

Final Report PT-08: EcMol 1/2022

PT-08: “Molecular identification of *Echinococcus* at the species level”

Design

Purpose	Evaluation of laboratories competence in molecular identification of <i>Echinococcus granulosus</i> sensu lato and <i>Echinococcus multilocularis</i> .	
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	Elution buffer
	Item	DNA
	N. of samples	3 vials for each participant
	Distribution	Preparation and packaging can be performed before shipment
Subcontracted activities	NA	
Results evaluation	Qualitative	

Implementation

N. of participants	20	PT items	Volume of DNA (for each sample)	10µl
Public laboratories	1			
Private laboratories	0		PT panel composition	3 samples: 1 negative, 1 containing DNA of <i>E. granulosus</i> and 1 containing DNA of <i>E. multilocularis</i>

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NRL	19		Shipping	DHL
Shipping dates	14/03/2022			

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.

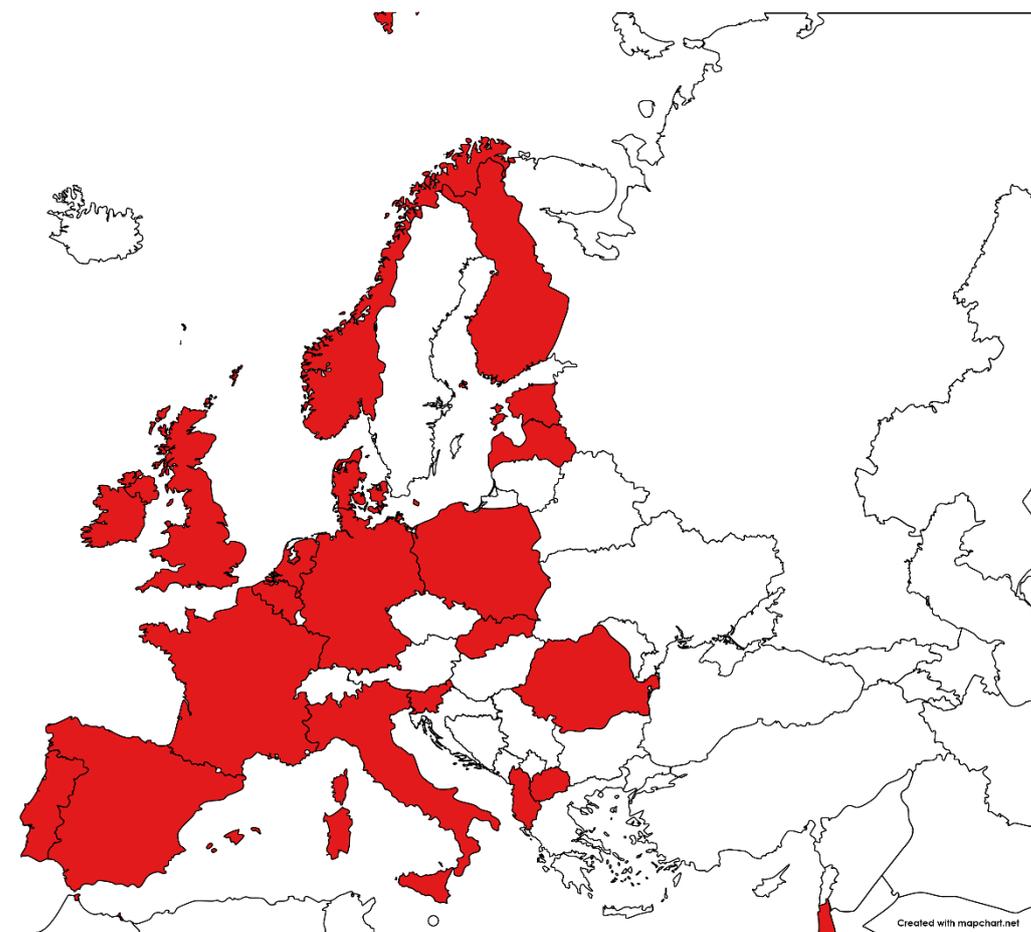
Laboratory code	N° of samples correctly identified	N° of samples NOT correctly identified	Final evaluation
Ed1	3	0	Positive
Ed2	3	0	Positive
Ed3	3	0	Positive
Ed4	3	0	Positive
Ed5	3	0	Positive
Ed6	3	0	Positive
Ed7	3	0	Positive
Ed8	3	0	Positive
Ed9	2	1	Negative
Ed10	3	0	Positive
Ed11	3	0	Positive
Ed12	3	0	Positive
Ed13	3	0	Positive
Ed14	3	0	Positive
Ed15	3	0	Positive
Ed16	3	0	Positive
Ed17	3	0	Positive
Ed18	3	0	Positive
Ed19	3	0	Positive
Ed20	3	0	Positive

Summary of results:

Number of participant laboratories	20
Number of participants that passed the PT	19
Number of participants that failed the PT	1

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Comments:

The experience derived from the third PT carried out in 2022 on the molecular detection of *Echinococcus* spp. showed that the personnel of NRLs are skilled to detect this parasite in a qualitative test. In particular 100% of participants correctly identified the sample with DNA of *Echinococcus granulosus sensu lato*, 95% (19 out of 20 labs) succeeded in the identification of the sample with DNA of *Echinococcus multilocularis*, while 100% detected the negative sample.

Recommendations: We suggest the participant laboratories to optimize multiplex PCR settings to avoid unspecific amplifications and to sequence amplicons to confirm the identification.

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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 designated a qualified company for the transport and delivery of PT items.
3. Each participating laboratory received a PT panel according to the PT scheme. Each PT item consisted of two tubes, containing DNA extracted from *Echinococcus granulosus sensu lato (s.l.)* or *Echinococcus multilocularis*. A third tube contained *Taenia* DNA was added as negative control. The stability of the samples in the package was evaluated by ad hoc experiments carried out by EURLP. Larvae preserved in 96% ethanol, and stored between -20 and +30°C maintain their stability up to 5 years after the date of preparation. DNA material stored below 15°C is stable for many years.
4. At the beginning of each year, the organizer draws up a PT programme 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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