

**European Union Reference Laboratory for Parasites
Istituto Superiore di Sanità**

Proficiency Testing for the detection of anti-*Toxoplasma* IgG in ovine serum samples

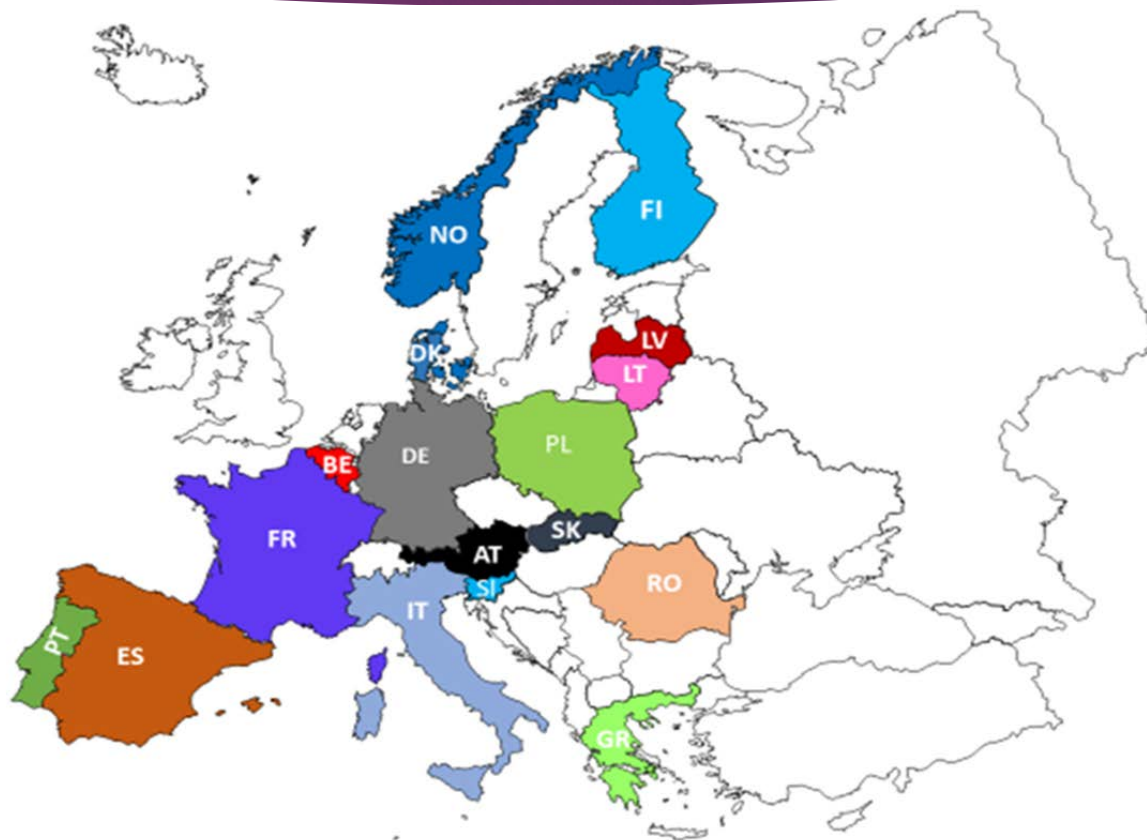
The aims of the proficiency testing (PT) are

To evaluate:

- the laboratories competence in detection of anti-*Toxoplasma* IgG in ovine serum samples
- the performance of the commercial kits, utilized for the detection of anti-*Toxoplasma* IgG in ovine

Participating laboratories:

Seventeen Labs participated to this PT



Eighteenth Annual EURLP Workshop, Rome 16-17 November 2023

Alessandra Ludovisi

Methods

Any serological test based on the detection of anti-*Toxoplasma* IgG could be used. Each laboratory should choose the test/s routinely used

Materials and Methods 1

The test material forwarded to each laboratory consisted of a panel of 3 serum samples collected from *T. gondii* experimentally infected animals

These serum samples were individually tested for anti-*Toxoplasma* IgG by ID Screen Toxoplasmosis Indirect Multi-species

Test interpretation

| Serum sample code | Expected result | S/P |
|-------------------|-----------------|-------|
| s.1 | positive | 76% |
| s.2 | positive | >100% |
| s.3 | positive | >100% |

S/P ≤ 40% Negative
40% < S/P < 50% Doubtful → **IDvet**
S/P ≥ 50% Positive

Materials and Methods 2

Serum samples were:

- **distributed in 100 μ L aliquots,**
- **preserved with 1% merthiolate solution,**
- **labelled with a code**

Materials and Methods 3

Each laboratory received a link available to NRLs on the EURLP website to the online survey platform Microsoft Forms, through which PT results and other details could be submitted

Tests used by the participants

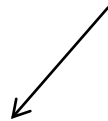
(The more frequently used commercial kits are immunoenzymatic assays)

