Sabin-Feldman dye test

The Sabin-Feldman dye test was first described in 1948(1). The test measures the total amount of antibody in serum which is capable of complement mediated killing of toxoplasma tachyzoites. Serum is diluted across a microtitre plate and the end point is the dilution at which 50% of the tachyzoites are dead. Results are expressed in international units/ml relative to a standard reference serum provided by the National Institute of Biological Standards and Control. The dye test is highly sensitive and fully quantitative. Results can range from 2 - >4000 iu/ml with a normal range of 2 – 125 iu/ml. The dye test is the gold standard test of toxoplasma serology2 but the requirement for live tachyzoites, cultured in animals, has restricted use to specialist Reference Laboratories. The development of cell culture methods which can reliably provide tachyzoites for the dye test3 provides the opportunity for the test to be more widely available.

The dye test is the reference test for the NEQAS scheme 2. This is particularly important when detecting low concentrations of antibody which can cause problems for participants because the results are close to test thresholds. Comparison with the dye test makes users aware of the characteristics of their tests; the need for confirmatory testing in clinical samples and the limitations of different tests in different patient groups.

References

