

Department of Infectious Diseases Unit of Foodborne and Neglected Parasitic Diseases European Union Reference Laboratory for Parasites



Final Report PT-08: EcMol 1/2023

PT-08: "Molecular identification of Echinococcus at the species level"

Design

| Purpose | Evaluation of laboratories competence in molecular identification of Echinococcus granulosus sensu lato and Echinococcus multilocularis. | | |
|--------------------------|---|--|--|
| 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 | 19 | PT items | Volume of DNA (for each sample) | 10μl (DNA concentration: E. multilocularis, 12ng/μl; E. granulosus 10ng/μl) |
|-------------------------|----|----------|---------------------------------|---|
| Public laboratories | 0 | | | |
| Private laboratories | 0 | | PT panel composition | 3 samples: 1 containing DNA of <i>E. multilocularis</i> ,1 containing DNA of <i>E. granulosus</i> and 1 negative |

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| NRL | 19 | | Shipping | DHL |
|----------------|-----------|------------|----------|-----|
| Shipping dates | 13/03/202 | 13/03/2023 | | |

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 | 3 | 0 | Positive |
| 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 |

Summary of results:

| Number of participant laboratories | 19 |
|---|----|
| Number of participants that passed the PT | 19 |
| Number of participants that failed the PT | 0 |

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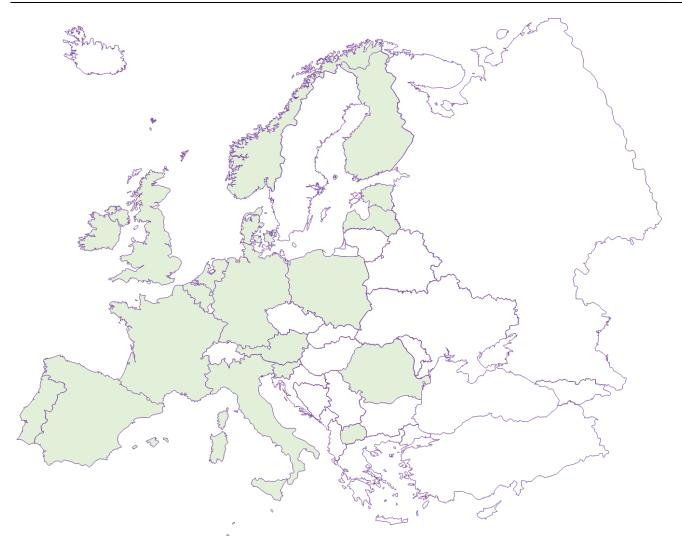
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Comments:

The experience derived from the fifth PT carried out in 2023 on the molecular detection of *Echinococcus* spp. showed that the personnel of NRLs are highly 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*, 100% succeeded in the identification of the sample with DNA of *Echinococcus multilocularis* and 100% detected the negative sample.

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PTP person in charge

Dr. A. Casulli

The Director

Dr. S.M. Cacciò

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Date 30/05/2023

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Notes:

- 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 a tube, containing DNA extracted from *Echinococcus granulosus* sensu lato (s.l.) or *Echinococcus multilocularis*. A third tube contains molecular grade deionized water and serve as a 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 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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