

**EUROPEAN UNION REFERENCE LABORATORY  
FOR PARASITES**

**WORK PROGRAMME**

**2016-2017**

**INDEX**

1.	Providing national reference laboratories and third countries with details of analytical methods, including reference methods	4
1.1	Analytical methods already validated and accredited at the EURLP, available to NRLs and third countries for which the personnel can be trained	4
1.1.1	Detection of anti- <i>Trichinella</i> sp. antibodies in swine sera by indirect ELISA	4
1.1.2	Detection of anti- <i>Trichinella</i> sp. antibodies in human sera by indirect ELISA	4
1.1.3	Identification of <i>Trichinella</i> sp. larvae at the species level by Multiplex PCR	4
1.1.4	Detection of <i>Trichinella</i> larvae in muscle tissues	4
1.1.5	Identification of Anisakidae larvae at the species level by PCR/RFLP	4
1.1.6	Identification of <i>Echinococcus granulosus</i> complex hydatid cysts at species/genotype level by PCR and sequencing	4
1.1.7	Identification of <i>Cryptosporidium</i> oocysts at the species level by PCR/RFLP	4
1.1.8	Detection of anti- <i>Opisthorchis</i> antibodies in human sera	4
1.1.9	Identification of <i>Opisthorchis</i> spp eggs by PCR	4
1.1.10	Identification at assemblage level of <i>Giardia duodenalis</i> cysts by PCR/RFLP	4
1.1.11	Identification of Anisakidae larvae at the species level by Multiplex PCR	4
1.1.12	Identification of assemblage A and B of <i>Giardia duodenalis</i> by PCR	4
1.1.13	Identification of <i>Toxoplasma gondii</i> DNA in feed and food by LAMP	4
1.2	Production of reference material for NRLs and third countries	4
1.2.1	Serum/meat juice bank from <i>Trichinella</i> -infected pigs	5
1.2.2	Serum bank of <i>Trichinella</i> -infected humans	5
1.2.3	Production of reference <i>Trichinella</i> antigens for serology	5
1.2.4	Maintenance of <i>Trichinella</i> reference strains in vivo	5
1.2.5	Collection of Anisakidae worms and their genomic DNAs	5
1.2.6	Genetic bank of the genus <i>Echinococcus</i>	6
1.2.7	Serum bank of <i>Echinococcus</i> -infected humans	6
1.2.8	Genetic bank of zoonotic cestodes of the genera <i>Taenia</i> and <i>Diphyllobotrium</i>	6
1.2.9	Genetic bank of zoonotic trematodes of the Opisthorchidae family	6
1.2.10	Serum bank of <i>Opisthorchis</i> -infected humans	7
1.2.11	Reference <i>Opisthorchis</i> excretory/secretory (E/S) antigens for serology	7
1.2.12	Genetic bank of protozoa of the genus <i>Cryptosporidium</i>	7
1.2.13	Genetic bank of protozoa of the genus <i>Giardia</i>	7
1.2.14	Genetic bank of <i>Toxoplasma gondii</i> isolates	8
1.2.15	To establish and maintain a serum bank of <i>T. gondii</i> -infected livestock	8
1.3	Diagnostic activity	8
1.3.1	Identification of anti- <i>Trichinella</i> IgG antibodies in swine sera	8
1.3.2	Identification of anti- <i>Trichinella</i> IgG antibodies in human sera	8
1.3.3	Detection of <i>Trichinella</i> larvae in meat samples by digestion	8
1.3.4	Identification of parasites of the genus <i>Trichinella</i> by a multiplex-PCR analysis	8
1.3.5	Identification at species level of parasites of the family Anisakidae by PCR/RFLP	8
1.3.6	Identification of <i>Echinococcus granulosus</i> complex at genotype/species level by PCR and sequencing	8
1.3.7	Detection of anti- <i>Opisthorchis</i> antibodies in human sera by indirect ELISA	8
1.3.8	Identification of <i>Opisthorchis</i> sp. by PCR	8
1.3.9	Identification at the species level of <i>Cryptosporidium</i> spp. oocysts by PCR/RFLP	9
1.3.10	Identification at the assemblage level of <i>Giardia duodenalis</i> cysts by PCR/RFLP	9
1.3.11	Identification of Anisakidae larvae at the species level by Multiplex PCR	9
1.3.12	Identification of assemblage A and B of <i>Giardia duodenalis</i> by PCR	9
1.3.13	Identification of <i>Toxoplasma gondii</i> DNA in feed and food by LAMP	9
1.4	Screening of commercial kits to directly or indirectly detect foodborne parasites in different matrices	9
2.	Coordinating application by the NRLs of the methods referred to in (1.), in particular by organizing comparative testing and by ensuring an appropriate follow-up of such comparative testing in accordance with internationally accepted protocols, when available	9

- 2.1. Proficiency Testing (PT)
  - 2.1.1 PT on *Trichinella* larva detection in meat samples
  - 2.1.2 PT on *Trichinella* larva identification
  - 2.1.3 PT on the detection of *Echinococcus* sp. adult worms in intestinal contents
  - 2.1.4 PT on the detection of Anisakidae larvae in fish fillets
  - 2.1.5 PT on the detection of anti-*Toxoplasma gondii* IgG in pig sera by commercial kits
- 2.2. Ring Trial (RT) for the detection of *Trichinella* spp. larvae in meat samples by PrioCHECK<sup>®</sup> *Trichinella* AAD kit
3. Coordinating, within the area of competence, practical arrangements needed to apply new analytical methods and informing NRLs of advances in this field
  - 3.1 Validation and accreditation of new analytical methods developed at the EURLP or in other laboratories and published in the international literature
    - 3.1.1 ELISA to detect anti-*Trichinella* IgG in swine muscle juices
    - 3.1.2 Western blotting as a confirmatory test for ELISA-positive pig serum samples
    - 3.1.3 Coordinating the collection of *Trichinella* isolates in MS for microsatellite-based mapping
    - 3.1.4 Identification of taenid cestodae eggs in the definitive host (canids) faeces
    - 3.1.5 Identification of nematode larvae, different from those of the genus *Trichinella*, detected in muscles by digestion
    - 3.1.6 Design and validation of informative typing schemes for *Cryptosporidium parvum* and *C. hominis*
    - 3.1.7 Development of a molecular test for the identification of *Toxoplasma gondii* oocysts in fresh fruits and vegetables
4. Conducting initial and further training courses for the benefit of staff from NRLs and of experts from third countries
  - 4.1 Training of personnel of NRLs and third countries
  - 4.2 Workshop
  - 4.3 Visit to NRLs
5. Other activities
  - 5.1 Update of the website of the EURL for parasites
  - 5.2 Standardization of methods for the detection of parasites in food
  - 5.3 Quality assurance system
  - 5.4 Support to International Institutions
  - 5.5 Consolidation of the EURLP structures
    - 5.5.1 Staff
    - 5.5.2 Administration and reporting
    - 5.5.3 Definition of ex-ante performance indicators and their ex-post evaluation
  - 5.6 Meeting at the DG SANCO