Final report PT-03: Tm 1/2024

PT-03: "Identification of *Trichinella* larvae at the species level by a molecular method"

Design

Purpose	Evaluation of laboratories competence in molecular identification of *Trichinella* larvae species	
Scheme type	Single, simultaneous	
Participants	National reference laboratories for parasites. Public and private laboratories	
N. of participants	Depending on request	
Method	not regulated	
Test method	chosen by the participant	
PT items	Matrix	not applicable
	Item	*Trichinella* spp. larvae in 96% ethanol
	N. of samples	4 (10 larvae/each species) 1.5 ml vials for each participant
	Distribution	Preparation and packaging can be performed before shipment
Subcontracted activities	NA	
Results evaluation	Qualitative	

Implementation

N. of participants	23	PT items	PT panel	10 larvae for each of the following species: *T. spiralis, T. nativa, T. britovi e T. pseudospiralis*
Public laboratories	-		Shipping	DHL
Private laboratories	-			
NRLs	23	Shipping dates	March 11, 2024	

PTP
Unit of Foodborne and Neglected Parasitic Diseases
Istituto Superiore di Sanità

viale Regina Elena, 299 – 00161 Rome, Italy

Person in charge of PT: Dr Gianluca Marucci
e-mail: gianluca.marucci@iss.it; tel: +39 0649902310

Qualitative results

The PT final evaluation was qualitative only. The PT was considered passed if all isolates or, in case of single larvae at least one of them for each isolate, were correctly identified.

Laboratory code	N. right identification	N. wrong identification	N. missed identification	Final evaluation
TM1	4	0	0	positive
TM9	4	0	0	positive
TM10	4	0	0	positive
TM16	4	0	0	positive
TM17	3	1	0	negative
TM19	4	0	0	positive
TM20	4	0	0	positive
TM21	4	0	0	positive
TM25	4	0	0	positive
TM26	4	0	0	positive
TM29	4	0	0	positive
TM30	4	0	0	positive
TM32	4	0	0	positive
TM33	3	1	0	negative
TM34	4	0	0	positive
TM35	4	0	0	positive
TM36	4	0	0	positive
TM39	4	0	0	positive
TM40	4	0	0	positive
TM43	4	0	0	positive
TM44	4	0	0	positive
TM53	4	0	0	positive
TM54	4	0	0	positive

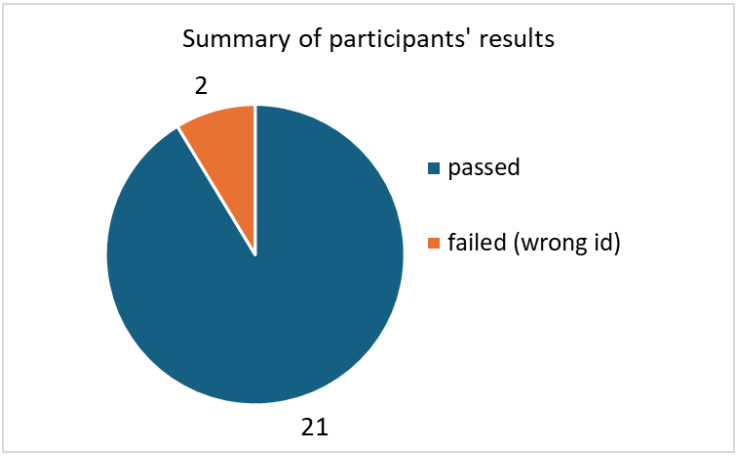
Note: the laboratory code is the same reported in the individual report

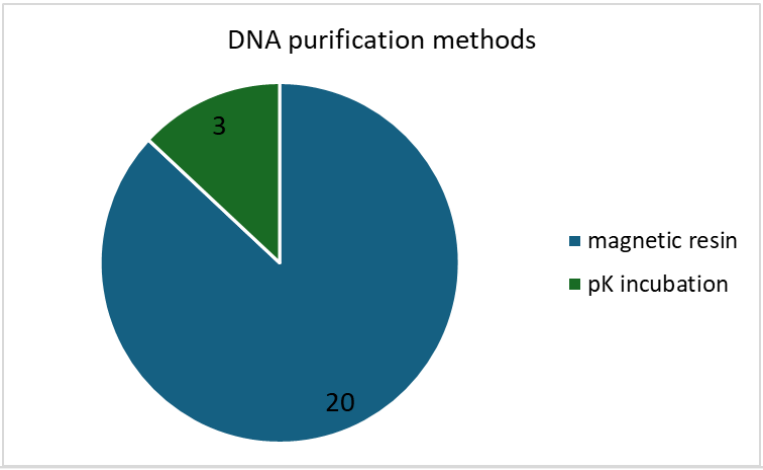
PTP
Unit of Foodborne and Neglected Parasitic Diseases
Istituto Superiore di Sanità

