on the digestion method to detect <i>Trichinella</i> larvae in meat	28	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Proficiency Testing on the digestion method to detect <i>Trichinella</i> larvae in meat	28	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
"Identification of <i>Trichinella</i> larvae at the species level by a molecular method	23	<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?

No

25. Additional comments regarding your report:

