

## Final Report PT-05: Ec 1/2022

### **PT-05: “Detection of *Echinococcus* sp. worms in the intestinal mucosa of the definitive host”**

#### Design

Purpose	Correctly identify the presence of worms of <i>Echinococcus</i> sp. in a matrix made by intestinal mucosa	
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	Sedimentation and counting technique (SCT)	
PT items	Matrix	intestinal mucosa
	Item	worms of <i>Echinococcus</i> spp.
	N. of samples	3 for each participant
	Distribution	Immediate shipment after preparation
Subcontracted activities	NA	
Results evaluation	Qualitative	

#### Implementation

N. of participants	28	PT items	intestinal mucosa (ml)	1000
Public laboratories	0		Ethanol 70% (ml)	500
Private laboratories	0		PT panel composition	3 samples (20, 0, 0)
NLR	28		Shipping	DHL

PT Provider  
 Unit of Foodborne and Neglected Parasitic Diseases  
 Istituto Superiore di Sanità, Rome, Italy  
 Viale Regina Elena, 299 – 00161 Rome, Italy

PT person in charge: Dr. Adriano Casulli  
 e-mail: [adriano.casulli@iss.it](mailto:adriano.casulli@iss.it); tel: +39 06 4990 2896



**PTP N° 0005 P**  
**Membro degli Accordi di Mutuo Riconoscimento**  
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Shipping dates	14/03/2022
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## Results

The final evaluation is only based on qualitative evaluation and is expressed as “positive” if the results of all samples are correct or “negative” if at least one result is incorrect.

Laboratory code	N° of samples correctly identified	N° of samples NOT correctly identified	Final evaluation
Em1	2	1	<b>NEGATIVE</b>
Em2	3	0	POSITIVE
Em3	3	0	POSITIVE
Em4	2	1	<b>NEGATIVE</b>
Em5	3	0	POSITIVE
Em6	2	1	<b>NEGATIVE</b>
Em7	3	0	POSITIVE
Em8	3	0	POSITIVE
Em9	3	0	POSITIVE
Em10	3	0	POSITIVE
Em11	3	0	POSITIVE
Em12	3	0	POSITIVE
Em13	1	2	<b>NEGATIVE</b>
Em14	3	0	POSITIVE
Em15	2	1	<b>NEGATIVE</b>
Em16	1	2	<b>NEGATIVE</b>
Em17	2	1	<b>NEGATIVE</b>
Em18	3	0	POSITIVE
Em19	2	1	<b>NEGATIVE</b>
Em20	1	2	<b>NEGATIVE</b>
Em21	2	1	<b>NEGATIVE</b>
Em22	3	0	POSITIVE
Em23	2	1	<b>NEGATIVE</b>
Em24	2	1	<b>NEGATIVE</b>
Em25	2	1	<b>NEGATIVE</b>
Em26	2	1	<b>NEGATIVE</b>
Em27	3	0	POSITIVE
Em28	3	0	POSITIVE

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### Summary of results:

Number of participant laboratories	28
Number of participants that passed the PT	14
Number of participants that failed the PT	14
Number of participants that repeated the PT	0
Number of participants that successfully repeated the PT	0