- ▶ **IDVETScreen®toxoplasmosis indirect multi-species Ab**, **17 labs**, coded: A,B,C,D,E,F,G,H,I,J,L,M,N,O,P,Q,R
- ▶ **Indirect Immunofluorescence antibody test (IFAT)**, in house methods **1 lab**, coded: F (additional test)
- ▶ **Toxoreagent Mast Kit**, **2 labs**, coded: G and H (additional test)
- ▶ **IDEXX Toxotest** **2 labs**, coded: D, J (additional test)
- ▶ **Pigtype Toxoplasma Ab**, **Indical Bioscience**, **1 lab**, coded: A (additional test)
- ▶ **Immunoblotting full Antigen or P30 Antigen**, **1 lab**, coded: D (in house, additional test)

Criteria for the results evaluation:

The participating laboratory had to indicate the positivity or negativity of each sample

The result of the analysis of each serum sample was reported as



correctly classified



incorrectly classified

RESULTS

17/17 NRLs correctly classified as positive
all serum samples

| Sample code | Expec. results | Lab. code | | | | | | | | | | | | | | | | |
|----------------|-------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | H | I | J | L | M | N | O | P | Q | R |
| 1 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 2 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 3 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

Criteria for the final PT evaluation

The result evaluation is qualitative,

IgG titers will be considered as additional information to compare the performance of tests used by participants

Final evaluation is considered as

“positive” if all samples are correctly classified

“negative” in all the other cases.

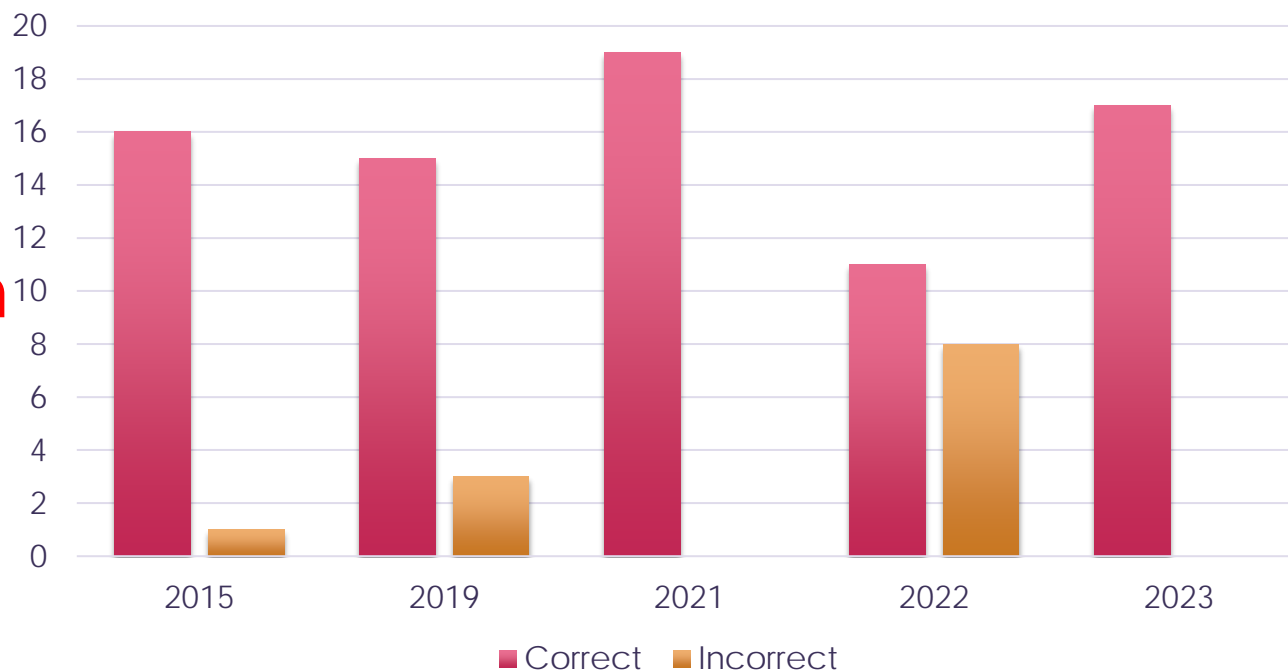
PT evaluation

| Laboratory code | N° of samples correctly classified | N° of samples NOT correctly classified | Final evaluation |
|-----------------|------------------------------------|--|------------------|
| A | 3/3 | 0/3 | Positive |
| B | 3/3 | 0/3 | Positive |
| C | 3/3 | 0/3 | Positive |
| D | 3/3 | 0/3 | Positive |
| E | 3/3 | 0/3 | Positive |
| F | 3/3 | 0/3 | Positive |
| G | 3/3 | 0/3 | Positive |
| H | 3/3 | 0/3 | Positive |
| I | 3/3 | 0/3 | Positive |
| J | 3/3 | 0/3 | Positive |
| L | 3/3 | 0/3 | Positive |
| M | 3/3 | 0/3 | Positive |
| N | 3/3 | 0/3 | Positive |
| O | 3/3 | 0/3 | Positive |
| P | 3/3 | 0/3 | Positive |
| Q | 3/3 | 0/3 | Positive |
| R | 3/3 | 0/3 | Positive |

Conclusion

All laboratories (100%) correctly classified all serum samples

PT ovine



Overtime
comparison

Thanks for your attention!