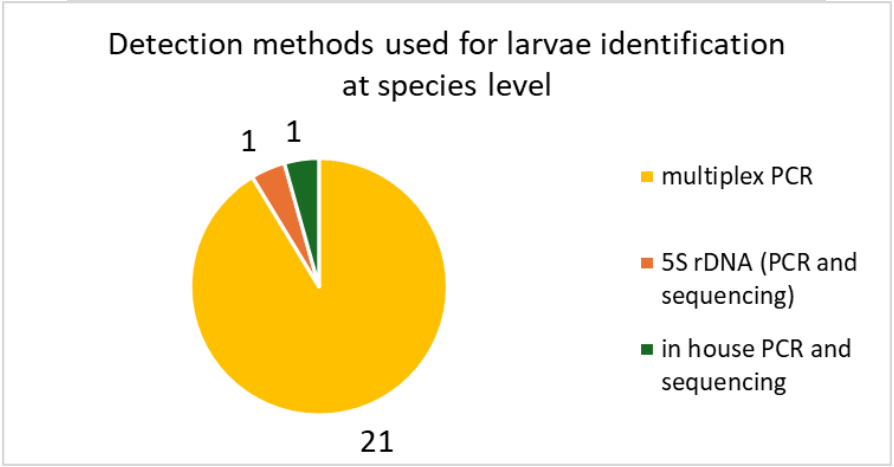
viale Regina Elena, 299 – 00161 Rome, Italy

Person in charge of PT: Dr Gianluca Marucci
e-mail: gianluca.marucci@iss.it; tel: +39 0649902310

Graphical summary







PTP
Unit of Foodborne and Neglected Parasitic Diseases
Istituto Superiore di Sanità

viale Regina Elena, 299 – 00161 Rome, Italy

Person in charge of PT: Dr Gianluca Marucci
e-mail: gianluca.marucci@iss.it; tel: +39 0649902310

PTP N° 0005 P
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements

Overtime comparison of results (last 5 years)

Laboratory code	2020	2021	2022	2023	2024
TM1	-	positive	positive	positive	positive
TM9	-	positive	-	positive	positive
TM10	positive	positive	positive	positive	positive
TM16	-	positive	positive	positive	positive
TM17	positive	positive	positive	positive	negative
TM19	positive	negative	positive	positive	positive
TM20	positive	positive	positive	positive	positive
TM21	positive	positive	positive	negative	positive
TM25	positive	positive	positive	positive	positive
TM26	positive	positive	positive	positive	positive
TM29	positive	positive	positive	positive	positive
TM30	positive	positive	positive	positive	positive
TM32	-	positive	positive	positive	positive
TM33	-	negative	negative	negative	negative
TM34	-	negative	positive	positive	positive
TM35	positive	positive	positive	positive	positive
TM36	positive	negative	positive	positive	positive
TM39	negative	positive	positive	positive	positive
TM40	positive	negative	positive	positive	positive
TM43	positive	positive	positive	positive	positive
TM44	positive	positive	positive	positive	positive
TM53	positive	negative	positive	positive	positive
TM54	-	negative	positive	positive	positive

Note: the laboratory code is the same reported in the individual report

Comments:

The multiplex PCR was the most used method to identify larvae at species level. DNA purification was done mainly by commercial kits based on magnetic beads. One of the two participants that failed reported the presence of a non-specific band, probably due to an excess of DNA loaded in the gel, which led him to a misinterpretation.

PTP
Unit of Foodborne and Neglected Parasitic Diseases
Istituto Superiore di Sanità

viale Regina Elena, 299 – 00161 Rome, Italy

Person in charge of PT: Dr Gianluca Marucci
e-mail: gianluca.marucci@iss.it; tel: +39 0649902310

Written and elaborated by
PTP person in charge

Dr. G. Marucci

Verified and issued by
The Director

Dr. A. Casulli

Date 21/05/2024

Notes:

1. To guarantee confidentiality, participant laboratories are identified by alphanumeric codes. PT participant identity is kept confidential and bound by professional secrecy. The PTP reserves itself the right to provide the laboratory PT result to the competent authority on request.
2. The organizer designates a qualified company for the transport and delivery of PT items.
3. Each participating laboratory receives a PT panel according to the PT scheme. Each PT item consists of 4 or 12 1.5 ml vials containing four different *Trichinella spp*. The homogeneity of PT items is ensured by an accurate control of the number of larvae spiked into each vial (item), made by two operators using a stereo microscope. PT items are stable for 5 years from the date of preparation (corresponding to the shipping date), provided that they are maintained in suitable conditions.
4. At the beginning of each year, the organizer draws up a PT program and makes it known by sending an email to the NRLs.
5. The final report issued for each PT round shows the PT program implementation.

End of the report

PTP
Unit of Foodborne and Neglected Parasitic Diseases
Istituto Superiore di Sanità

viale Regina Elena, 299 – 00161 Rome, Italy

Person in charge of PT: Dr Gianluca Marucci
e-mail: gianluca.marucci@iss.it; tel: +39 0649902310