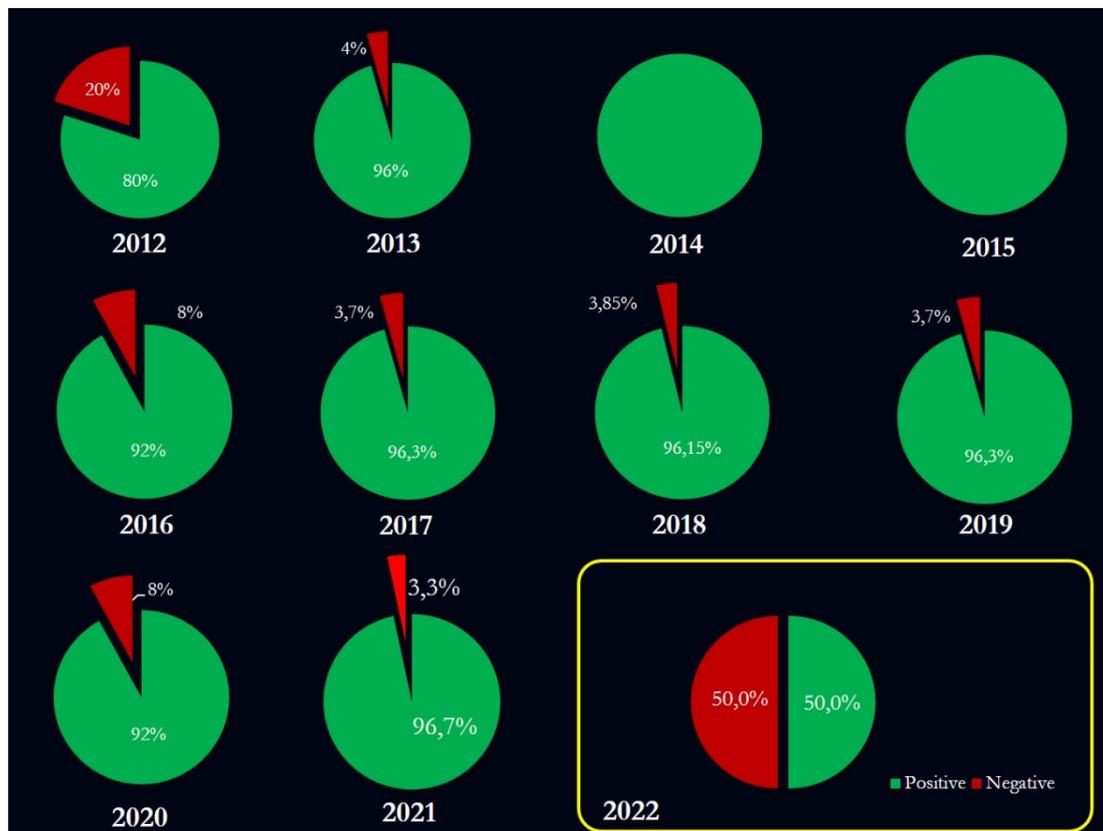
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### Overtime comparison of results



#### Comments:

As for the previous years, mucosa samples were collected from red foxes living in non-endemic areas for *E. multilocularis* and were molecularly tested by the supplier. This year half of the participant failed the PT. False positive results have been obtained probably due to *E. multilocularis* misidentification with morphologically similar *Amoebotaenia* cestodes. Since the mucosa was collected from free-living canids, this cestode was detected at low prevalence. Because of the absence in Genbank of deposited sequences of this parasite, it was not possible to further confirm the species. *Amoebotaenia* spp. is a cestodes resembling *E. multilocularis* but with typical morphological features such as the shape of scolex (rostellum and suckers) and proglottides which helps to differentiate the two species. This year, most of the participants encountered for the first time *Amoebotaenia* spp. that was misidentified as *E. multilocularis* therefore resulting in a low performance by laboratories. In 2022, participants learned an important lesson on a species entering in differential diagnosis with *E. multilocularis*.

**Recommendations:** We would recommend participants to pay attention to the morphological features of these species for a correct differential diagnosis.

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PTP person in charge

Dr. A. Casulli

The Director

Dr. S.M. Cacciò

**Date** 30/05/2022

**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 intestinal mucosa, fixed in 70% ethanol, spiked or not with *Echinococcus* spp. adult worms. The homogeneity of PT items is ensured by an accurate control of the number of worms spiked into each sample (item), made by two operators using a stereo microscope. PT items are stable for 21 days 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 publishing it on the EURLP website (for national, international, public and private laboratories) or by email (NRLs).
5. The final report issue of each PT round shows the PT program implementation.

End of the report

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