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P0198 ELISA test for *Toxoplasma gondii* serotyping: set up and first evaluations

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Background: *Toxoplasma gondii* is a protozoan responsible for Toxoplasmosis in humans. The severity of clinical manifestations is often related to the different parasite genotype: 3 clonal lineage of *T.gondii* and different recombinant strains with variable global distribution. In Italy, to date, no studies have been carried out to define the circulating strains and their correlation with the various pathologies. The aim of the study was to develop an enzyme immunoassay ELISA (Enzyme-Linked Immunosorbent Assay), to detect in human sera antibodies against amino acid sequences of antigens that characterize the 3 main genotypes (I-II-III). This test would be able to discriminate between the type II strain (frequent in Europe) and the other strains (I-III and atypical) and therefore could be used for an epidemiological investigation and to correlate the different strains to different pathologies (lymphadenitis, congenital infections, chorioretinitis) or to different ethnic groups.

Materials/methods: In the Parasitology laboratory of the Fondazione IRCCS Policlinico San Matteo , Pavia, 64 patient sera were selected, (40 positive and 24 negative as control) previously tested with the VIDAS Toxo IgG II test (Biomerieux - Mercy l ' Etoile - France) and LIAISON® XL Toxoplasma IgG and IgM (DiaSorin-Saluggia-Italy). For the execution of ELISA test and the choice of the peptides the protocol developed by Kong J.T. et al 2003 was followed with some modifications .All the peptides conjugated with KLH (...) have been syntetised by PRIMM (Milano- Italy).

Results: A cut- off was established as the mean OD of negative control +/-2 SD All 24 control samples were negative, while among positive samples all but 2 were positive for type II strain. These 2 samples were from patients from East Europe and from Africa

Conclusions: . Although the test requires high concentrations of specific antibodies it showed a good discriminating capacity of antibodies against type II strains from those against type I-III , does not require invasive sampling and expensive equipment . Further studies will be carried out to improve the test performance by expanding the sera panel, including those of immigrant patients.